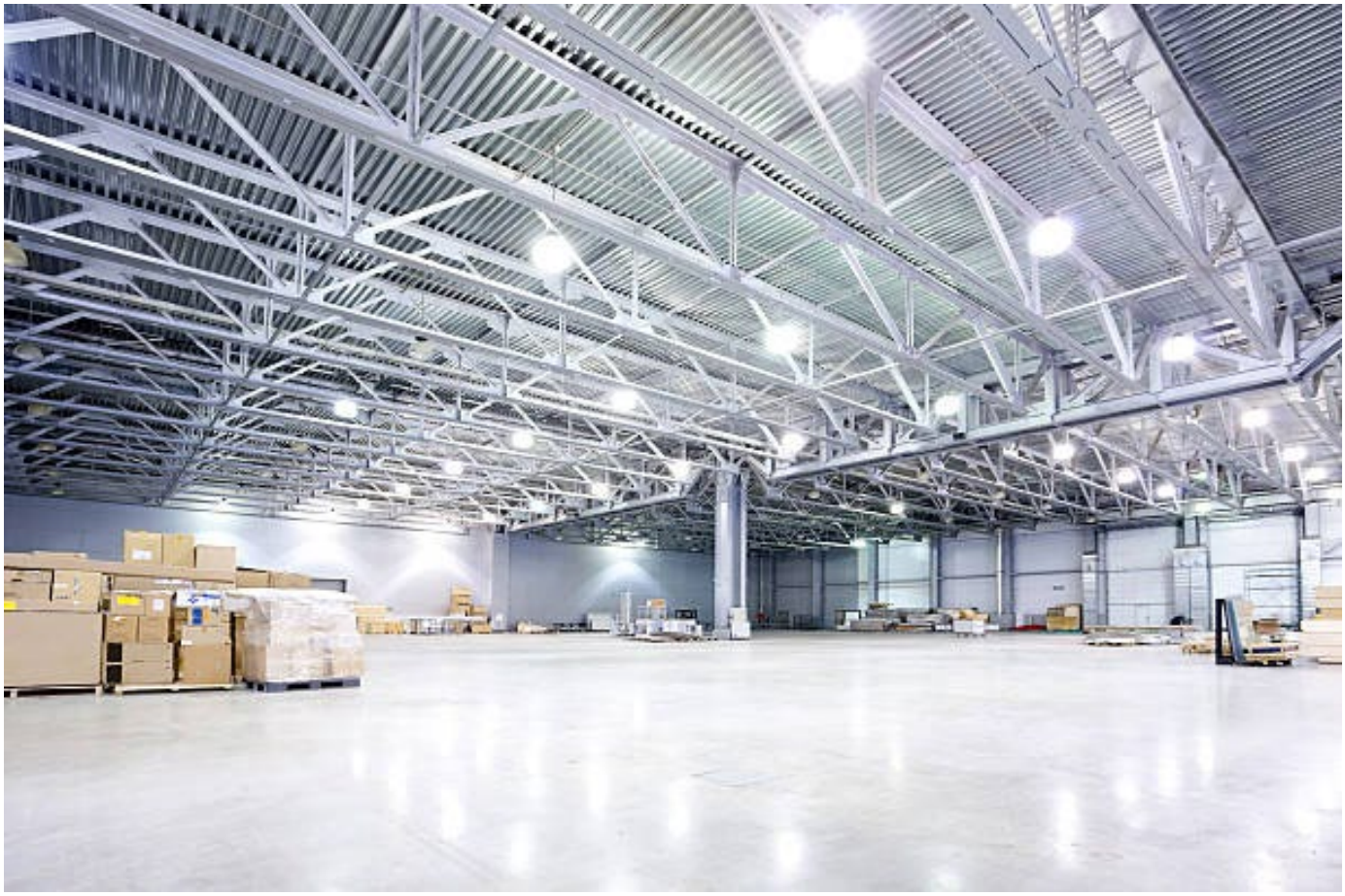

2021-2024 CDM Framework Instant Discounts Program PY2024 Evaluation Results

Submitted to IESO
in partnership with NMR Group

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Acknowledgements

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Additionally, the evaluation team would like to thank the hundreds of participants that supported the evaluation team's impact telephone and web-based surveys, and site visits. Their cooperation with the evaluation team's efforts has produced high-quality data that will serve Ontario conservation efforts for years to come.

Acronyms and Abbreviations

CDM-IS	Conservation and demand management information system
CE	Cost-effectiveness
CF	Coincidence factor (CF) is the summer peak demand (kW) divided by energy kWh
CI	Confidence interval
EM&V	Evaluation, measurement, and verification
EUL	Effective useful life
FR	Free-ridership
GW or GWh	Gigawatt or Gigawatt-hour
HVAC	Heating, ventilation, and air conditioning
IDI	In-depth interview
IDP	Instant Discounts Program
IESO	Independent Electricity System Operator
IF	Interim Framework
kW or kWh	Kilowatt or Kilowatt-hour
LED	Light emitting diode
MW or MWh	Megawatt or Megawatt-hour
NTG	Net-to-gross
PAC	Program Administrator Cost Effectiveness test
PY	Program year
SO	Spillover
TLED	Tubular light emitting diode

1 Executive Summary

The Independent Electricity System Operator (IESO) retained Resource Innovations, Inc., and its subcontractor, NMR Group, Inc., (referenced throughout this report as 'the evaluation team'), for the evaluation of the 2021-2024 Conservation and Demand Management (CDM) Framework business programs. This report presents the results, findings, and recommendations of the impact and process evaluations, cost-effectiveness assessment, and non-energy benefits (NEBs) analysis for the Program Year (PY) 2024 Instant Discounts Program (IDP).

1.1 Program Description

Launched at the close of 2023, the IDP is designed to encourage IESO non-residential customers to install energy efficient lighting equipment in existing buildings. IDP evolved from the Retrofit Program and replaced most of the prescriptive lighting incentives previously offered under the Retrofit Program. Unlike the Retrofit Program, IDP uses a midstream model that provides point-of-sale discounts directly through participating distributors. The program provides financial incentives to participating distributors to lower the upfront costs and increase the market share of qualified energy efficient lighting products commonly sold to non-residential customers. The program offerings include point-of-sale rebates for Tubular LEDs (TLEDs), integrated LED fixtures, and high and low bay LED fixtures.

1.2 Evaluation Objectives

The PY2024 IDP evaluation encompassed a comprehensive set of tasks designed to assess the implementation, performance, and outcomes of completed projects in the program. Audits were conducted via desk reviews and site visits to verify project completion and operating parameters. Gross energy and summer peak demand savings were estimated with a statistical rigor of 90% confidence and ±10% precision, and the net-to-gross (NTG) ratio was determined using the same confidence and precision thresholds. The evaluation further included a cost-effectiveness assessment, estimation of greenhouse gas emission reductions, analysis of NEBs, and quantification of job impacts. A process evaluation was performed to address research questions identified in collaboration with the IESO.

1.3 Summary of Results

1.3.1 Impact Evaluation Results

The evaluation team conducted an impact evaluation to analyze program impacts and to quantify savings generated due to implementation of IDP projects in Ontario during PY2024. This section summarizes the savings and cost-effectiveness results verified through the impact evaluation.

With PY2024 as its first year of implementation, IDP enrolled 129 distributors serving all five regions of Ontario. 7,948 projects were completed representing 5,939 unique commercial facilities. Table 1-1 presents overall impact results for PY2024 IDP. In total, the program reported 183,619 MWh of first-year energy savings and 30,559 kW of summer peak demand savings. After applying the program realization rates and NTG, the program achieved 70,746 MWh of net verified first-year energy savings and 15,399 kW of net verified summer peak demand savings.

Table 1-1: PY2024 IDP Impact Results

Savings	Reported Savings	Realization Rate	Gross Verified Savings	NTG Ratio	Net Verified Savings	Net Verified Savings in 2026
Energy (MWh)	183,619	82.2%	150,845	46.9%	70,746	70,746
Summer Peak Demand (kW)	30,559	107.4%	32,833	46.9%	15,399	15,399

* Results shown are based on original (i.e., not rounded) figures and may not match the results if using the rounded numbers shown.

Figure 1-1and Figure 1-2 show the PY2024 net verified first-year energy savings and summer peak demand savings distribution by measure. Sales and installation of LED High Bay Fixtures dominated the program. Thirty-seven percent of all projects included high bay fixtures contributing to 73.5% of total program net verified first-year energy savings and 75.9% of net verified summer peak demand savings. After high bay fixtures, LED Low Bay Fixtures represented 13.9% and 12.9% of net verified first-year energy savings and net verified summer peak demand savings, respectively. Combined, these two measures represented nearly 90% of the program energy and summer peak demand savings.

Figure 1-1: Net Verified First-Year Energy Savings Percentage by Measure

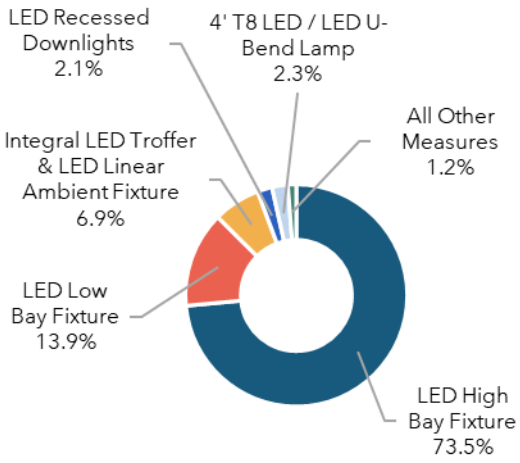
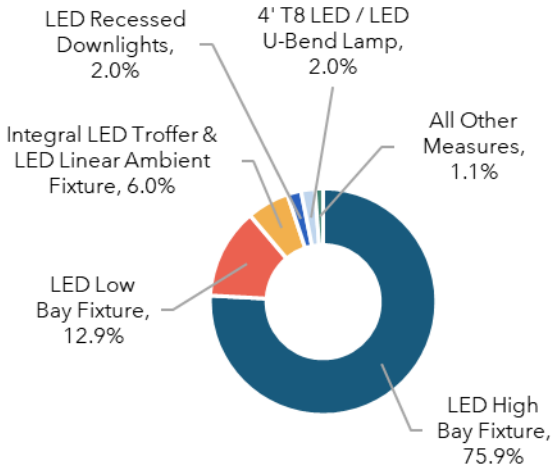


Figure 1-2: Net Verified Summer Peak Demand Savings Percentage by Measure



In PY2024, IDP achieved a Program Administrator Cost (PAC) ratio of 2.32, exceeding the 1.00 target threshold. First-year avoided GHG emissions from electricity savings were reduced by the increase in GHG emissions due to interactive effects, resulting in 8,874 Tonnes of CO_2. PY2024 IDP projects are expected to achieve a total of 137,213 Tonnes of avoided GHG throughout the effective useful life of the installed measures.

1.4 Key Findings and Recommendations

The following section presents the key findings and recommendations for program implementation. IESO responses to the key findings and recommendations are found in Appendix B.

Finding 1. The program tracking database is robust but additional data could support future research and evaluation. Distributor invoices serve as the primary data for program tracking. The program records data from the invoices into a tracking database.

- **Recommendation 1a:** Require distributors to indicate whether the purchaser is a contractor, end user, or unknown. Program data did not identify whether the purchaser was a contractor or an end user. The invoices that distributors submit to IESO for incentive documentation do not include an identifier for purchaser type. The evaluation team categorized purchaser type using a combination of purchaser addresses, ship-to addresses, and installation addresses and found

about 50% of purchases were made directly by end users. These purchases represented about 33% of PY2024 IDP energy savings. In the absence of the data, it is difficult to assess how incentives are influencing purchasing decisions and whether outreach and incentives are reaching the intended audiences. Requiring distributors to capture the purchaser type would facilitate the ability to evaluate effectiveness across customer types and market channels. Additionally, because contractors and end users respond differently to incentives and program messaging, the requirement would improve estimates of free-ridership.

- **Recommendation 1b:** Track the passthrough invoice amount for eligible measures. The program requires distributors to pass through a minimum of 60% of the incentive to the purchaser. The passthrough amount is recorded on distributor invoices for each measure, but the data is not available in the program tracking database. Tracking the data would allow IESO and evaluators to follow the incentive dollars for both compliance and program process purposes. The data could also prompt future research questions, such as an investigation into passthrough incentive amounts and how they might differ among distributors, purchaser types, and measures.
- **Recommendation 1c:** Include a secondary building type or business type classification. Forty percent of applications representing 36% of PY2024 IDP energy savings came from "Other Commercial Buildings." Accurate categorization of building type is important for both the impact analysis and the cost-effectiveness analysis. Recording a secondary building type more specific than "Other" could enhance future market segmentation and analysis and could facilitate any recategorization during the impact analysis.
- **Recommendation 1d:** Include a direct map to the IESO MAL. The evaluation team mapped the measures of sampled projects to the MAL during the impact analysis to determine the inputs and assumptions used to estimate reported savings. Recording the specific measure iteration, including End Use, Conservation Measure Name, and Description, would facilitate the comparison between reported and verified savings by ensuring the evaluation team uses the appropriate baseline measures.

Finding 2. Some baseline equipment specifications, efficient equipment specifications, and hours of use differed between IESO assumptions and verified specifications. As a prescriptive program, some differences are expected though on average verified data should be close to assumed data. A distinct challenge of midstream program verification and evaluation is the lack of baseline equipment information and the difficulty of verifying installed equipment specifications (e.g., high bay applications). Through end user interviews, the evaluation team found that baseline and installed equipment specifications varied widely, which led to uncertain and inaccurate reporting of savings.

- **Recommendation 2:** Consider a lighting market characterization study. A market characterization would help IESO understand current conditions in the market and establish more accurate energy savings estimates. Additionally, the study could inform future program processes, such as whether the program should shift focus to different technologies (e.g., controls) or whether the program should target remaining inefficient stock (e.g., hard-to-reach customers, rural areas). Finally, a regular cadence of baseline studies would support a shift from short-term energy savings to long-term market transformation goals via longitudinal analysis of technology penetration.

Finding 3. Some distributors did not appear to maintain any equipment stock. In the NTG surveys, two distributors indicated that they did not maintain any stock of eligible equipment. Although maintaining equipment stock is not explicitly stated in the program requirements, the lack of stock is inconsistent with the objectives of the program.

- **Recommendation 3:** Update the program requirements to require distributors to maintain eligible equipment stock. The requirement will ensure all participating distributors are contributing to the objectives of the program and may help prevent distributors from receiving multiple incentives for the same equipment.

Finding 4. LED-to-LED Retrofits. Several projects evaluated in the PY2024 sample involved retrofits from existing LED lighting to more advanced LED systems that offer enhanced control capabilities, such as local dimming and scheduling. While these upgrades can offer incremental savings and operational flexibility, the IDP program does not include LED-to-LED measures or account for their control-based savings. As a result, savings assumptions are often misaligned with verified operations/savings, contributing to lower realization rates for these projects.

- **Recommendation 4:** For future lighting programs, consider developing a dedicated track for LED-to-LED retrofits that incorporates control-based functionality as a key savings factor. This track can include updated baseline assumptions, revised savings algorithms, and potentially control-specific eligibility criteria or documentation requirements. By aligning measure design with evolving lighting retrofit market, the program can improve accuracy of savings estimates, while supporting customer needs.

Finding 5. While most distributors reported receiving program training, opportunities exist to provide additional training and education for both distributors and contractors. Most distributors (90%) received training or education to support their work with the IDP: 56% received training on the program rules, 54% on the application process, 36% on program-eligible equipment, and 30% on marketing and outreach techniques. When asked about additional training or education that would help support their future work with the program, distributors most often suggested marketing and outreach techniques (44%) and application process training or support (42%). Some distributors (13%) recommended providing more training when asked what could be done to reduce barriers to distributor participation. Opportunities exist to expand program training and education to contractors, as IESO staff and delivery vendors reported focusing training and education efforts in the program's first year with participating distributors. When contractors were asked for recommendations on how to improve the program, some (10%) requested that contractors be provided with a list of eligible products and discounts, suggesting that providing the contractors with additional training and resources on eligible equipment is important to them.

- **Recommendation 5a:** Consider opportunities to increase the frequency of distributor training and education to ensure they are well informed about the program. Focusing these efforts primarily on marketing and outreach techniques and application process training and support may provide the most benefit to distributors. Doing so through a variety of mediums, such as webinars, e-newsletters or targeted e-mails, and refreshing printed guidance documents is recommended.

- **Recommendation 5b:** Consider opportunities to engage contractors with training and education support. While contractors are not direct program participants, they are a critical part of delivering the program. Ensuring that contractors receive training and education on marketing and outreach techniques and about eligible equipment and discounts will help them more effectively upsell end-users on the program and its benefits.

Finding 6. Conducting additional marketing and outreach activities could increase awareness and enhance program participation. IESO and delivery vendor staff reported using an array of marketing and outreach activities in support of the program in PY2024. IESO marketing efforts were largely aimed at end users and focused on a digital-first approach (for example, promoting the program through the Save on Energy website and social media). IESO also promoted the program at industry events and conferences and developed a marketing toolkit with digital marketing products for distributors to use in their outreach to contractors. The program delivery vendor's marketing efforts primarily sought to engage and provide training and resources to

distributors (for example, delivery vendors provided sell sheets, brochures, banners, showroom displays, and language for distributor websites). However, increasing advertising was the most common recommendation for program improvement by end-users (34%) and contractors (27%). Lack of awareness about the program was the second most common (36%) barrier to participation mentioned by contractors and the fourth most common (10%) barrier mentioned by distributors. The most common suggestions to overcome participation barriers were to raise distributor awareness (23% of distributors) and increase advertising (29% of contractors).

- **Recommendation 6:** Consider increasing the variety and frequency of marketing and outreach activities to further expand the program's reach. The IESO could consider expanding its digital marketing toolkit that it currently offers to distributors to also offer it, or something similar, to contractors. Additionally, the IESO could consider targeting its digital advertising at non-participating distributors and contractors in addition to end-users, developing program-specific case studies, and considering other mass marketing tactics where feasible (for example, billboards, radio, TV). Activities that both IESO and the delivery vendor could consider doing with more frequency include increasing their presence at in-person events, providing distributors and contractors with guidance on language to use when upselling the program, offering additional webinars, increasing the frequency of newsletters, further leveraging relationships with chambers of commerce and relevant trade groups, and considering partnerships with local distribution companies where possible.

Finding 7. Many initial barriers to participation have been addressed during the program's first year, though opportunities remain to minimize administrative burdens. While it initially took some time for distributors to understand the program requirements and to set up appropriate internal systems to participate, IESO staff and the program delivery vendor believe that the program is running well now and many of the initial challenges have been overcome. The program delivery vendor stressed the importance of continuing to try to minimize incentive wait times (ideally to less than four weeks) and to continue to improve the process of submitting data into the application portal. Distributors generally found the program's administrative process to be easy, with most (82%) rating it 3 or above on a scale of 1 to 5 where 1 indicates "not at all easy" and 5 indicates "extremely easy." The distributors who found the administrative process less easy indicated that the application portal is not user-friendly, which was also mentioned as an area of improvement by some (27%) distributors who provided program improvement recommendations. Other reasons why distributors found the administrative process less easy were a lack of technical assistance, difficulty locating products in lists, entering and formatting manufacturers' part numbers, and updating SKUs. Additionally, 35% of distributors recommended reducing the time it takes to receive the incentives when asked for program

improvement recommendations and 27% recommended reducing the administrative burden when asked for recommendations on how to overcome barriers to distributor participation.

- **Recommendation 7:** Consider opportunities to reduce the administrative burden of participating in the program on distributors. Recommended areas of focus include continuing to improve the distributors' experience of submitting data into the application portal, further minimizing incentive wait times, ensuring that distributors receive technical assistance promptly when needed, and ensuring that distributors have all the resources they need (such as easy access to product lists).

Finding 8. Opportunities exist to further support participants who were not able to install all the equipment of interest to them. When end-users were asked if there was any energy-efficient commercial lighting equipment that they were initially interested in but ultimately decided not to install, very few indicated that this was the case (6%), and feedback on what this equipment included was mixed, with eight end-users mentioning a total of seven types of lighting equipment: non-LED lighting, eight-foot LED bulbs, ballast type lamps, exterior lighting, food plant lighting, music room lighting, and tube lights. A somewhat larger percentage of contractors (14%) reported that there were equipment types that their customers were initially interested in but ultimately decided not to install, including exterior lighting (35%), high bay lighting (15%), flat panel LEDs (12%) and vapor proof fixtures (12%). Exterior lighting and lighting controls were the two most frequently mentioned lighting types that were identified when distributors, contractors, and end-users were asked what additional equipment they would recommend for inclusion in the program. While exterior lighting is not currently included in the program, lighting controls are, which suggests that there is an opportunity to provide further education about what is offered through the program. Canopy lighting and office lighting were also recommended with some frequency by distributors and end users. IESO staff and the program delivery vendor reported that the program covers most of the lighting equipment types of interest to distributors. IESO staff and delivery vendors indicated that the lighting equipment types not currently offered but requested with some frequency include exit signs, horticultural lighting, and exterior lighting.

- **Recommendation 8a:** Encourage contractors to work closely with end-users to help them understand the value proposition of the program and the payback period for all measures that interest them. Doing so may help end-users to install more equipment of interest to them and may lead to further increases in program participation more generally. This may include spending more time with end-users and explaining the value of participation more holistically, leveraging new marketing materials targeted to contractors like case studies or

including the value proposition as a more prominent feature on any digital marketing that targets contractors.

- **Recommendation 8b:** Explore the feasibility of incentivizing additional equipment types that align with program goals and cost-effectiveness targets (e.g., exterior lighting) and ensure that end users and program partners are fully informed about the full range of program offerings currently available (e.g., lighting controls).

2 Introduction

The Independent Electricity System Operator (IESO) retained Resource Innovations and its partner, NMR Group, Inc. (referred to throughout this report as 'the evaluation team'), to evaluate the 2021-2024 Conservation and Demand Management (CDM) Framework business programs. This report provides impact and process evaluations, a cost-effectiveness (CE) assessment, non-energy benefits (NEBs), and job impact results for the PY2024 Instant Discounts Program (IDP).

2.1 Program Description

The Instant Discounts Program (IDP), launched at the close of 2023 as part of the IESO's Save on Energy initiative, is designed to encourage the adoption of energy efficient lighting in existing non-residential buildings across Ontario. Replacing most lighting incentives previously offered under the Retrofit Program, IDP uses a midstream model that provides point-of-sale discounts directly through participating distributors. This approach reduces administrative burden, speeds up adoption, and helps lower upfront costs for businesses.

IDP distributors receive financial incentives for qualifying products, such as tubular LEDs (TLEDs), integrated LED fixtures, and high/low bay fixtures. Distributors are required to pass through a minimum of 60% of the incentive value to customers. These discounts are applied instantly at purchase, with no need for application forms. Eligible customers include commercial, institutional, industrial, agricultural, and multi-unit residential building owners or operators.

Products must meet IESO standards (ENERGY STAR or DLC listed) and appear on the IESO's IDP Eligible Measures List. Distributors must comply with transparency and reporting requirements, including collecting basic customer information and displaying discounts clearly on invoices. By reducing cost barriers and simplifying participation, the IDP supports Ontario's broader goals of reducing electricity demand, improving grid reliability, and advancing energy efficiency in Ontario.

2.2 Evaluation Objectives

The IESO has outlined the following objectives for the PY 2024 IDP evaluation:

- Conduct audits of completed projects to evaluate, measure and verify completion and operating parameters through desk reviews and site visits.
- Verify gross energy and summer peak demand savings for qualified program equipment at a 90% level of confidence and 10% precision.

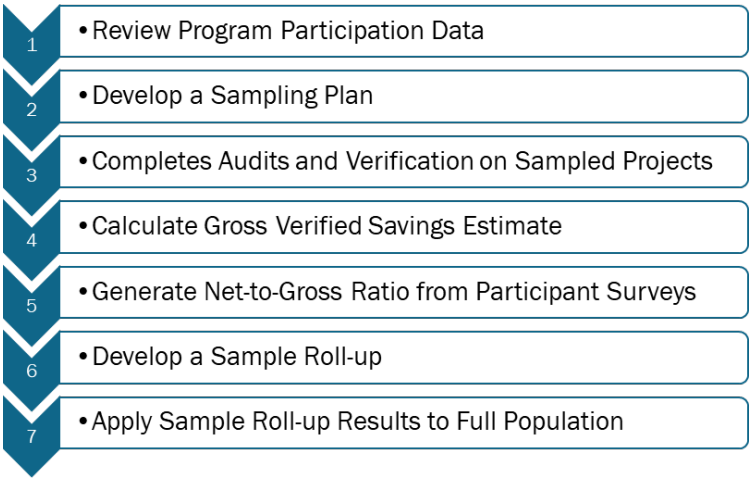
- Determine an appropriate net-to-gross (NTG) ratio at a 90% level of confidence and 10% precision.
- Research specific areas of interest to help the IESO improve the IDP and prepare for future program design and evaluations.
- Perform a cost-effectiveness assessment, greenhouse gas reduction estimate, Non-Energy Benefits (NEBs) analysis, and job impact quantification.
- Conduct a process evaluation by addressing research questions identified with the IESO.
- Deliver annual reports, memos, and impact results templates along with a final report that meet the requirements and deadlines set by the IESO.
- Provide thoughtful recommendations on program improvements based on feedback obtained through the evaluations.

3 Methodology

3.1 Impact Evaluation Methodology

Figure 3-1 presents the impact evaluation methodology, comprised of the following distinct components.

Figure 3-1: Impact Evaluation Methodology



3.1.1 Project Participation and Sampling

The evaluation team drew an impact evaluation sample from PY2024 IDP projects completed and paid for between January 1 and December 31, 2024. The evaluation objectives established the target for verified savings at a 90% level of confidence at 10% precision at the program level.[1] As shown in Table 3-1, the team exceeded the targeted sample size.

Table 3-1: PY2024 Impact Evaluation Sample

Program	Unique Applications	Target Sample	Achieved Sample
Instant Discounts Program	7,948	70	105

[1] The sample was stratified by distributor activity in the program to ensure sampled projects represented the range of distributor activity. Distributors were categorized by total gross reported energy savings into Very High, High, Medium, and Low volume strata.

The team reviewed each sampled project as well as any additional projects completed at the same facility address. For all projects completed at sampled facilities, the team verified gross savings through a combination of desk reviews and onsite data collection. The team used these individual sample project results to calculate realization rates and NTG ratio adjustment factors applied to savings for all projects in the PY2024 population. Appendix C provides additional details on the impact evaluation methodology.

3.1.2 Net-to-Gross Evaluation Methodology

The evaluation team utilized the market actor (e.g., distributor, contractor, and end-user) self-report survey results to estimate the net-to-gross ratio (NTG) for the IDP. The survey's sample design was the same for the NTG and process evaluations as the market actor self-report surveys included both evaluation areas. The samples were developed at the market actor level for the PY2024 evaluation. The surveys sought and achieved a NTG at 90% confidence and 10% precision.

The evaluation team calculated net energy savings attributable to the IDP by multiplying the gross verified energy savings by the NTG ratio. The NTG ratio was based on the causal pathway methodology defined in Equation 3-1.

Equation 3-1: Net-to-Gross Ratio Formula

$$NTG = 1 - Average(FR_{stock}, FR_{upsell}, FR_{pricing})$$

Appendix D provides additional detail on the NTG methodology.

3.2 Process Evaluation Methodology

The process evaluation focused on program design and delivery. The evaluation team assessed program processes through interviews and surveys with relevant program actors, including IESO staff, program delivery vendor staff, distributors, contractors, and end-users. The team developed customized interview guides or survey instruments for each respondent type to ensure responses produced comparable data and allowed for the inference of meaningful conclusions. Table 3-2 presents the survey methodology, the total population invited to participate in the surveys or in-depth interviews (IDIs), the total number of completed surveys, and the sampling error at the 90% confidence level for each respondent type. Appendix E provides additional detail regarding the process evaluation methodology.

Table 3-2: Process Evaluation Primary Data Sources

Respondent Type	Methodology	Population	Completed	Response Rate	Interval Error Margin (90% Confidence)
IESO Staff	Phone IDIs	3	3	100%	0%
Program Delivery Vendor Staff	Phone IDIs	1	1	100%	0%
Distributors	Web Survey	122	50[2]	41%	14.5%
Contractors	Web Survey	1,391	182[3]	13%	12.6%
End-Users	Web Survey	1,738	137[4]	8%	19.1%

3.3 Other Energy Efficiency Benefits Methodology

3.3.1 Non-Energy Benefits Methodology

The NEBs methodology for the PY2024 IDP followed the same methodology as that from the *Non-Energy Benefits Study: Phase II,* which assessed NEBs from energy-efficiency projects funded by the IESO over the 2017-2019 period.[5]

The evaluation team calculated NEBs for the PY2024 IDP using two different techniques—the relative scaling approach and the willingness to pay approach—to determine the value of NEBs that program participants realized by installing program measures. All surveys required respondents to value all NEBs using both techniques. Data collected from these questions could then be used to quantify the NEBs. Appendix I provides additional detail regarding the NEBs methodology.

[2] The NTG evaluation included fewer distributor survey respondents (n=49) than the process evaluation (n=50) as three distributor survey respondents did not fully answer the process evaluation survey questions, and four distributor survey respondents had not yet sold any equipment through the program so were excluded from the NTG analysis.
[3] The NTG evaluation included more contractor survey respondents (n=187) than the process evaluation (n=182) as five contractor survey respondents did not fully answer the process evaluation survey questions.
[4] The NTG evaluation included more end-user survey respondents (n=140) than the process evaluation (n=137) as three end-user survey respondents did not fully answer the process evaluation survey questions.
[5] Dunsky. (July 2021). *Non-Energy Benefits: Phase II; Quantified Benefits and Qualitative Insights*. https://www.ieso.ca/-/media/Files/IESO/Document-Library/conservation-reports/Non-Energy-Benefits-Study-Phase-II.ashx

3.3.2 Job Impacts Assessment Methodology

The methodology for estimating job impacts was consistent with what has been used in all other IESO non-residential job impact evaluations. The methodology leverages the Input-Output model product offered by Statistics Canada to determine impacts. Inputs were developed that represent various exogenous shocks that are propagated throughout the economy because of program activities.

For non-residential programs such as IDP, inputs representing the demand shock and the business reinvestment shock were developed. A third shock, the household expenditure shock, didn't use program specific inputs but instead was based on a normalized million-dollar product bundle. Inputs were submitted to Statistics Canada, who ran the model and provided results which were interpreted by Resource Innovations. A more in-depth methodology, including detailed explanations of the different inputs can be found in Appendix G.

4 Impact Evaluation Results

The evaluation team conducted an impact evaluation to quantify energy and summer peak demand savings from energy efficient lighting products incentivized through the IDP across Ontario in PY2024.

4.1 Energy and Demand Savings

Table 4-1 provides the PY2024 IDP program's overall impact savings results. The net verified energy and summer peak demand savings persisting to 2026 are 70,746 MWh and 15,399 kW, respectively. Gross verified savings included interactive effects for all measures.

Table 4-1: PY2024 IDP Energy and Summer Peak Demand Savings

Savings Type	Gross Reported Savings	Gross Verified Savings	Net Verified Savings	Net Verified Savings Persisting at 2026
Energy (MWh)	183,619	150,845	70,746	70,746
Summer Peak Demand (kW)	30,559	32,833	15,399	15,399

Table 4-2 provides energy savings and summer peak demand savings sample realization rates for projects in the PY2024 IDP sample. The program achieved a weighted average of 82.2% energy savings realization rate and a 107.4% summer peak demand savings realization rate. Program realization rates presented in Table 4-2 include interactive effects that occurred for HVAC operation due to the lighting retrofits. Appendix C describes the methodology used for calculating interactive effects.

Table 4-2: PY2024 IDP Sample Realization Rates

Savings Type	Realization Rate	Relative Precision (90% Confidence)	Relative Precision (85% Confidence)
Energy (MWh)	82.2%	11.6%	10.2%
Summer Peak Demand (kW)	107.4%	10.6%	9.3%

The achieved confidence level and precision of 85% ± 15% are within acceptable industry standards and indicate that the findings are reliable and useful for decision-making. However, the variability of the results was slightly higher than that of the downstream prescriptive Retrofit program. This suggests that the evaluation team should increase the

sample size during the next evaluation cycle in order to achieve 90% confidence and ± 10% relative precision.[6]

The IDP program database contains postal code information for the end user business address of each completed project, whereby each project was assigned to one of five geographical delivery regions in Ontario. Figure 4-1 illustrates the regional distribution of IDP projects across the five regions. The Central region represents the largest share at 46% of completed projects with progressively smaller proportions in the other regions. The project counts follow the primary locations of participating distributors of which 59% are located in the Central region followed by 16% in the Southwestern, 14% in Toronto, 9% in the Eastern, and the remaining in the Northern region. Generally, distributors that incentivized a high volume of projects sell equipment that ultimately is installed across all regions; lower volume distributors more often are regionally oriented. A list of postal code designation and exact project counts for each region are presented in Appendix J.

Similarly, Figure 4-2 shows the regional distribution of PY2024 IDP's first year net-verified energy savings and summer peak demand savings. The Central region accounted for most of both metrics, representing 55% of total demand savings and 54% of first-year energy savings. The Southwestern and Toronto regions each contributed 16% to both demand and energy savings, indicating a balanced but comparatively smaller impact. The Eastern region achieved 9% of demand savings and 10% of energy savings, while the Northern region had the lowest contributions at 5% for both metrics. These results demonstrate a significant concentration of verified savings in the Central region, with proportionally lower impacts observed in other areas.

[6] The sample design used a coefficient of variation of 0.5 to estimate the sample size required to achieve 90% confidence and ±10% relative precision. Ultimately, the coefficient of variation of the sampled projects was 0.73.

Figure 4-1: PY2024 IDP Regional Distribution of Completed Projects

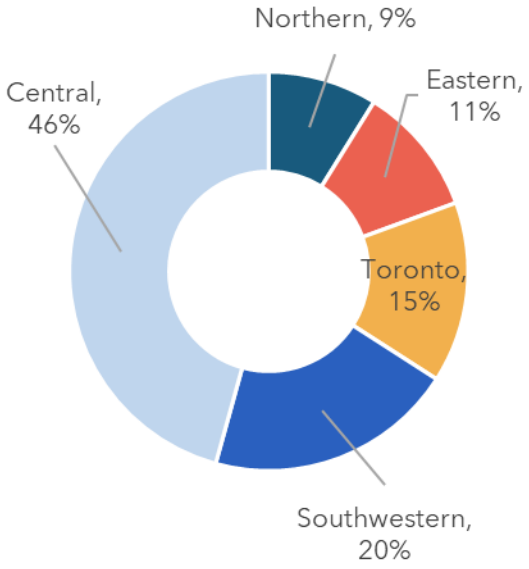
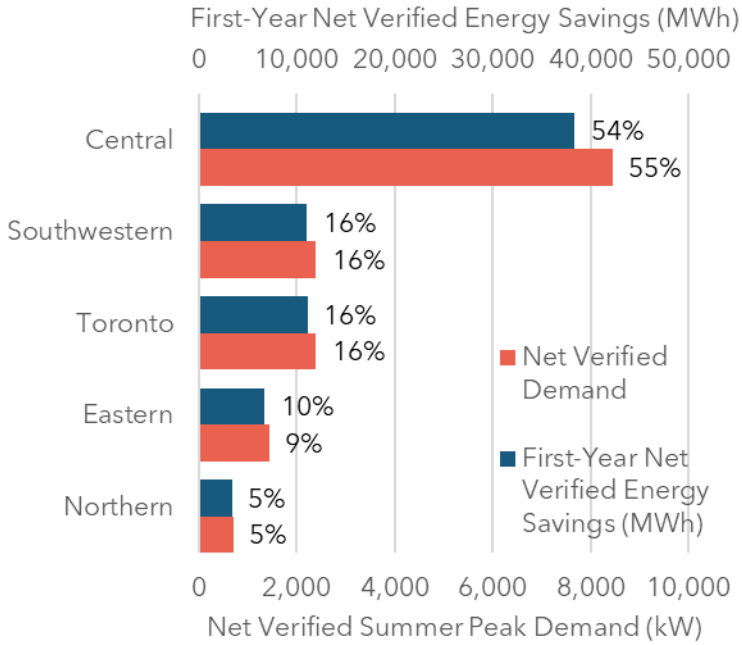


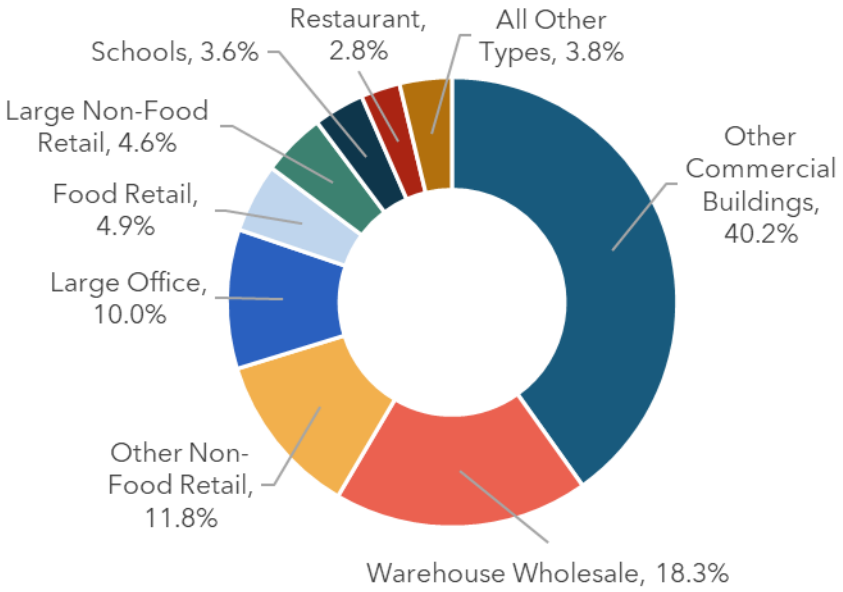
Figure 4-2: PY2024 IDP First Year Net Verified Energy Savings and Summer Peak Demand Savings by Region



4.2 Participation Summaries

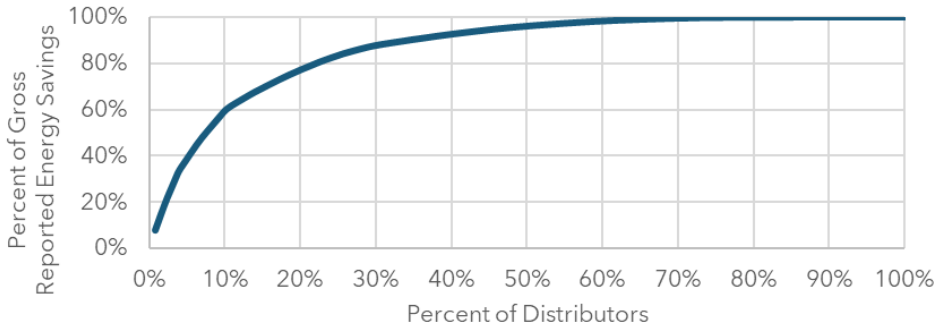
During PY2024, 7,948 projects were completed at 5,939 unique service addresses. The IDP database contained information regarding each completed project's facility type. The team re-categorized each entry into one of 13 building types as prescribed in the IESO Prescriptive Measure Assumptions List (MAL). Figure 4-3 provides a full list of facility types reporting in the PY2024 IDP program database and their respective re-categorized designation. Other Commercial Buildings, followed by Warehouse Wholesale, Other Non-Food Retail, and Large Office, contributed the most to the PY2024 IDP, accounting for 80% of completed projects. For the PY2024 IDP, Figure 4-3 presents the full project-count distribution by identified facility type.

Figure 4-3: PY2024 IDP Project Distribution by Building Type



The evaluation team reviewed the distribution of projects and energy savings by participating distributor. In PY2024, 129 distributors enrolled in the program, 110 of which completed sales eligible through the program.[7] The distributor that reported the highest amount of gross energy savings in PY2024 accounted for 8% of total program savings. The top 20% of distributors accounted for 77% of total program savings. Figure 4-4 presents the cumulative distribution of energy savings by distributor.

Figure 4-4: PY2024 IDP Cumulative Distribution of First-Year Gross Energy Savings by Distributor Count



[7] At the end of PY2024, 19 distributors had not yet reported any sales through the program.

As shown in Table 4-3, the program incentivized 498,896 units in PY2024. By project count and units incentivized through the program, the most common measure type was LED High Bay Fixtures which were included in 58.3% of all projects and represented 54.7% of all units incentivized. Integral LED Troffer & LED Linear Ambient Fixtures, LED Recessed Downlights, and 4′ T8 LED / LED U-Bend Lamps followed. By net verified energy savings and summer peak demand savings, LED High Bay Fixtures generated 87.5% and 88.8% respectively as shown in Figure 4-5 and Figure 4-6. Although included as eligible measures through the program, no occupancy sensors (wall switch, wall/ceiling mount, or fixture mounted/integrated) were incentivized through the program in PY2024.

Table 4-3: PY2024 Project Counts and Units Incentivized by Measure Type

Measure	Projects	% of Projects	Units Incentivized	% of Units Incentivized
LED High Bay Fixture	3,614	36.9%	145,122	29.1%
LED Low Bay Fixture	2,311	23.6%	132,366	26.5%
Integral LED Troffer & LED Linear Ambient Fixture	2,171	22.2%	112,879	20.9%
LED Recessed Downlights	919	9.9%	57,826	11.6%
4′ T8 LED / LED U-Bend Lamp	405	4.4%	35,615	7.1%
8′ LED Linear Ambient Fixtures	187	2.0%	6,367	1.3%
4′ T5HO LED Tube Replacement (UL Type A, B, & C)	54	0.6%	5,352	1.1%
LED Reflector (Flood/Spot) Lamp Pin & Screw Base	94	1.0%	5,104	1.0%
4′ T5 LED Tube Replacement (UL Type A, B, & C)	15	0.2%	953	0.2%
8′ T8 LED Lamp	17	0.2%	882	0.2%
Refrigerated Display Case LED Fixture – Vertical Installation	10	0.1%	774	0.2%
Integral LED Troffer & Linear Ambient Retrofit Kits	8	0.1%	318	0.1%
Total	n/a	100%	498,896	100%

Figure 4-5: Net Verified First-Year Energy Savings Percentage by Measure

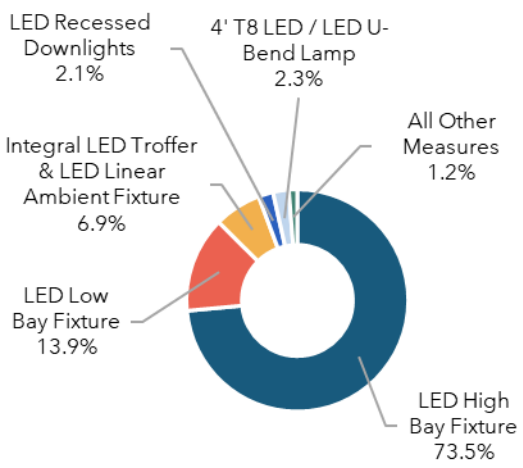
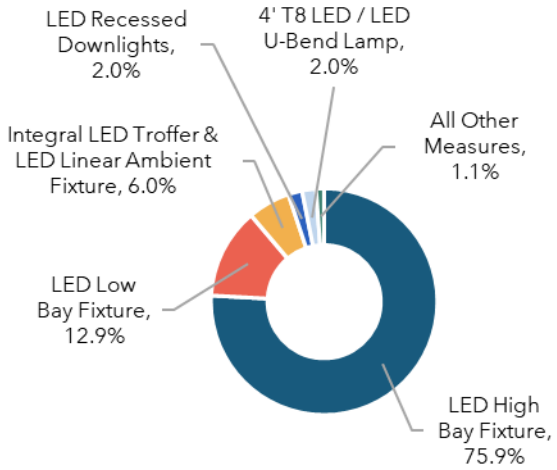


Figure 4-6: Net Verified First-Year Summer Peak Demand Savings Percentage by Measure



4.3 Incentive Passthrough

The program's requirements stipulate that distributors must pass on a minimum of 60% of the corresponding incentive amount for each measure in each transaction. The amount of incentive that distributors pass through to purchasers in a midstream lighting program can vary, and this variation can meaningfully affect program outcomes. Some distributors may pass through the full incentive to reduce the purchase price, maximizing the cost-effectiveness of the measure for the end user and encouraging greater adoption. Others may retain a portion of the incentive to cover administrative costs or boost their margins, resulting in less visible savings to the purchaser and potentially reducing the program's influence on purchasing decisions.

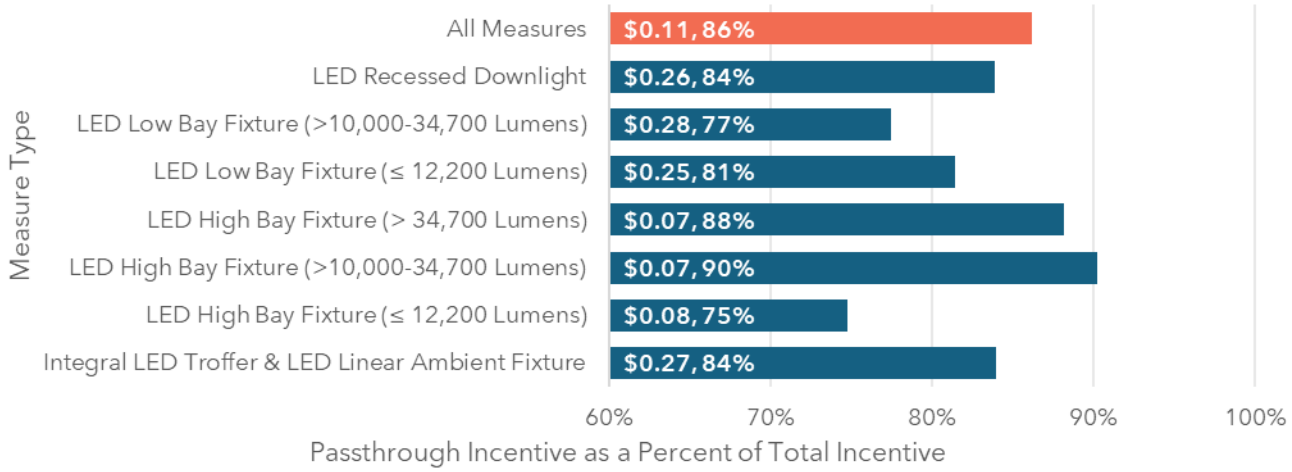
The evaluation team mined invoice data to develop a measure-level data set inclusive of passthrough incentive amounts and compared those amounts to the total incentive amounts recorded in the program tracking data.[8] As shown in Figure 4-7, average passthrough rates varied by measure from a low of 75% to 90%. Distributors on average passed through 89%

[8] These analyses are informative and not necessarily statistically significant. The evaluation team was limited by the ability to extract invoice data from invoice documentation. The analysis only included measure-level data for which the team had a high degree of certainty (e.g., the quantities and incentive amounts matched the program tracking data and the passthrough was at least 60%). The analysis includes measures that represent 15% of the total program incentives and 27% of participating distributors with program activity in PY2024. Averages are weighted by the total incentive from IESO to the distributors.

of the incentive for all high bay fixtures, 81% for all low bay fixtures, and 86% across all measures.

Additionally, Figure 4-7 shows the average passthrough incentive by gross reported energy savings. Distributors provided an effective incentive of $0.11/kWh to purchasers across all measures. The effective incentive varied from $0.08/kWh to $0.28/kWh.

Figure 4-7: Average Passthrough Incentive Percentage and $/kWh by Measure



The evaluation team stratified distributors into five categories by sales volume in terms of gross first-year reported energy savings as shown in Table 4-4.[9] Distributors with very high volume incentivized measures in 3,175 projects representing 45% of the gross first-year reported energy savings. Of the 129 distributors enrolled in the program in PY2024, 19 did not incentivize any eligible equipment.

[9] Distributor strata were determined by size in terms of gross first-year energy savings using the Dalenius-Hodges method. Although correlated with the size and general sales volume of the distributors, the category is dependent on other factors such as when individual distributors enrolled in the program.

Table 4-4: Distributor Categories by Gross First-Year Energy Savings

Distributor Category	Savings Range (MWh)	Count	Number of Projects	Gross First-Year Energy Savings (MWh) *	Gross Summer Peak Demand Savings (kW) *	% of Gross First-Year Energy Savings*
Very High Volume	> 6,750	8	3,175	82,034	13,620	45%
High Volume	2,320 - 6,749	14	1,867	51,633	8,646	28%
Medium Volume	666 - 2,319	26	1,982	34,194	5,653	19%
Low Volume	5.6 - 667	62	924	15,758	2,639	9%
No Activity	0	19	0	0	0	0%
Total	n/a	129	7,498	183,619	30,559	100%

*May not sum to 100% due to rounding.

Figure 4-8 shows the average passthrough incentives by distributor activity. Distributors with less activity in PY2024, particularly low volume distributors, passed through less of the incentives on average than distributors with more activity.

Figure 4-8: Average Passthrough Incentive Percentage by Distributor Program Sales Volume

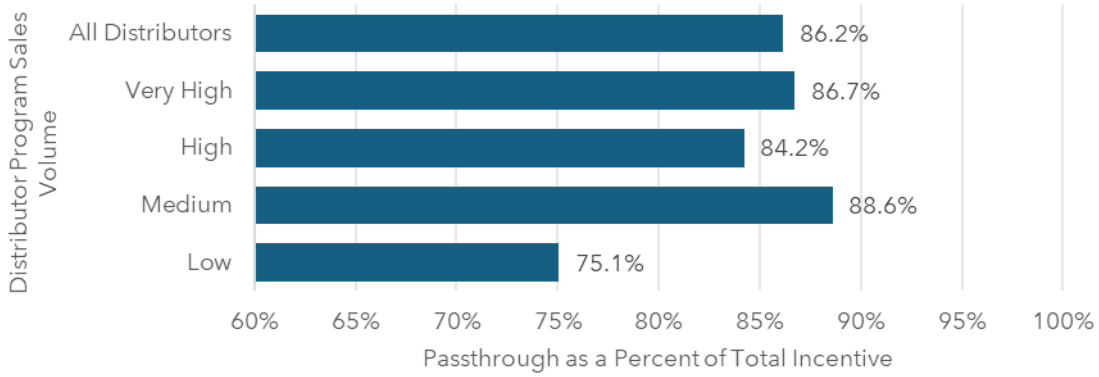


Figure 4-9 shows the projects for which the purchasers were contractors compared to end users as a percentage of all projects incentivized by distributors. Figure 4-10 shows the same comparison as a percentage of gross first year reported energy savings. Overall, distributors sold to contractors 50% of the time and direct to end users 50% of the time. However, the purchases directly by end users represented 57% of the total reported energy savings. This difference indicates that the end users who purchase directly from distributors generally implement larger projects. Similarly, by distributor category, end users who purchased directly from distributors implemented higher savings projects on average than

projects for which contractors were the purchasers. This difference is likely due to the relatively larger size of end users that have the resources to purchase directly from distributors (e.g., a school district that employs its own facilities and operations staff).

Figure 4-9: Distribution of Projects by Purchaser Type and Distributor Program Sales Volume

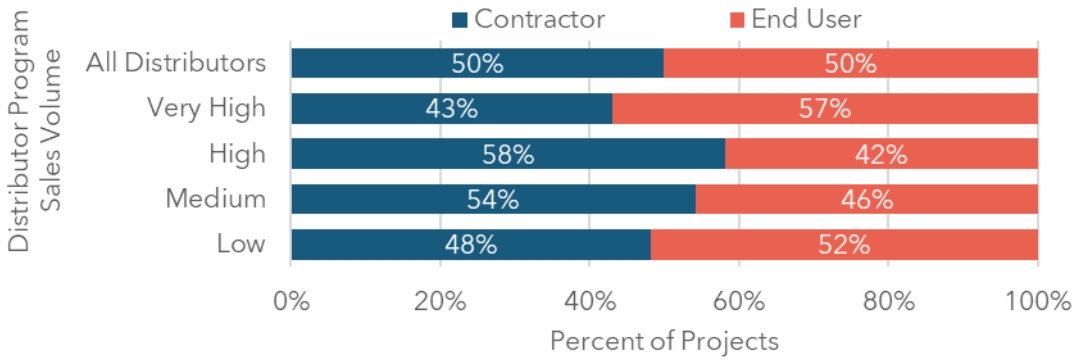


Figure 4-10: Distribution of Gross First-Year Energy Savings by Purchaser Type and Distributor Program Sales Volume

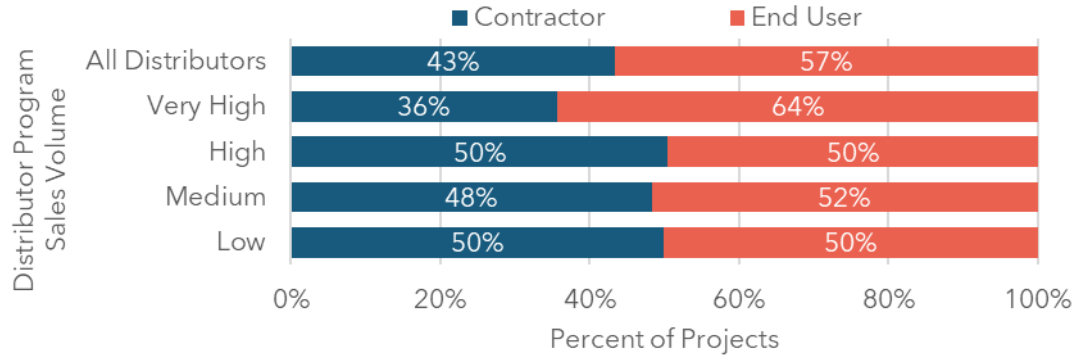
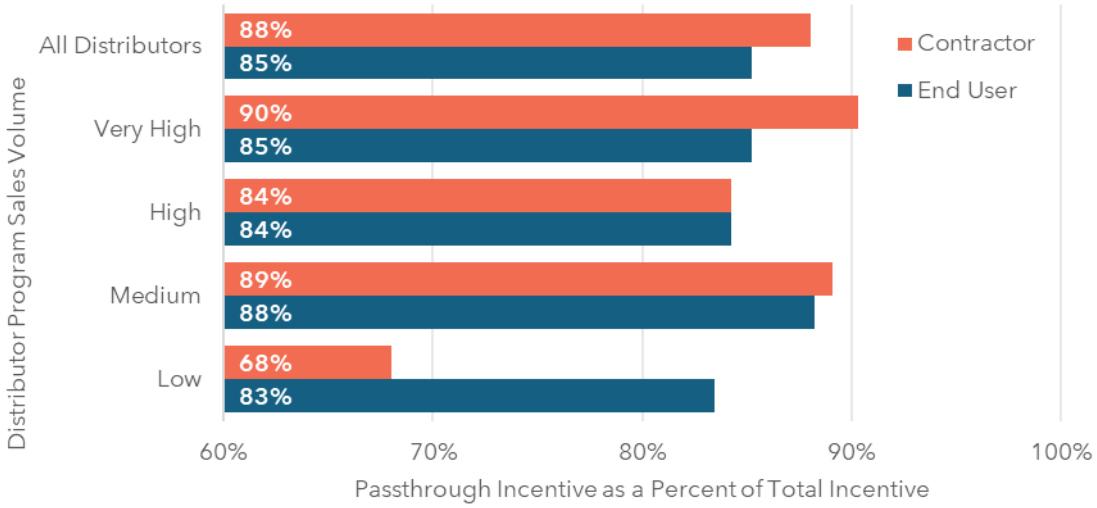


Figure 4-11 shows the average passthrough incentives by distributor and purchaser type. On average for the program contractors received a slightly higher passthrough incentive percentage of 88% compared to end users who received 85%. The most significant difference between the two purchaser types came from the low volume distributors which passed through an average of 68% to contractors and 83% to end users. This difference contrasts with very high volume distributors which passed through an average of 90% to contractors and 85% to end users. High volume and medium volume distributors had no significant difference between purchaser type.

Figure 4-11: Average Passthrough Incentive Percentage by Distributor Activity and Purchaser Type



4.4 Key Impact Evaluation Findings

The following sections detail impact findings, including installed measures, first year net savings, contributions by measure, facility types, incentives, and program realization rates.

4.4.1 IDP Measures

In PY2024, savings were highly concentrated among a few key lighting measures as shown in Table 4-5. LED High Bay Fixtures and LED Low Bay Fixtures combined accounted for the largest share, contributing 87.5% of total energy savings and 88.8% of summer peak demand savings. Integral LED Troffers and LED Linear Ambient Fixtures represented the second-largest contributor, comprising 6.9% of energy savings and 6.1% of demand savings, followed by LED Recessed Downlights and 4' T8 LED/LED U-Bend Lamps, each contributing just 2% of total energy savings. All remaining measures individually accounted for less than 1% of program savings, indicating that while a range of technologies were available through the IDP, the program's impact was driven primarily by a small number of high-performing measures.

Table 4-5: First Year Net Verified Savings by Measure Type

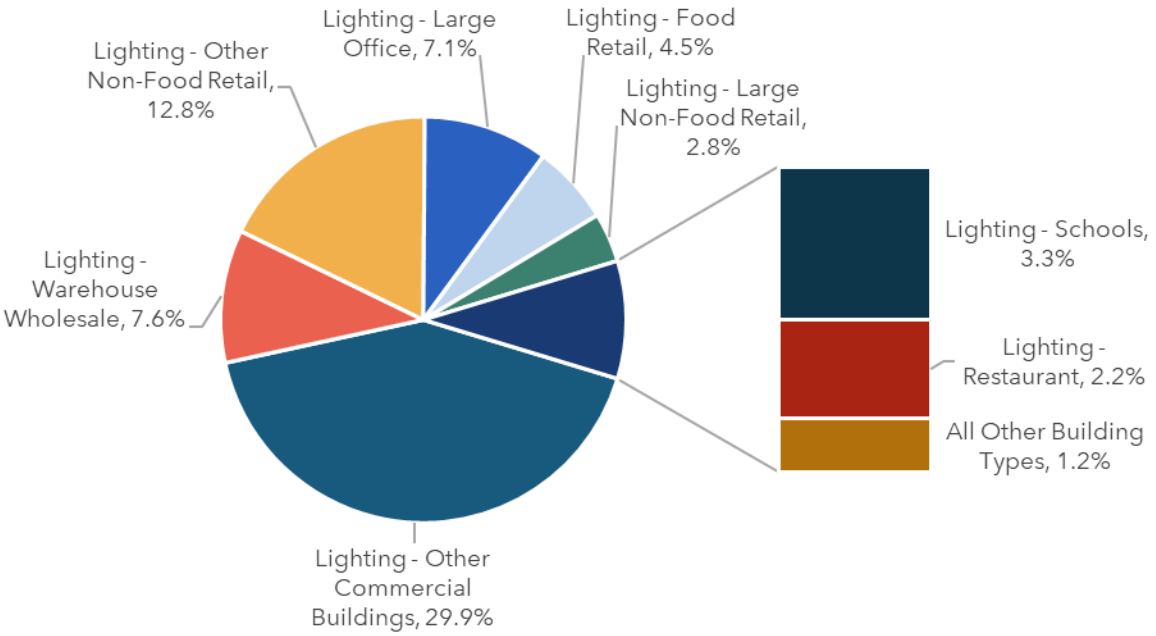
Measure	Net Verified Energy Savings (MWh)	Net Verified Summer Peak Demand Savings (kW)	% of Energy Savings*	% of Summer Peak Demand Savings*
LED High Bay Fixture	52,014	11,684	73.5%	75.9%
LED Low Bay Fixture	9,862	1,993	13.9%	12.9%
Integral LED Troffer & LED Linear Ambient Fixture	4,855	931	6.9%	6.1%
LED Recessed Downlights	1,519	306	2.2%	2.0%
4′ T8 LED / LED U-Bend Lamp	1,629	309	2.3%	2.0%
8′ LED Linear Ambient Fixtures	380	74	0.54%	0.48%
4′ T5HO LED Tube Replacement (UL Type A, B, & C)	299	64	0.42%	0.42%
LED Reflector (Flood/Spot) Lamp Pin & Screw Base	125	27	0.18%	0.18%
4′ T5 LED Tube Replacement (UL Type A, B, & C)	32	5	0.05%	0.03%
8′ T8 LED Lamp	29	6	0.04%	0.04%
Refrigerated Display Case LED Fixture – Vertical Installation	26	6	0.04%	0.04%
Integral LED Troffer & Linear Ambient Retrofit Kits	26	7	0.04%	0.04%
Total	70,746	15,399	100%	100%

*May not sum to 100% due to rounding.

4.4.1.1 LED High Bay Fixtures

LED High Bay Fixtures were the primary driver of energy savings in the program, contributing most of the net verified energy savings across all measures. As illustrated in Figure 4-12, these savings were concentrated in warehouses and non-food retail facilities with smaller contributions from large office, food retail, and non-food retail facilities.

Figure 4-12: Distribution of Net Verified Energy Savings from LED High Bay Fixtures by Building Type



4.4.2 Realization Rates

The standard equations for calculating energy and summer peak demand savings produced by lighting upgrades depend on three main inputs: hours of use (HOU), fixture wattages, fixture counts, and in-service rate. A difference between verified and reported values across any of these three main inputs leads to an adjustment in savings through the realization rate. Table 4-6 shows reported and verified savings for lighting measures in PY2024 IDP.

Table 4-6: PY2024 IDP Savings

Savings	Reported Savings	Realization Rate	Gross Verified Savings
Energy (MWh)	183,619	82.2%	150,845
Summer Peak Demand (kW)	30,559	107.4%	32,833

4.4.3 Factors Influencing Realization Rates

Realization rates for lighting projects are influenced by three key factors in-service rate, hours of use, baseline fixture wattages, and installed fixture wattages. The evaluation team disaggregated each factor for each project analysis, extrapolated to the program population, and determined corresponding program-level energy realization rates.

4.4.3.1 In-Service Rates

In-service rates play a critical role in determining the realized energy savings from lighting projects. The in-service rate refers to the percentage of installed lighting measures that are operating as intended after installation. The evaluation team attempted to verify fixture counts via self-reported telephone surveys and onsite inspections. The team was unable to verify all fixtures at three facilities. The reasons for the discrepancies varied: some equipment was shelved instead of installed; some equipment was installed at other locations of the same business owner; and some equipment was simply unaccounted for. In those cases, the verified savings were adjusted downward to reflect only the measures that are installed and performing as intended. The adjustments resulted in 0.5% reduction in gross reported to verified energy savings.

4.4.3.2 Hours of Use

The evaluation team collected hours of use data via self-reported telephone surveys, onsite surveys, and onsite metering. Verified hours of use comparisons with prescriptive hours of use varied with some higher and some lower. On average, verified hours of use were 18% higher than IESO's prescribed hours of use representing 670 MWh additional energy savings from gross reported to verified. The study was not designed to compare hours of use for individual building types with statistical significance, however, in general the team found that retail facilities had lower hours of use while offices and warehouses had higher hours of use than IESO's prescribed savings calculations.

4.4.3.3 Fixture Wattages

Because IDP reported savings rely on prescribed baseline and efficient fixtures, generally a blend of two or more fixture possibilities, the actual baseline and efficient fixtures can vary depending on each project's specific applications. The evaluation team attempted to confirm baseline and existing fixtures and specifications via self-reported telephone surveys, onsite surveys, and visual inspection. The team found that baseline fixture wattages were often significantly less than IESO's prescribed fixture wattages. Although there were no discernible trends for certain building types or certain measures, the most common cases where differences occurred included facilities that replaced existing LEDs with LEDs.

4.4.3.4 Interactive Effects

Reported savings achieved through the IDP did not include interactive effects observed for HVAC equipment operations through the installation of more efficient lighting fixtures. Verified savings were calculated with and without these interactive effects. Verified energy and demand savings presented elsewhere in this report include interactive effects. Table 4-7 shows the verified energy savings with and without interactive effects. This table also presents the additional verified energy savings and gas penalty attributable to HVAC interactive effects in PY2024.

Table 4-7: Significance of Interactive Effects on PY2024 IDP Energy Savings

Interactive Effects	Reported Energy Savings (MWh)	Energy Realization Rate	Gross Verified Energy Savings (MWh)	Additional Interactive Savings (MWh)	Gas Heating Penalty (MMBtu)
Not Included	183,619	79.7%	146,408	-	-
Included	183,619	80.2%	150,845	4,436	-89,529

* Results shown are based on original (i.e., not rounded) figures and may not match the results if using the rounded number shown.

Table 4-8 shows the verified summer peak demand savings with and without interactive effects, and the additional verified demand savings attributed to HVAC interactive effects in PY2024.

Table 4-8: Significance of Interactive Effects on 2024 IDP Summer Peak Demand Savings*

Interactive Effects	Reported Demand Savings (kW)	Summer Peak Demand Savings Realization Rate	Gross Verified Summer Peak Demand Savings (kW)	Additional Interactive Savings (kW)
Not Included	30,559	92.7%	28,330	-
Included	30,559	107.4%	32,833	4,503

* Results shown are based on original (i.e., not rounded) figures and may not match the results if using the rounded number shown.

4.5 Net-to-Gross Evaluation

Table 4-9 presents results for the PY2024 IDP NTG evaluation. The evaluation targeted and achieved 90% confidence and 10% precision levels when calculating the NTG ratio for the program. Due to the midstream program design, the evaluation team calculated NTG using the causal pathway methodology for the IDP. This methodology is an industry standard for midstream programs when high-quality contact information exists for more than one of the market actors that are influenced by the program. In this section, we provide an overview of the NTG approach, followed an interpretation of the results.

Causal Pathways. A causal pathway is a series of related events or influential factors that lead to an outcome or impact, such as adoption of the intended program offerings. In the case of IDP, the evaluation team examined the influence of the program on stocking, upselling, and pricing. Through the stocking pathway, the program influences distributors to stock high-efficiency equipment which can influence contractor and end-user purchasing decisions. Through the upselling pathway, the program encourages distributors and contractors to upsell high-efficiency equipment which can influence end-user purchasing decisions. Through the pricing pathway, the program encourages distributors and contractors to reduce the price of high-efficiency equipment and/or passthrough incentives which can also influence end-user purchasing decisions.

Market Actor Surveys. The evaluation team developed and implemented market actor self-report surveys for distributors, contractors, and end-users associated with the program. Surveys collected data on the stocking, upselling, and pricing pathways to assess the causal pathways of influence on the overall purchasing process. The resulting analysis created unique free-ridership and attribution estimates for each causal pathway as well as a single market-level NTG estimate for IDP. Attribution is the share of savings that are attributable to the program. Estimating attribution for each market actor group is the first step towards developing the overall NTG when using the causal pathway methodology. The specific question topics asked of market actors to assess attribution are detailed below.

- *Stocking Attribution:* Surveyed distributors were asked to estimate the percentage of their stocked equipment that was high-efficiency as well as the percentage that would be high-efficiency in the program's absence. Surveyed contractors were asked to estimate the percentage of the time that their customers chose to either delay their projects, select an alternative model (e.g., standard efficiency, high-efficiency), or do something else if the preferred high-efficiency unit was not in stock. Similarly, surveyed end-users were asked to indicate what they would have done if the high-efficiency equipment that they had purchased was not in stock (e.g., delay their project, select an alternate model that was in stock with their vendor, find the same high-efficiency model elsewhere, etc.)

- *Upselling Attribution:* Surveyed distributors were asked to indicate whether the program incentives influenced which efficiency levels their company recommended to buyers, the percentage of the time they recommended high-efficiency to buyers, and the percentage of the time they would be likely to recommend high-efficiency in the program's absence. Surveyed contractors were asked how influential distributors' lighting recommendations were on the decision of what gets installed. Surveyed end-users were asked how influential their vendor's lighting recommendations were on their decision of what to purchase.

- *Pricing Attribution: Surveyed distributors were asked to estimate the average percentage of the program incentive that they passed on to buyers. Surveyed contractors were asked to estimate to estimate the percentage of the program discount that they passed on to the end-users. Surveyed end-users were asked to assess the likelihood of what they would have purchased if the equipment had not been discounted by the amount of the discount they received.*

Combining Market Actor Attribution and Estimating NTG. The evaluation team first calculated the stocking, upselling, and pricing attribution values for each market actor group as seen in Table 4-9. Following this, we calculated the pathway attribution scores, where each of the market actor group attribution results were averaged together within each pathway. When estimating attribution for each market actor group, the evaluation team used the energy savings from program tracking data to assign a relative weight to each respondent within each group to ensure that the results were representative. The team then converted the pathway attribution scores into pathway free-ridership scores, as seen in Table 4-9. To do so, we calculated the inverse of the pathway attribution values from the previous step, where FR is equal to 1 minus the pathway attribution values for each pathway. Finally, the evaluation team calculated the NTG by taking the inverse of the pathway FR values. To do so, we first took the average of the three pathway FR values calculated in the previous step and then subtracted this combined value from 1. The evaluation team recommends this averaging methodology (rather than multiplying results or introducing weighting factors) since incorporating all market actor and causal pathway feedback equally will lead to estimates that most closely reflect the program's influence on the market in which it is operating. Appendix D provides additional details on the NTG methodology.

Table 4-9: PY2024 IDP Market Actor Attribution Values

Market Actor	Unique Count	NTG Responses	Response Rate	% of Savings Represented	Stocking Attribution Value	Upselling Attribution Value	Pricing Attribution Value
Distributor	105*	49	47%	46%	12.7%	15.6%	85.9%
Contractor	1,391	187	13%	17%	48.2%	71.1%	52.9%
End-User	1,738	140	8%	11%	17.8%	61.6%	56.4%

*The unique count of distributors for NTG analysis differs from that of the process evaluation because 17 distributors had not yet sold equipment through the program and were therefore excluded from NTG analysis.

Table 4-10: PY2024 IDP Program NTG Results

Savings Weighted FR -Stocking	Savings Weighted FR - Upselling	Savings Weighted FR - Pricing	Weighted NTG - Energy	NTG Standard Error (SE)	Relative Precision (90% Confidence)
73.8%	50.6%	34.9%	46.7%	0.0093	3.3%

As seen in Table 4-9, market actor feedback indicates high free-ridership levels for each of the causal pathways, with stocking (at 73.8% FR) and upselling (at 50.6% FR) higher than pricing (at 34.9% FR). The higher FR for stocking and upselling may suggest that additional program interventions may be necessary to influence the stocking and upselling behaviors of distributors and contractors (e.g., encouraging distributors to adequately stock high-efficiency and contractors to always promote the program and its benefits to their customers). Additionally, the higher FR, especially for stocking, may, in part, be indicative of how the market for lighting in Ontario has continued to transform towards higher efficiency over time. While many surveyed distributors reported stocking high-efficiency, some reported they would have stocked the same or similar percentages even in a scenario where the program was not available. These results suggest that it may be beneficial for the program to provide additional training, education, and support to distributors and contractors, especially related to their stocking and/or upselling practices. For example, providing distributors and contractors with training on specific language to use under different scenarios when recommending program eligible equipment to buyers may help further ensure that the program is effectively influencing the upselling causal pathway. Additionally, it is critical to encourage distributors to stock an adequate supply of high-efficiency equipment. Having adequate stock can, in turn, help ensure that the program is able to effectively influence end-users to make decisions that result in high-efficiency program purchases since end-users will not have to consider alternatives if the equipment of interest is not available to them.

Despite these higher free-ridership results, the IDP also shows signs of supporting the acceleration of the adoption of energy-efficient commercial lighting equipment in Ontario. As seen in Table 4-9, market actor results for the pricing causal pathway range between 52.9% to 85.9% attribution, suggesting that the program's passthrough incentive was an effective means of encouraging participation. While the stocking and upselling causal attribution pathway results were more varied, they too suggest that the program is influencing stocking and upselling behaviors in various ways, with attribution values ranging between 12.7% to 48.2% for stocking and between 12.5% and 71.1% for upselling. Additional program interventions, such as those noted above regarding encouraging participating distributors to adequately stock efficiency products and providing training and resources to contractors are important to ensuring that the program is sufficiently influencing stocking and upselling pathways. Other program interventions that may engage end-users are important to consider as well, such as deploying additional marketing tactics that can more broadly raise awareness and educate end-users on the benefits of program participation. Increased attention to support IDP as it seeks to influence all pathways—though especially stocking and upselling—is recommended as an opportunity for the program to consider in future years.

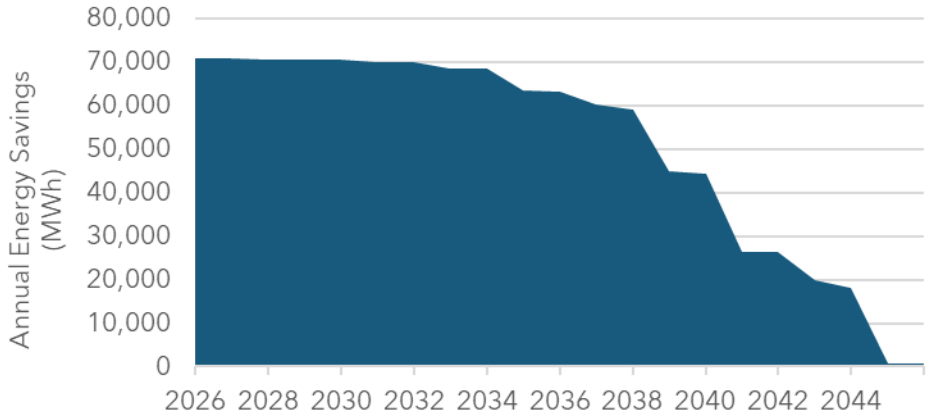
Appendix F.2, Appendix F.4, and Appendix F.6 provide additional analyses performed to assist in the interpretation of these values.

4.6 Savings Persistence

The PY2024 IDP is expected to achieve 1,155,502 MWh of lifetime net-verified energy savings, based on installed measures and their respective useful lives (EULs). Nearly all net savings will persist through 2034.

The IESO's list of eligible IDP lighting measures provides an estimated rated lifespan in hours for each measure, with each measure's EUL calculated using rated life and assumed HOUs. The EULs range from 3 years for fixtures found in lodging facility common areas to 22 years for fixtures found in schools. Figure 4-13 illustrates the annual net-verified energy savings for the PY2024 IDP over time. LED High Bay fixtures in warehouses, the most commonly installed measure through the program, have an EUL of 16 years, hence the significant drop in lifetime savings projected in 2041.

Figure 4-13: PY2024 IDP Net Verified Energy Savings Over Time



5 Cost-Effectiveness Evaluation

Cost-effectiveness for IDP was conducted using IESO's CE Tool V9.1. Table 5-1 presents the results. The PY2024 IDP achieved a PAC ratio of 2.32, exceeding the 1.00 target threshold (designed to determine if a program proves cost-effective). PY2024 IDP provided those benefits at a levelized unit energy cost of $0.0315 per kWh and $144.87 per kW. The cost-effectiveness results were slightly lower than the PY2024 CDM Framework Retrofit prescriptive measures lighting measures that achieved a PAC ratio of 4.42 and levelized costs of $0.01 per kWh and $86.94 per kW. Despite a lower NTG than the downstream Retrofit prescriptive measures, IDP remained cost-effective due to its comparatively lower program administrative costs.

The lower PAC and levelized costs can be attributed to the lower NTG of IDP.

Table 5-1: IDP Cost-Effectiveness Results

PAC Test	Result
PAC Costs ($)	$24,075,938
PAC Benefits ($)	$55,890,855
PAC Net Benefits ($)	$31,814,917
PAC Net Benefit (Ratio)	2.32
Levelized Unit Energy Cost (LUEC)	**Result**
$/kWh	$0.0315
$/kW	$144.87

6 Process Evaluation Results

The evaluation team performed a process evaluation to better understand the Instant Discount program's design and delivery. The team interviewed IESO and delivery vendor staff and completed distributor, contractor, and end-user surveys to gather primary data for supporting this evaluation. In the following sections, if fewer than 20 respondents answered a question, counts are shown rather than percentages. These results should be considered directional, given the small number of respondents.

6.1 IESO Staff and Program Delivery Vendor Staff Perspectives

The following subsections highlight feedback received from IESO staff and program delivery vendor staff IDIs.

6.1.1 Key Findings

Key findings from IESO staff and program delivery vendor staff IDIs include the following:

- The Instant Discount Program was launched at the end of 2023 as a midstream program that transitioned most lighting equipment, except for horticultural measures, from the Retrofit Program. The first applications were submitted in January 2024.
- IESO staff and the program delivery vendor reported that distributor enrollment and project volumes greatly exceeded expectations for the first year.
- While it initially took some time for distributors to understand the program requirements and to set up appropriate internal systems to participate, IESO staff and the program delivery vendor both reported that the program is now running smoothly overall.
- The IESO marketing efforts were largely aimed at the end users and focused on a digital-first approach while the program delivery vendors' marketing efforts primarily sought to engage and provide training and resources to distributors.
- The program delivery vendor provides participating distributors with marketing assets such as point-of-sale materials (e.g., sell sheets, brochures, banners, showroom displays), and providing language for distributor websites.
- IESO staff and the program delivery vendor reported that the high number of high and low bay lighting installed in 2024 could likely be attributed to a mix of customer interest and the higher incentives for these measures (which have since been somewhat reduced).
- Both IESO staff and the program delivery vendor reported that the program covers most of the lighting equipment types of interest to distributors. Lighting equipment

types not currently offered but requested with some frequency include exit signs, horticultural lighting, and exterior lighting.

- Considering whether to offer non-lighting measures such as motors, variable frequency drives (VFDs), and rooftop units (RTUs) through a midstream model was encouraged by some IESO staff and by the delivery vendor, though one IESO staff member cautioned that the program design and quality control requirements would need to be carefully considered.
- While both IESO staff and the program delivery vendor suggested that program incentives are generally sufficient, the program delivery vendor noted that they are generally lower than other programs that they are familiar with in the U.S. Higher incentives for specific measures such as more diverse controls and linear ambient offerings were mentioned.
- Initial barriers to participation included the distributors needing to familiarize themselves with the program's requirements, incorporating the discounts into their pricing systems, and learning to use the program's portal to submit their applications for reimbursement.
- The program delivery vendor stressed that it will be important for the program to continue to minimize incentive wait times (ideally to less than four weeks) to ensure distributor retention over time.
- Improving the process of submitting data into the IESO's system was recommended as another important improvement opportunity in the year ahead.

6.1.2 Design and Delivery

The Instant Discount Program was launched at the end of 2023, with the first applications submitted in January 2024. Most commercial lighting equipment types, with the exception of horticultural lighting measures, were transitioned to the Instant Discount Program from the Retrofit Program. By transitioning commercial lighting to a midstream delivery model, IESO sought to make program operation more efficient and to reduce administrative costs.

IESO staff and program delivery vendor staff said that midstream programs capitalize on the distributors' influence on contractor and end-user choices. The program delivery vendor noted that contractors and end-users cannot buy equipment that distributors do not have in stock and most are not willing to wait for a product to be special ordered. Additionally, the program delivery vendor noted that the midstream delivery approach allows end-use customers to avoid going through an extensive application process since they receive their discount at the point of sale.

The program delivery vendor manages the distributor enrollment and training. Once the distributors submit the necessary sales history details and complete their training, the program delivery vendor confirms that the measures offered by the distributors qualify for

the program before enrolling them and assigning them program budgets. Distributors that exhaust their budgets may apply for increases. Once distributors are enrolled, they are then able to submit applications through the program portal, which the program delivery vendor and IESO then review before incentives are issued.

IESO staff and the program delivery vendor believed that the program's delivery was generally well executed in its first year. While it initially took some time for distributors to understand the program requirements and to set up appropriate internal systems to participate, both IESO staff and the program delivery vendor noted that the program is now running smoothly overall. IESO staff reported that it has enrolled over 450 distributors, covering 52 cities across the province so far. The program delivery vendor said that market penetration ramped up quickly; they noted that distributors who saw their competitors enrolling also felt inclined to enroll to stay competitive.

IESO staff and the program delivery vendor said that both the distributor enrollment and project volumes exceeded expectations with rapid increases taking place especially in the last quarter of 2024. The program delivery vendor said that project volumes were around 30% more than they forecasted for the first year and that they are seeing the momentum carry forward into 2025 as well.

6.1.3 Outreach and Marketing

IESO staff indicated that they are responsible for the "umbrella" marketing of the program to generate awareness across the province through its Save on Energy brand. For example, IESO has developed a marketing toolkit with digital marketing products for distributors to use in their outreach. IESO also promoted the program through its website, at industry events and conferences, and through its social media accounts. IESO noted that their marketing efforts were mostly aimed at the end-users while the program delivery vendor marketing efforts were largely aimed at distributors.

The program delivery vendor provides participating distributors with marketing assets to promote the program directly to their customers to generate interest. IESO staff indicated that they work closely with the program delivery vendor to develop those assets which include in-store promotional items like posters, digital displays, menu cards for showroom displays, and providing language for distributor websites.

Other point-of-sale materials included sell sheets and brochures listing incentive levels and eligibility requirements. The program delivery vendor noted that they have printed about 600 banners that are now being displayed throughout the province. Additionally, the program delivery vendor has developed a program guide to help distributors navigate

submissions and understand the rules. Finally, the program delivery vendor reported reaching out to distributor and contractor associations to inform them of the program.

6.1.4 Equipment and Services

When asked why they thought high and low bay lighting measures were the most commonly installed measures in 2024, the program delivery vendor said that from the distributors' perspective, if they sell high bay lighting they receive more substantial incentives than from other lighting; additionally, it helps the distributor show the program delivery vendor that they can perform well in the program. The program delivery vendor also noted that low and high bay offerings are popular measures in almost all the other programs that they have been involved with as well. IESO staff noted that the program serves many warehouses that were interested in these measures, and that IESO has recently reduced incentives for these measures given its learnings from the program's first year. IESO staff noted that linear and recessed downlighting accounted for a smaller fraction than expected, but that this was offset by the sales volume for the overall program being much higher than expected.

IESO and program delivery vendor staff provided feedback about the possibility of expanding the program beyond the measures currently offered. IESO staff indicated that most equipment that the distributors carry is eligible for the program, so there is a lot of flexibility in what purchases can choose. The program delivery vendor said that from an interior lighting perspective, the program covers many of the equipment types of interest to distributors but noted that exit signs are of interest to some. The program delivery vendor said that while exterior lighting is frequently requested, they understand that offering this measure would not align with IESO's peak demand reduction goals.

IESO staff said that the program may consider introducing horticultural measures sometime in the future, but that there are currently no plans to do so, and the program delivery vendor noted that there is some interest in this possibility. One IESO staff member noted that horticultural lighting has a successful history of being offered through the Retrofit Program where it has generated engagement among the different parties, which may suggest that the downstream model is working well for that segment.

The program delivery vendor said that non-lighting electrical measures, such as pumps, motors, and VFDs, are measures that electrical distributors are already selling and may be a natural next step to offer through the program. The program delivery vendor noted that they have seen a trend in the U.S. of offering even more non-lighting measures through midstream channels, such as HVAC, water heating, and foodservice equipment. One IESO staff member suggested that expanding the program to include non-lighting measures that are appealing to customers could translate to deeper energy savings and broaden the pool

of interested participants. Another IESO staff member indicated that offering measures such as motors, VFDs, and RTUs through a midstream delivery approach could be a possibility eventually but noted that it would be important to consider how the program design and quality control needs may differ for non-lighting measures.

6.1.5 Barriers and Opportunities

IESO staff and the program delivery vendor cited some barriers that they mentioned as being common in newly launched programs. As mentioned above, distributors needed to familiarize themselves with the program's requirements and incorporate the discounts into their pricing systems. The distributors also had to learn to use the program's portal to submit their applications for reimbursement. IESO staff estimated that it took about six months to bring the distributors up to speed. Initially, incentive reimbursement took about eight weeks after submitting invoices, but that time has since dropped to four to five weeks. The program delivery vendor stressed that minimizing incentive wait times (ideally to less than four weeks) will be important for retaining distributors over time.

The program delivery vendor said that when the program was launched, some distributors were wary of providing sales information and other data, but most no longer see it as an administrative burden since they have aligned the data collection with their business processes. The program delivery vendor noted that some smaller distributors can sometimes struggle to participate in programs such as these given that they may need to significantly change their business processes to participate.

IESO staff said that performing quality control will be a continued focus: as the number of participating distributors and measures installed continues to increase, it will be important to ensure that more onsite program delivery vendor staff are present to verify measure installations.

When asked if the incentives offered through the program are sufficient, the program delivery vendor reported that they do not believe any of the incentives are significantly off base, but they noted that relative to U.S. programs they are aware of, the incentives are generally lower. They also noted that higher incentives for measures such as more diverse controls may be worth further consideration. IESO staff believed that the incentives were generally sufficient; they noted having recently somewhat reduced the incentives for low and high bay offerings, for recessed downlights, and for some linear fixtures. IESO staff also said that there may be opportunities to increase the incentives for some linear ambient fixture offerings going forward.

The program delivery vendor said that one of the most important improvements that could still be made to the program from their perspective is improving the process of submitting

data into the IESO's system. They noted that they have been working with IESO to overcome these challenges.

6.2 Distributor Perspectives

The following subsections highlight feedback received from the distributor survey. Appendix F.1 provides additional results.

6.2.1 Key Findings

Key findings from the distributor web survey, which received 50 responses, include the following:

- Over one-half (56%) of distributors reported changes in their stocking practices after participating in the Instant Discount Programs, such as stocking larger volumes and variety of efficient lighting.
- Over four-fifths (82%) of distributors reported changes to their sales practices after participating, including recommending and advertising efficient lighting more frequently.
- Distributors usually learned of the program from IESO (44%), the Save on Energy website (38%), or the program delivery vendor (22%). Distributors reported that they believe buyers typically learned of the program from distributors (72%).
- The most-requested training and education topics include marketing and outreach techniques (44%) and application process training or support (42%).
- Most (90%) distributors indicated that incentives played a significant role in their decision to participate in the program.
- On average, distributors passed 76% of the incentive to contractors and 77% to end-users. The primary factor influencing the passthrough percentage was a desire to be competitive with other participating distributors (68%).
- When asked for their perspective on what barriers, if any, may have prevented more distributors from participating, distributors most frequently mentioned that the incentives may not be worth the trouble of participating (46%) and that participating may not be a business priority (36%) to some distributors. To overcome these barriers, distributors most commonly suggested raising non-participating distributor program awareness (23%) reducing the administrative burden (23%).
- Distributors identified variable frequency drives (VFDs), building automation systems, and HVAC equipment as equipment that could benefit from an upstream program delivery model.
- Most distributors (82%) found the program's administrative process to be easy. Those who did not find it easy most commonly mentioned that the application portal was not user-friendly (six respondents).

- Commercial lighting types that distributors mentioned as experiencing a lower-than-expected uptake included refrigerated display case LEDs (18%) and LED U-bend lamps (10%). To increase uptake of these lighting types, distributors recommended increasing incentives and promoting benefits to customers on their bills.
- Over two-thirds (70%) of distributors recommended including exterior lighting in the program. Two respondents mentioned canopy lighting and lighting controls.
- Distributors' suggestions for improving the program included reducing the time it takes to receive incentives (35%), making the application portal more user-friendly (27%), mandating the passthrough percentage (12%), and publishing eligible products (12%).

6.2.2 Stocking and Sales Background

Before participating in the program, distributors' sales were, on average, 53% to contractors, 40% to end-users, and 7% to retailers, and these proportions remained nearly unchanged after participation (54%) of sales to contractors, 39% to end-users, and 6% to retailers). Over one-half (56%) of distributors reported changes in their stocking practices after participating in the Instant Discount Program, with around two-fifths each stocking larger volumes of efficient lighting (38%) and stocking a larger variety of models covered by the program (38%). Additionally, over four-fifths (82%) of distributors reported changes to their sales practices after participating, with close to three-fifths (58%) recommending program-eligible efficient lighting more frequently and nearly one-half (46%) advertising program-eligible efficient lighting. Figure F-1, Figure F-2, and Figure F-3 in Appendix F.1 provide additional details.

6.2.3 Program Awareness

Most distributors learned of the program via outreach from IESO (44%), the Save on Energy website for the program (38%), or from the program delivery vendor (22%). When asked how their buyers typically heard about the program, nearly three-fourths (72%) of distributors reported that their company informed buyers about the program. Figure F-8 and Figure F-9 in Appendix F.1 provide additional details.

6.2.4 Training and Education

Most distributors (90%) received training or education to support their work with the Instant Discount Program. Over one-half received training on the program rules (56%) or the application process (54%), and around one-third received training on the program-eligible equipment (36%) or marketing and outreach techniques (30%). When asked about *additional* training or education that would help support their future work with the program, distributors most often suggested marketing and outreach techniques (44%) and

application process training or support (42%). Figure F-10 and Figure F-11 in Appendix F.1 provide additional details.

6.2.5 Program Incentives

Most distributors indicated that incentives played a significant role in their decision to participate, with 52% saying they played a great role and 38% saying they played a very large role. Reasons for the incentives *not playing* a large role included that the incentive went to another party, the incentives were too small, there was too much paperwork, or it took too long to receive the incentives. Figure F-12 and Figure F-13 in Appendix F.1 provide additional details.

On average, distributors passed 76% of the incentive to contractors and 77% to end-users. Table F-2 in Appendix F.1 provides additional details. The most common factor influencing the percentage of the incentive passed through, regardless of the amount passed through, was to be competitive with other participating distributors, mentioned by over two-thirds (68%) of distributors. Other influential factors include the total amount of the sale or project (28%), the type of lighting purchased (28%), and whether the equipment was purchased by a contractor or end-user (14%). No factors strongly corresponded with distributors who passed through relatively high percentages of the incentive, nor with distributors who passed through relatively low percentages of the incentive. Figure F-14, Figure F-15, and Figure F-16 in Appendix F.1 provide additional details.

6.2.6 Influence of Distributors

Distributors rated their influence on buyers' decision-making regarding energy-efficient commercial lighting equipment, with most giving a rating of 4 (38%) or 5 (32%), indicating that distributors were influential. Figure F-17 in Appendix F.1 provides additional details.

6.2.7 Program Barriers

Distributors identified several barriers that might have prevented more distributors from participating in the program. Nearly one-half (46%) cited that the incentives were not worth the trouble of participating, while over one-third (36%) stating that participating was not a business priority. Other barriers mentioned included supply chain constraints (14%) and lack of awareness about the program (10%). To overcome these barriers, respondents suggested raising distributor program awareness (23%), reducing the administrative burden (23%), increasing incentives (16%), providing more training (13%), reducing the time it takes to receive incentives (13%) and streamlining the product approval process (13%). Figure F-18 and Figure F-19 in Appendix F.1 provide additional details.

6.2.8 Program Scalability

Distributors were asked if any of the equipment types they sell could benefit from an upstream program delivery model. The most commonly mentioned equipment types were variable frequency drives (VFDs) (mentioned by three respondents), building automation systems (two respondents), and HVAC equipment (two respondents). Table F-3 in Appendix F.1 provides additional details.

6.2.9 Program Experience and Improvement Suggestions

Distributors generally found the program's administrative process to be easy, with over four-fifths (82%) rating it 3 or above on a scale of 1 to 5 where 1 indicates "not at all easy" and 5 indicates "extremely easy." The nine respondents who found the administrative process less easy indicated that the application portal is not user-friendly (six respondents), lack of technical assistance (three respondents), difficulty locating products in lists (three respondents), entering and formatting manufacturers' part numbers (two respondents), and updating SKUs (two respondents). Figure F-20 and Figure F-21 in Appendix F.1 provide additional details.

Around one-third (32%) of distributors mentioned that some commercial lighting types experienced uptake that was lower than they expected. The most commonly mentioned equipment types included refrigerated display case LEDs (18%) and LED U-bend lamps (10%). Distributors suggested that increasing incentives and promoting benefits to customers on their bills could increase the uptake of these commercial lighting types. Figure F-22 and Figure F-23 in Appendix F.1 provide additional details.

Around two-thirds (66%) of distributors recommended additional energy-efficient commercial lighting equipment and services for inclusion in the program, with exterior lighting being the most common suggestion (70%) followed by canopy lighting and lighting controls (mentioned by two respondents each). Around one-half (52%) of distributors offered various suggestions for improving the program, including reducing the time it takes to receive the incentives (35%), making the application portal more user-friendly (27%), mandating the passthrough percentage (12%), and publishing eligible products (12%). Table F-4 and Table F-5 in Appendix F.1 provide additional details.

6.3 Contractor Perspectives

The following subsections highlight the feedback received from the contractor survey. Additional results can be found in Appendix F.3.

6.3.1 Key Findings

Key findings from the contractor' web survey, which received 182 responses, include the following:

- Close to one-fourth of contractors (23%) reported that the commercial lighting equipment is pre-specified by someone outside their firm more than 50% of the time.
- Most respondents (84%) indicated that product availability is very or extremely important when choosing the equipment to offer to customers. Similarly, about three-fourths (79%) of respondents indicated that the price of the equipment is very or extremely important.
- Most respondents (62%) indicated that they now recommend lighting covered by the program more frequently and nearly one-fifth (15%) indicated that they now promote or advertise equipment covered by the program since purchasing equipment that was discounted.
- Most respondents (74%) learned of the program through a distributor. Almost half of respondents (56%) also reported that customers learned of the program through their company contacting customers about the program.
- Most respondents (57%) said outreach from contractors or equipment vendors proved most effective to generate customer awareness of the program.
- Nearly three-fourths (73%) of respondents said the program discounts had a "great" or "very large" role in influencing their decision to buy the program eligible equipment that was ultimately purchased.
- Most respondents (94%) were completely or very satisfied with their overall program experience when asked to rate it on a scale from one to five, where one indicates they were "not at all satisfied" and five indicates they were "completely satisfied."
- Customers not viewing lighting upgrades as a priority (42%) and lack of awareness about the program (36%) were the most commonly mentioned barriers to customer participation as reported by contractors.
- Over one-fifth (21%) of contractors reported that they perceived that some equipment experienced lower-than-expected uptake. The most commonly mentioned equipment types included occupancy sensors (61%), LED U-bend lamps (24%), integrated LED troffers (11%) and refrigerated display case LEDs (11%).
- Exterior lighting (54%), all efficient lighting (16%), and lighting controls (10%) were commonly mentioned by the nearly one-half (45%) of contractors who responded as being additional energy-efficient equipment to consider for inclusion in the program.
- Of the one-third (33%) of respondents who offered program improvement recommendations, increasing advertising (27%), increasing incentives (13%), continuing the program (12%) and giving contractors a list of eligible products and discounts (10%) were mentioned most frequently.

6.3.2 Equipment Choices

One-fourth (25%) of contractors reported that the commercial lighting equipment is pre-specified by someone outside their firm 1% to 25% of the time. A similar proportion (23%) reported it is pre-specified by someone outside their firm more than 50% of the time. Figure F-31 in Appendix F.3 provides additional details. Contractors who indicated that lighting is *not* always pre-specified were asked how often their company, the customer, or both their company and the customer have the most influence on what type of commercial lighting is eventually chosen. On average, contractors reported that their company has the most influence about one-half (56%) of the time, the customer has the most influence about one-fourth (23%) of the time, and they share influence about one-fifth (21%) of the time. Table F-9 in Appendix F.3 provides additional details.

Contractors used a scale of one to five, where one indicates "not at all important" and five indicates "extremely important" to rate the importance of product availability, equipment price, and customer preference on the choices they offer to the customer. Most respondents indicated that product availability (84%) and the price of the equipment (79%) are very or extremely important. Figure F-32 in Appendix F.3 provides additional details.

Most respondents (85%) indicated that their sales come out of a distributor's inventory rather than their own inventory. Figure F-33 in Appendix F.3 provides additional details.

6.3.3 Sales Background

Most respondents (62%) indicated that since purchasing equipment through the program, their company now recommends lighting covered by the program more frequently. Nearly one-fifth (15%) indicated that their company now promotes or advertises equipment covered by the program since purchasing equipment that was discounted. Figure F-34 in Appendix F.3 provides additional details.

Close to one-third (30%) of respondents indicated that 51% or more of their total commercial lighting-related sales were *eligible* for the program. Figure F-35 in Appendix F.3 provides additional details.

Over one -fourth (28%) of respondents indicated that 51% or more of their total commercial lighting-related sales were discounted through the program. Figure F-36 in Appendix F.3 provides additional details.

6.3.4 Program Awareness

Most respondents (74%) learned of the program through a distributor. Less commonly, respondents heard about the program from the Save on Energy website for the program (9%), the program delivery vendor (9%), or other contractors (7%). Figure F-37 in Appendix F.3 provides additional details.

More than one-half of respondents (56%) reported that customers learned about the program from their company. Less commonly respondents said customers became aware of the program from distributors (9%), contractors (7%), or from prior participation in other Save on Energy programs (5%). Figure F-38 in Appendix F.3 provides additional details.

6.3.5 Program Marketing

Most respondents (57%) said that the most effective marketing or outreach activity is that which is done by contractors or equipment vendors. Respondents also commonly mentioned word of mouth from end-users (16%) and messaging from Save on Energy social media (13%). Figure F-39 in Appendix F.3 provides additional details.

More than one-third of contractors said they always (38%) or frequently (37%) inform their customers about the availability of the Save on Energy Instant Discount program. Figure F-40 in Appendix F.3 provides additional details.

6.3.6 Program Discounts

Contractors rated how much of a role the program discounts played on their decision to buy the program eligible equipment on a scale from one to five, where one indicates the program had "no role at all" and five indicates the program had "a great role." Nearly three-fourths (73%) of respondents said the program discounts had a "great" or "very large" role in influencing their decision to buy the program eligible equipment that was ultimately purchased. Figure F-41 in Appendix F.3 provides additional details.

About two-fifths (39%) of the 44 contractors who reported the program discounts did not play a "great" or "very large" role reported that they were going to purchase the equipment anyway and about one-third (36%) said that other factors were more influential. The factors that respondents named as "more important" than the discounts included the customer's needs (8 respondents), product availability (5 respondents), equipment quality (3 respondents), and the energy efficiency level of the equipment (2 respondents). Figure F-42 and Figure F-43 in Appendix F.3 provides additional details.

These same 44 contractors were also asked how, if at all, the discounts for commercial lighting equipment need to be adjusted. About one-fourth (25%) reported that an adjustment on discounts on commercial lighting equipment is not necessary and 9% suggested increasing the discounts. Figure F-44 in Appendix F.3 provides additional details.

6.3.7 Program Satisfaction

Participants rated their satisfaction with various aspects of the Instant Discount Program in 2024 on a scale from one to five, where one indicates they were "not at all satisfied" and five indicates they were "completely satisfied." Most respondents indicated that they were completely or very satisfied with their interactions with distributors (93%), the process of purchasing discounted equipment (92%), the performance of the lighting purchased (96%), the amount of the discount (88%), and the number and types of discounted lighting (94%) (ratings of 4.0 and above). Most respondents (94%) were also satisfied with their overall program experience. Figure F-45 in Appendix F.3 provides additional details.

6.3.8 Program Barriers

When asked to identify barriers that prevented more customers from participating in the program, contractors most commonly said customers did not view lighting upgrades as a priority (42%) and customers did not know about the program (36%). Commonly customers also did not think the upgrades would save them money (12%) and customers did not perceive the upgrades to be worth the trouble of participating (12%). Figure F-46 in Appendix F.3 provides additional details.

When asked what the program could do to overcome customer participation barriers, respondents most commonly suggested increasing advertising (29%), using specific advertising mediums (18%) and increasing incentive amounts (18%). Figure F-47in Appendix F.3 provides additional details.

The specific advertising mediums that contractors mentioned to overcome customer participation barriers are most commonly included social media (6 respondents) and in-store signage (3 respondents). Figure in Appendix F.3 provides additional details.

6.3.9 Lighting Equipment Interest and Uptake

Less than one-fifth of contractors (14%) reported energy-efficient commercial lighting measures that customers were initially interested in but ultimately decided not to install at the time of the completed project. Respondents commonly mentioned that this equipment included exterior lighting (35%), high bay lighting (15%), flat panel LEDs (12%) and vapor proof fixtures (12%). Figure F-49 in Appendix 8F.3 provides additional details.

Over one-fifth (21%) of contractors reported that they perceived that some equipment experienced lower-than-expected uptake. The most commonly mentioned equipment types were occupancy sensors (61%), LED U-bend lamps (24%), integrated LED troffers (11%) and refrigerated display case LEDs (11%). About one-third (34%) of these same respondents suggested increasing the discount and about one-fourth (21%) suggested increasing advertising to help increase the sales volume of commercial lighting types that experienced lower uptake than expected. Figure F-50 and Figure F-51 in Appendix F.3 provide additional details.

6.3.10 Recommendations for Program Improvements

Nearly one-half (45%) of respondents offered recommendations for additional energy-efficient equipment or services to consider for inclusion in the Instant Discount Program. Most commonly, these recommendations included exterior lighting (54%), all efficient lighting (16%), and lighting controls (10%).

One-third (33%) of respondents offered other recommendations to improve the Instant Discount Program. The most common suggestions included increasing advertising (27%), increasing incentives (13%), continuing the program (12%) and giving contractors a list of eligible products and discounts (10%).

6.4 End-User Perspectives

The following subsections highlight the feedback received from the end-user survey. Additional results can be found in Appendix F.5.

6.4.1 Key Findings

Key findings from the end-user web survey, which received 137 responses, include the following:

- End-users typically learned of the program from a vendor.
- Program discounts played a significant role in end-users' decision to purchase program-eligible equipment with over three-fifths (66%) reporting that they had a large impact. Few end-users indicated the discounts should be adjusted.
- The most influential factors on end-users' decisions regarding the commercial lighting equipment they purchased were energy savings (73%), incentives and promotions (46%), vendor recommendations (39%), equipment price (34%), and reliability (31%).
- End-users rated equipment price and product availability as slightly more important than vendor recommendations on their commercial lighting purchase decisions.
- Very few (6%) end users indicated there was energy-efficient commercial lighting equipment that they were initially interested in but ultimately decided not to install.
- Most end-users were highly satisfied with the program, providing an average satisfaction rating of 4.7 on a 1-to-5 scale where 1 means "not at all satisfied" and 5 means "completely satisfied," for their overall experience.
- One-fifth (20%) of end-users recommended additional equipment for inclusion in the program including exterior lighting (36%), controls (21%), office lighting (14%), and VFDs (7%).
- Around one-fourth (26%) of end-users provided suggestions for improving the program including increasing advertising (34%), increasing the discounts (14%), additional product options (11%), automating or shortening the time it takes to receive the discount (11%), offering heating equipment (6%), and ensuring discounts are consistent across vendors (6%).

6.4.2 Program Awareness

Over three-fifths (61%) end-users learned of the program from a vendor. Other sources of awareness include the Save on Energy Website for the program (13%), outreach from the program delivery vendor (12%), friends, coworkers, and neighbors (11%), or outreach from IESO (8%). Figure F-62 in Appendix F.5 provides additional details.

6.4.3 Program Discounts

Program discounts played a significant role in end-users' decision to purchase program-eligible equipment, as over three-fifths (66%) of end-users rated the discounts as having a large impact (ratings of 4 or 5 using a scale of 1 to 5, where 1 is "no role at all" and 5 is "great role") on their decision. For the one-third (30%) of respondents who rated the discounts lower (3 or less), the primary reasons included the necessity of the work/upgrade (46%), other factors playing a role (27%), and the discount being a bonus rather than essential (24%). Figure F-63 and Figure F-64 in Appendix F.5 provide additional details.

End-users who rated the discounts lower (3 or less) were asked how, if at all, the discounts should be adjusted. Of these 41 end-users, most (51%) were unsure or believed no adjustments were needed (18%). Some suggestions for adjustments included increasing the discounts (10%), providing discounts for switching to LEDs (5%), discounting only the most efficient lighting (5%), and making the discounts a higher portion of project costs (5%). Figure F-65 in Appendix F.5 provides additional details.

6.4.4 Equipment Choices

End-users cited a range of factors influencing their decisions regarding commercial lighting equipment purchases. The most influential factor was energy savings (73%), followed by incentives and promotions (46%), vendor recommendations (39%), equipment price (34%), and reliability (31%). Other factors included reduced time and costs for operations and maintenance (24%), environmental factors (20%), lifecycle cost (18%), organizational goals/requirements (17%), immediate need (13%), brand name/reputation (9%), LEED or other design certifications (6%), and space limitations (4%). Figure F-66 in Appendix F.5 provides additional details.

Next, end-users rated the importance of equipment price, product availability, and vendor recommendations when purchasing commercial lighting equipment. Equipment price and product availability, each with an average rating of 4.3, were slightly more important than vendor recommendation, with an average rating of 3.9. Figure F-67 in Appendix F.5 provides additional details.

End-users were asked if there was any energy-efficient commercial lighting they were initially interested in but ultimately decided not to install. Very few indicated that this was the case (6%), and responses were mixed, with eight end-users mentioned a total of seven types of equipment. Figure F-68 in Appendix F.5 provide additional details.

6.4.5 Program Satisfaction

The survey results indicate high levels of end-user satisfaction with various aspects of the program. On a scale from 1 to 5, where 1 means "not at all satisfied" and 5 means "completely satisfied," end-users provided an average satisfaction rating of 4.5 or above for program aspects such as interactions with vendors, the process of purchasing discounted lighting, the performance of the lighting purchased, the number and types of discounted lighting, and the amount of the discount. End-users' overall experience received an average satisfaction rating of 4.7. Figure F-69 in Appendix F.5 provides additional details. Table F-18 through Table F-23 in Appendix F.5 display the reasons why the few end-users who provide a low (1 or 2) rating were dissatisfied.

6.4.6 Recommendations for Program Improvements

One-fifth (20%) of end-users recommended various types of energy-efficient equipment for inclusion in the program, with exterior lighting being the most commonly recommended (36%), followed by controls (21%), office lighting (14%), and VFDs (7%). Around one-fourth (26%) of end-users offered additional suggestions for improving the program, such as increasing advertising (34%), increasing the discounts (14%), additional product options (11%), automating or shortening the time it takes to receive the discount (11%), offering heating equipment (6%), and ensuring discounts are consistent across vendors (6%). Figure F-70 and Figure F-71 in Appendix F.5 provide additional details.

7 Other Energy-Efficiency Benefits

7.1 Avoided Greenhouse Gas Emissions

Using the IESO CE Tool V9.1, the evaluation team calculated avoided first year GHG emissions, along with the measures' lifetime savings for PY2024. Table 7-1 shows the results of these avoided GHG emissions calculations. Avoided GHG emissions from lighting measures were reduced by the increase in GHG consumption resulting from the gas-heating penalty, reducing 8,874 tonnes of CO_2 equivalent (CO_2e) in the first year. PY2024 IDP projects are expected to achieve a total of 137,213 tonnes of CO_2e reduced throughout the EUL of installed measures.

Table 7-1: PY2024 IDP Avoided GHG Emissions in Tonnes of CO2e

Electric First Year GHG Avoided (tonnes of CO_2e)	Gas* First Year GHG Avoided (tonnes of CO_2e)	Total First Year GHG Avoided (tonnes of CO_2e)	Electric Lifetime GHG Avoided (tonnes of CO_2e)	Gas* Lifetime GHG Avoided (tonnes of CO_2e)	Total Lifetime GHG Avoided (tonnes of CO_2e)
13,895	(5,021)	8,874	217,277	(80,064)	137,213

*Interactive gas heating penalty and gas heating savings from HVAC measures

7.2 Non-Energy Benefits

The following subsection discusses Non-Energy Benefits (NEBs) from the PY2024 Instant Discount Program. Appendix I provides additional details regarding the NEB methodology and results. the evaluation team used Phase II study NEBs values within the PY2024 cost-effectiveness calculator per the IESO's request, with the PY2024 NEBs and the aggregated PY2021 through PY2024 NEBs presented for informational purposes and to assist in future research.

7.2.1 Key Findings

The NEBs analysis included the following key findings:

- Using the hybrid, minimum approach, PY2024 NEB values were $0.04/kWh for reduced building and equipment operations and maintenance (O&M).

7.2.2 Quantified NEBs Values

The PY2024 IDP participant survey included 83 participants that experienced NEBs from measures installed through the Instant Discount Program. The IDP participant survey asked about participants' experiences with one NEB:

- Reduced building and equipment O&M: Reduced labour or other costs associated with reduced operations and maintenance to maintain building systems.

Table 7-2 presents quantified NEBs values for PY2024, based on the hybrid, minimum ($/kWh) valuation—the approach recommended by the Phase II study.[10] It also presents relative precision values at both 90% confidence and 85% confidence. Instant Discount Program participants in PY2024 valued to reduced building and equipment O&M NEBs at $0.04/kWh.

Table 7-2: Quantified NEBs ($/kWh), PY2024

NEB	PY2024 NEB ($/KwH)	Relative Precision (90% Confidence)	Relative Precision (85% Confidence)
Reduced building and equipment O&M	$0.04	8.8%	7.7%

The Phase II study found that program participants placed significant value on NEBs. In many cases, NEBs' value exceeded the value of participants' energy savings. This also took place in PY2024, with most respondents reporting NEBs having an equal or higher value on an annual basis than their electricity bill or savings. Furthermore, when asked if they would be willing to pay for a certain benefit independently from the energy savings, nearly three-fourths (74%) were prepared to pay an equal or higher value per year than the amount of their electricity bill or savings. This highlights that factors beyond energy savings may motivate energy-efficiency participation or contribute to customers' positive experiences with such programs.

[10] Dunsky. (July 2021). *Non-Energy Benefits: Phase II; Quantified Benefits and Qualitative Insights*. https://www.ieso.ca/-/media/Files/IESO/Document-Library/conservation-reports/Non-Energy-Benefits-Study-Phase-II.ashx

7.3 Job Impacts

This section outlines the jobs impacts analysis results. Appendix G provides further details regarding the jobs impact analysis methodology, and additional results can be found in Appendix H.

7.3.1 Key Findings

Key findings from the PY2024 Jobs Impacts approach include the following:

- The analysis used an input-output (IO) model which estimates that the IDP will create 566 total jobs in Canada, 495 of which will be in Ontario.
- $1M of program investment resulted in the creation of 81 jobs.

7.3.2 Input Values

The model was used to estimate the impacts of three economic shocks:

- Demand shock, representing demand for energy-efficient products and services from the program.
- Business reinvestment shock, representing increased business reinvestment due to bill savings (net of project funding).
- Household expenditure shock, representing decreases in household spending on goods and services due to increases in residential electric bills required to fund the IDP.

Table 7-3 displays input values for demand shock, representing products and services related to the IDP. Each measure installed through the program was categorized according to the StatCan IO Supply and Use Product Classifications (SUPCs).

Table 7-3: Summary of Input Values for Demand Shock

Category Description	Non-Labour	Labour	Total Demand Shock
		($ Thousands)	
Lighting Fixtures	16,561	-	16,561
Electric Light Bulbs and Tubes	582	-	562
Subtotal	17,142	-	17,142
IESO Equipment Cost Recovery	-	-	4,4402
Office Administrative Services	-	-	2,531
Total			24,076

Using the IO Model, the team modelled business reinvestment shock, which represented the amount that businesses would reinvest and thus inject back into the economy. This amount was split over various industries to properly model demand shock. The business reinvestment shock totaled $84.4 million over 23 different industries.

The third model input is the household expenditure shock,[11] which represents the incremental increase in residential sector electricity bills from funding the program. This assumed that the IESO programs are funded by all customers in proportion to overall electricity consumption, resulting in a 35% residential funding portion of the $17.8M program budget or approximately $6.2M.

7.3.3 Model Results

StatCan IO model impacts were generated separately for each shock and added together to calculate overall program job impacts. For IDP, this meant that three different sets of job impacts were combined into overall job impacts. Table 7-4 shows total estimated job impacts by type, combining impacts from the demand, business reinvestment, and household expenditure shocks.

[11] The model was run with a normalized value of $1 million in extra household expenditures, and job results can be scaled by the actual demand shock.

The majority of total job impacts (112 out of 123 estimated total jobs) occurred in Ontario, with 68 of 69 direct jobs across Canada created in Ontario. A slightly smaller proportion of indirect and induced jobs also occurred in Ontario, with 21 out of 26 indirect jobs and 24 of 29 induced jobs estimated to be created within the province. Full-time employee (FTE) estimates were slightly lower than the total jobs, with a total of 95 FTEs (of all types) created in Ontario and 104 FTEs added nationwide. Almost all direct FTEs (60 of 61) were added in Ontario, with this number representing approximately 63% of total FTEs added in Ontario and 58% of all FTEs created across Canada. In 2024, each $1M of program spending resulted in the creation of 17.6 total jobs.

Table 7-4: Total Job Impacts by Type

Job Impact Type	Ontario FTE (in person-years)	Canada FTE (in person-years)	Ontario Total Jobs (in person-years)	Canada Total Jobs (in person-years)	Total Jobs per $1M Investment (in person-years)
Direct	227	239	253	266	37.9
Indirect	117	146	142	174	24.9
Induced	75	95	100	126	17.9
Total[1]	419	479	495	566	80.7

[1] Columns may not add to totals due to rounding. Real values have been rounded to the nearest whole number, and the whole numbers do not sum exactly to the whole number total in every column.

Appendix H provides a more detailed write up of the model impacts, including a breakout of impacts by industry, impacts from first year savings, and verbatim comments from program contractors.

8 Key Findings and Recommendations

IESO responses PY2024 EM&V Key Findings and Recommendations can be found in Appendix B.

Finding 1. The program tracking database is robust but additional data could support future research and evaluation. Distributor invoices serve as the primary data for program tracking. The program records data from the invoices into a tracking database.

- **Recommendation 1a:** Require distributors to indicate whether the purchaser is a contractor, end user, or unknown. Program data did not identify whether the purchaser was a contractor or an end user. The invoices that distributors submit to IESO for incentive documentation do not include an identifier for purchaser type. The evaluation team categorized purchaser type using a combination of purchaser addresses, ship-to addresses, and installation addresses and found about 50% of purchases were made directly by end users. These purchases represented about 33% of PY2024 IDP energy savings. In the absence of the data, it is difficult to assess how incentives are influencing purchasing decisions and whether outreach and incentives are reaching the intended audiences. Requiring distributors to capture the purchaser type would facilitate the ability to evaluate effectiveness across customer types and market channels. Additionally, because contractors and end users respond differently to incentives and program messaging, the requirement would improve estimates of free-ridership.
- **Recommendation 1b:** Track the passthrough invoice amount for eligible measures in the program database. The program requires distributors to passthrough a minimum of 60% of the incentive to the purchaser. The passthrough amount is recorded on distributor invoices for each measure, but the data is not available in the program tracking database. Tracking the data would allow IESO and evaluators to follow the incentive dollars for both compliance and program process purposes. The data could also prompt future research questions, such as an investigation into passthrough incentive amounts and how they might differ among distributors, purchaser types, and measures.
- **Recommendation 1c:** Include a secondary building type or business type classification. Forty percent of applications representing 36% of PY2024 IDP energy savings came from "Other Commercial Buildings." Accurate categorization of building type is important for both the impact analysis and the cost-effectiveness analysis. Recording a secondary building type more specific than "Other" could enhance future market segmentation and analysis and could facilitate any recategorization during the impact analysis.
- **Recommendation 1d:** Include a direct map to the IESO MAL. The evaluation team mapped the measures of sampled projects to the MAL during the impact analysis to

determine the inputs and assumptions used to estimate reported savings. Recording the specific measure iteration, including End Use, Conservation Measure Name, and Description, would facilitate the comparison between reported and verified savings by ensuring the evaluation team uses the appropriate baseline measures.

Finding 2. Some baseline equipment specifications, efficient equipment specifications, and hours of use differed between IESO assumptions and verified specifications. As a prescriptive program, some differences are expected though on average verified data should be close to assumed data. A distinct challenge of midstream program verification and evaluation is the lack of baseline equipment information and the difficulty verifying installed equipment specifications (e.g., high bay applications). Through end user interviews, the evaluation team found that baseline and installed equipment specifications varied widely.

- **Recommendation 2:** Consider a lighting market characterization study. A market characterization study would help IESO understand current conditions in the market and establish more accurate energy savings estimates. Additionally, the study could inform future program processes, such as whether the program should shift focus to different technologies (e.g., controls) or whether the program should target remaining inefficient stock (e.g., hard-to-reach customers, rural areas). Finally, a regular cadence of baseline studies would support a shift from short-term energy savings to long-term market transformation goals via longitudinal analysis of technology penetration.

Finding 3. Some distributors did not appear to maintain any equipment stock. In the NTG surveys, two distributors indicated that they did not maintain any stock of eligible equipment. Although maintaining equipment stock is not explicitly stated in the program requirements, the lack of stock is inconsistent with the objectives of the program.

- **Recommendation 3:** Update the program requirements to require distributors to maintain eligible equipment stock. The requirement will ensure all participating distributors are contributing to the objectives of the program and may help prevent distributors from receiving multiple incentives for the same equipment.

Finding 4. LED-to-LED Retrofits. Several projects evaluated in the PY2024 sample involved retrofits from existing LED lighting to more advanced LED systems that offer enhanced control capabilities, such as local dimming and scheduling. While these upgrades can offer incremental savings and operational flexibility, the IDP program does not include LED-to-LED measures or account for their control-based savings. As a result, savings assumptions are often misaligned with verified operations/savings, contributing to lower realization rates for these projects.

- **Recommendation 4:** For future lighting programs, consider developing a dedicated track for LED-to-LED retrofits that incorporates control-based functionality as a key savings factor. This track can include updated baseline assumptions, revised savings algorithms, and potentially control-specific eligibility criteria or documentation requirements. By aligning measure design with evolving lighting retrofit market, the program can improve accuracy of savings estimates, while supporting customer needs.

Finding 5. While most distributors reported receiving program training, opportunities exist to provide additional training and education for both distributors and contractors. Most distributors (90%) received training or education to support their work with the IDP: 56% received training on the program rules, 54% on the application process, 36% on program-eligible equipment, and 30% on marketing and outreach techniques. When asked about additional training or education that would help support their future work with the program, distributors most often suggested marketing and outreach techniques (44%) and application process training or support (42%). Some distributors (13%) recommended providing more training when asked what could be done to reduce barriers to distributor participation. Opportunities exist to expand program training and education to contractors, as IESO staff and delivery vendors reported focusing training and education efforts in the program's first year with participating distributors. When contractors were asked for recommendations on how to improve the program, some (10%) requested that contractors be provided with a list of eligible products and discounts, suggesting that providing the contractors with additional training and resources on eligible equipment is important to them.

- **Recommendation 5a:** Consider opportunities to increase the frequency of distributor training and education to ensure they are well informed about the program. Focusing these efforts primarily on marketing and outreach techniques and application process training and support may provide the most benefit to distributors. Doing so through a variety of mediums, such as webinars, e-newsletters or targeted e-mails, and refreshing printed guidance documents is recommended.
- **Recommendation 5b:** Consider opportunities to engage contractors with training and education support. While contractors are not direct program participants, they are a critical part of delivering the program. Ensuring that contractors receive training and education on marketing and outreach techniques and about eligible equipment and discounts will help them more effectively upsell end-users on the program and its benefits.

Finding 6. Conducting additional marketing and outreach activities could increase awareness and enhance program participation. IESO and delivery vendor staff reported using an array of marketing and outreach activities in support of the program in PY2024.

IESO marketing efforts were largely aimed at end users and focused on a digital-first approach (for example, promoting the program through the Save on Energy website and social media). IESO also promoted the program at industry events and conferences and developed a marketing toolkit with digital marketing products for distributors to use in their outreach to contractors. The program delivery vendor's marketing efforts primarily sought to engage and provide training and resources to distributors (for example, delivery vendors provided sell sheets, brochures, banners, showroom displays, and language for distributor websites). However, increasing advertising was the most common recommendation for program improvement by end-users (34%) and contractors (27%). Lack of awareness about the program was the second most common (36%) barrier to participation mentioned by contractors and the fourth most common (10%) barrier mentioned by distributors. The most common suggestions to overcome participation barriers were to raise distributor awareness (23% of distributors) and increase advertising (29% of contractors).

- **Recommendation 6:** Consider increasing the variety and frequency of marketing and outreach activities to further expand the program's reach. The IESO could consider expanding its digital marketing toolkit that it currently offers to distributors to also offer it, or something similar, to contractors. Additionally, the IESO could consider targeting its digital advertising at non-participating distributors and contractors in addition to end-users, developing program-specific case studies, and considering other mass marketing tactics where feasible (for example, billboards, radio, TV). Activities that both IESO and the delivery vendor could consider doing with more frequency include increasing their presence at in-person events, providing distributors and contractors with guidance on language to use when upselling the program, offering additional webinars, increasing the frequency of newsletters, further leveraging relationships with chambers of commerce and relevant trade groups, and considering partnerships with local distribution companies where possible.

Finding 7. Many initial barriers to participation have been addressed during the program's first year, though opportunities remain to minimize administrative burdens. While it initially took some time for distributors to understand the program requirements and to set up appropriate internal systems to participate, IESO staff and the program delivery vendor believe that the program is running well now and many of the initial challenges have been overcome. The program delivery vendor stressed the importance of continuing to try to minimize incentive wait times (ideally to less than four weeks) and to continue to improve the process of submitting data into the application portal. Distributors generally found the program's administrative process to be easy, with most (82%) rating it 3 or above on a scale of 1 to 5 where 1 indicates "not at all easy" and 5 indicates "extremely easy." The distributors who found the administrative process less easy indicated that the application portal is not user-friendly, which was also mentioned as an area of improvement

by some (27%) distributors who provided program improvement recommendations. Other reasons why distributors found the administrative process less easy were a lack of technical assistance, difficulty locating products in lists, entering and formatting manufacturers' part numbers, and updating SKUs. Additionally, 35% of distributors recommended reducing the time it takes to receive the incentives when asked for program improvement recommendations and 27% recommended reducing the administrative burden when asked for recommendations on how to overcome barriers to distributor participation.

- **Recommendation 7:** Consider opportunities to reduce the administrative burden of participating in the program on distributors. Recommended areas of focus include continuing to improve the distributors' experience of submitting data into the application portal, further minimizing incentive wait times, ensuring that distributors receive technical assistance promptly when needed, and ensuring that distributors have all the resources they need (such as easy access to product lists).

Finding 8. Opportunities exist to further support participants who were not able to install all the equipment of interest to them. When end-users were asked if there was any energy-efficient commercial lighting equipment that they were initially interested in but ultimately decided not to install, very few indicated that this was the case (6%), and feedback on what this equipment included was mixed, with eight end-users mentioning a total of seven types of lighting equipment: non-LED lighting, eight-foot LED bulbs, ballast type lamps, exterior lighting, food plant lighting, music room lighting, and tube lights. A somewhat larger percentage of contractors (14%) reported that there were equipment types that their customers were initially interested in but ultimately decided not to install, including exterior lighting (35%), high bay lighting (15%), flat panel LEDs (12%) and vapor proof fixtures (12%). Exterior lighting and lighting controls were the two most frequently mentioned lighting types that were identified when distributors, contractors, and end-users were asked what additional equipment they would recommend for inclusion in the program. While exterior lighting is not currently included in the program, lighting controls are, which suggests that there is an opportunity to provide further education about what is offered through the program. Canopy lighting and office lighting were also recommended with some frequency by distributors and end users. IESO staff and the program delivery vendor reported that the program covers most of the lighting equipment types of interest to distributors. IESO staff and delivery vendors indicated that the lighting equipment types not currently offered but requested with some frequency include exit signs, horticultural lighting, and exterior lighting.

- **Recommendation 8a:** Encourage contractors to work closely with end-users to help them understand the value proposition of the program and the payback period for all measures that interest them. Doing so may help end-users to install more equipment of interest to them and may lead to further increases in program participation more

generally. This may include spending more time with end-users and explaining the value of participation more holistically, leveraging new marketing materials targeted to contractors like case studies or including the value proposition as a more prominent feature on any digital marketing that targets contractors.

- **Recommendation 8b:** Explore the feasibility of incentivizing additional equipment types that align with program goals and cost-effectiveness targets (e.g., exterior lighting) and ensure that end users and program partners are fully informed about the full range of program offerings currently available (e.g., lighting controls).

Appendix A Energy and Peak Demand Savings

Evaluated Year	Verified Year	Net Energy Savings (kWh) Persisting in 2026	Net Peak Demand Savings (kW) Persisting in 2026
PY2024	PY2024	70,746,177	15,399
PY 2024 Total		**70,746,177**	**15,399**
TOTAL		**70,746,177**	**15,399**

Appendix B PY2024 EM&V Key Findings and Recommendations with IESO Response

The following section presents IESO's responses to the key findings and recommendations. Additional context regarding the findings and recommendations can be found in Section 8 of the main report.

No.	KEY FINDINGS	2024 EM&V RECOMMENDATIONS	IMPACT	IESO RESPONSE
.1a	The program tracking database is robust but additional data could support future research and evaluation. Distributor invoices serve as the primary data for program tracking. The program records data from the invoices into a tracking database.	Require distributors to indicate whether the purchaser is a contractor, end user, or unknown.	Medium	The IESO recognizes the importance of understanding whether purchases are made by contractors or end users to better evaluate program effectiveness and outreach. The IESO would like to note that the program currently captures both the purchaser address and the end-use facility address as part of the standard data submission. These data points provide a valuable proxy for identifying purchaser type. • When the purchaser address matches the facility address, it is reasonable to infer that the purchase was made directly by the end user. • When the addresses differ, it likely indicates that the purchase was made by a contractor on behalf of the end user. That being said, the IESO agrees that explicitly capturing purchaser type at the point of sale would further enhance data accuracy and reduce reliance on assumptions. We will explore options to incorporate a purchaser type field into distributor reporting templates, while also considering the operational impact on participating distributors.

No.	KEY FINDINGS	2024 EM&V RECOMMENDATIONS	IMPACT	IESO RESPONSE
1b	See 1a.	Track the passthrough invoice amount for eligible measures.	High	The IESO agrees that having visibility into how incentive dollars are passed through to purchasers is important for both compliance monitoring and program evaluation. The IESO would like to clarify that distributor invoices submitted to the program already include the passthrough amount for each measure, in alignment with the program requirement to passthrough a minimum of 60% of the incentive to the purchaser. However, this information is not currently recorded as a structured data point within the program tracking database. To address this, the IESO will explore options to integrate the passthrough amount into the program's data tracking framework. This may involve updating data submission templates or enhancing the data extraction process from distributor invoices to ensure consistent and reliable capture.
1c	See 1a.	Include a secondary building type or business type classification.	Low	The IESO acknowledges the evaluation team's observation that 40% of applications—representing 36% of PY2024 IDP energy savings—were classified under "Other Commercial Buildings." We agree that more specific categorization could enhance the accuracy of impact and cost-effectiveness analyses. Currently, building type classification in the program is based on the IESO Measurement and Assumptions List, which provides a standardized framework for categorizing end-use types. While this ensures consistency in savings calculations, it limits granularity when applications fall outside predefined categories. The IESO will explore the feasibility of implementing a secondary classification field and assess the training and system updates required to support it
1d	See 1a.	Include a direct map to the IESO MAL.	High	The IESO supports the recommendation to in include a direct map to the IESO MAL.

No.	KEY FINDINGS	2024 EM&V RECOMMENDATIONS	IMPACT	IESO RESPONSE
2	Some baseline equipment specifications, efficient equipment specifications, and hours of use differed between IESO assumptions and verified specifications.	Consider a lighting market characterization study.	Medium	The IESO agrees that establishing a clear understanding of current market conditions is essential for accurately estimating energy savings and guiding future program strategy. To that end, the IESO is committed to undertaking a lighting market characterization study. Planning for this work—including scope, resource requirements, and scheduling—is currently underway to ensure it is effectively integrated into future program development.
3	Some distributors did not appear to maintain any equipment stock	Update the program requirements to require distributors to maintain eligible equipment stock.	High	The IESO acknowledges that product availability can influence program outcomes. While maintaining stock is not a program requirement, distributors are expected to support timely access to eligible equipment. The program team does not view mandating inventory levels as necessary at this time, as some distributors may use just-in-time practices without negatively impacting customer access. We will continue to monitor whether inventory constraints are limiting adoption and assess if further guidance is warranted.
4	Several projects evaluated in the PY2024 sample involved retrofits from existing LED lighting to more advanced LED systems that offer enhanced control capabilities, such as local dimming and scheduling.	For future lighting programs, consider developing a dedicated track for LED-to-LED retrofits that incorporates control-based functionality as a key savings factor.	High	The IESO agrees that aligning measure design with the evolving lighting retrofit market is important for maintaining program relevance and improving savings accuracy. A new market characterization study is underway, which includes a review of the Measurement and Assumptions List (MAL) to assess current LED penetration, the prevalence of LED-to-LED retrofits, and the role of control-based functionality. Findings from this study will inform whether a dedicated track is warranted and guide any potential updates to savings methodologies or eligibility criteria.
5a	While most distributors reported receiving program training, opportunities exist to provide additional training and education for both distributors and contractors.	Consider opportunities to increase the frequency of distributor training and education to ensure they are well informed about the program.	Medium	The IESO will work to increase the frequency and variety of distributor training. Efforts will focus on marketing, outreach techniques, and application process support, delivered through webinars, e-newsletters, targeted emails, and updated guidance materials. We'll also explore timing and formats to ensure accessibility and relevance.

No.	KEY FINDINGS	2024 EM&V RECOMMENDATIONS	IMPACT	IESO RESPONSE
5b	See 5a.	Consider opportunities to engage contractors with training and education support.	Medium	The IESO will consider to exploring opportunities to educate contractors on eligible equipment, available discounts, and effective marketing techniques. This will help contractors better promote the program and its benefits to end users.
6	Conducting additional marketing and outreach activities could increase awareness and enhance program participation.	Consider increasing the variety and frequency of marketing and outreach activities to further expand the program's reach.	Medium	The IESO will consider exploring opportunities to increase the frequency and variety of outreach activities. This includes expanding the digital marketing toolkit to contractors, targeting non-participating market actors, and leveraging mass marketing tactics where feasible. The IESO will also look to enhance engagement through events, webinars, newsletters, and partnerships with trade groups and local distribution companies, while providing distributors and contractors with clear messaging guidance to support program promotion.
7	Many initial barriers to participation have been addressed during the program's first year, though opportunities remain to minimize administrative burdens.	Consider opportunities to reduce the administrative burden of participating in the program on distributors.	Low	The IESO will consider identifying opportunities to reduce administrative burden on distributors. Focus areas include improving the data submission experience, minimizing incentive wait times, ensuring timely technical support, and providing easy access to resources like product lists.

No.	KEY FINDINGS	2024 EM&V RECOMMENDATIONS	IMPACT	IESO RESPONSE
8a	Opportunities exist to further support participants who could not install all the equipment of interest to them.	Encourage contractors to work closely with end-users to help them understand the value proposition of the program and the payback period for all measures that interest them. Doing so may help end-users to install more equipment of interest to them and may lead to further increases in program participation more generally. This may include spending more time with end-users and explaining the value of participation more holistically, leveraging new marketing materials targeted to contractors like case studies or including the value proposition as a more prominent feature on any digital marketing that targets contractors.	Medium	While contractors are not direct participants, they play a key role in influencing end-user decisions. The program team will work with the program service provider and marketing team to develop targeted materials—such as case studies and enhanced digital messaging—that help contractors communicate the program's value and payback more effectively. The IESO also recognizes the important role distributors play in spreading awareness. By equipping them with clear messaging and tools, they can help encourage contractors to engage more closely with end-users and promote the program's benefits holistically.
8b	See 8a.	Explore the feasibility of incentivizing additional equipment types that align with program goals and cost-effectiveness targets (e.g., exterior lighting) and ensure that end users and program partners are fully informed about the full range of program offerings currently available (e.g., lighting controls).	Low	The IESO will consider exploring the feasibility of incentivizing additional equipment types, where they align with program goals and cost-effectiveness targets. This review will consider technical eligibility, savings substantiation, and market relevance to ensure any additions support program impact and efficiency.

Appendix C Impact Evaluation Methodology

This section describes in greater detail the specific tasks necessary and methodologies that were used for the IDP impact evaluation, which include the following:

- Program database assessment
- Population sampling
- Data collection and analysis
- Establishing gross and net verified savings

C.1 Program Database Assessment

The IDP database assigns a unique application number to each project. These unique project numbers and the project completion date will be used to determine new projects that need to be included in the PY2024 evaluation.

C.2 Population Sampling

An important part of the evaluation planning process is the sample design for net-to-gross (NTG) and impact evaluation activities. Statistical sampling serves as the basis of the evaluation's ability to say something meaningful within a specified level of certainty and precision about a population of interest. Resource Innovations will use statistical sampling of the program population to estimate impacts and collect data about customer perceptions, attitudes, and characteristics. Sampling will consider predefined levels of confidence (90%) and precision (10%), population size, effect size, analysis methods, and any stratification that may be of interest. The ideal magnitude of sample sizes varies as a function of the following:

- The Population of Interest: This could differ between the impact and process evaluations. For example, the population of interest for impact evaluations of verified and net impacts generally includes savings and/or measures, whereas the population of interest for process evaluations tends to be the participant or trade ally. Therefore, samples are typically drawn to fulfill the greatest rigor requirement—generally impact evaluation.
- The Objective of Sampling: Sampling is designed to ensure the sample will be representative of the population, but producing a sample that measures overall energy use with 90%/10% confidence/precision is very different than measuring a change in energy use with 90%/10% confidence/precision. Properly detecting changes in energy use often requires larger sample sizes, especially if the changes that must be detected are relatively small. The evaluation team's approach exceeded the industry-accepted target 90% confidence level ± 10% precision (90% ± 10%) for program level energy savings.

- Inherent Variability in the Data: The more volatility in the population, the larger the sample size must be to meet precision requirements. The coefficient of variance (CV) was initially set at 0.5 to establish a target sample size of 70 projects to achieve 90% confidence level ± 10% precision for program level savings.

As shown in Table C-1 and Table C-2, Resource Innovations evaluated 105 applications at 70 distinct facilities for the PY2024 evaluation to target 90% confidence level ± 10% precision at the program level. Ultimately, the sample CVs were greater than 0.5 for both the energy and demand realization rates resulting in 85% confidence level ± 15% precision results.

Table C-1: PY2024 IDP Sampling Overview

Program	Target Sample Size	Evaluated Applications
IDP	70	105

Table C-2: PY2024 IDP Statistical Significant Summary

Savings Type	CV	Relative Precision (90% Confidence)	Relative Precision (85% Confidence)
Energy	0.73	11.6%	10.2%
Demand	0.67	10.6%	9.3%

C.3 Data Collection and Analysis

The Level 1 audit of the IDP projects began with a review of the measure codes, quantities, and reported savings from the IDP database and all available project documentation, including applications and invoices. Level 2 audits included an on-site review, verification of installed equipment, and equipment metering for a limited number of sampled projects. Reviewing the project data and documentation in advance of on-site visits and desk reviews ensured time spent on-site or during the phone interview focused on collecting and/or verifying the most important project specifications. Key parameters to be investigated included baseline and retrofit equipment information, operating hours, lighting controls, and HVAC equipment information.

In addition to reported fixture wattages and operating hours, in-service rate and baseline fixture wattage discrepancies were primary causes for realization rates to deviate from 100%. To verify actual energy and summer peak demand savings, analysis staff recorded lamp wattages and ballast factors of retrofitted equipment. Normal, seasonal, and holiday operating hours were also confirmed with the participants.

Following completion of data collection and project analyses, program-level verified energy and summer peak demand savings were calculated by applying sample level adjustment factors (energy and demand realization rates and NTG ratios) to the overall program population.

C.4 Establish the Verified Savings

Data collected due to Level 1 and Level 2 audit activities allowed energy and summer peak demand savings to be calculated for each sampled project–termed gross verified savings. The ratio of gross verified savings to the reported savings provided the project realization rate, and the ratio of the summation of all project gross verified and reported savings provided the program-level realization rate. Equation C-1 presents the basic formula for calculating the realization rate.

Equation C-1: Realization Rate

$$Program\ Realization\ Rate = \frac{\sum_1^n Gross\ Verified\ savings}{\sum_1^n Reported\ Savings}$$

Where:

- n = Total number of projects evaluated
- Gross Verified Savings = Sample savings (kWh or kW) verified through evaluation
- Reported Savings = Sample savings (kWh or kW) reported by the IESO

For calculation of verified summer peak demand savings, the Resource Innovations team used the methodology and peak definitions outlined in the EM&V Protocols to calculate verified demand savings (winter and summer) by reviewing average demand reduction across all peak hours. Specifically for lighting measures, the Resource Innovations team verified actual lighting operating hours with the participant, including the impact of daily, weekly, seasonal, and holiday schedule variations. Verified summer peak demand savings were then calculated as the average demand savings that occurred during the pre-defined summer peak demand period. For example, if the verified lighting schedule did not overlap with the pre-defined peak period, the verified summer peak demand savings for all lighting measures on that schedule would be zero. If the verified lighting schedule overlapped with

50% of the pre-defined peak period, the verified summer peak demand savings for the lighting measures on that schedule would equal 50% of verified demand savings for those measures.

The IDP incentivizes implementation of equipment with an efficiency level that exceeds local building and energy requirements. However, the energy consumption of equipment in an enclosed space cannot be viewed in isolation. Building systems interact with one another, and a change in one system can affect the energy consumption of another. This interaction was important to consider when calculating the benefits of the IDP program as it adopted a comprehensive view of grid-level energy changes rather than limiting the analysis to the energy change directly related to the modified equipment. The EM&V Protocols state that interactive energy changes should be quantified and accounted for whenever possible. Based on this guidance, interactive effects were calculated for all energy-efficient lighting measures installed through the program to capture changes in operations of HVAC equipment due to lower heat loss from energy-efficient lighting equipment.

C.5 Lifetime Savings

When performing the impact evaluation, it was important to consider the total amount of savings over the lifetime of retrofitted equipment. This consideration was necessary given that energy savings, demand savings, avoided energy costs, and other benefits continued to accrue each year the equipment was in service. The method of calculating lifetime energy savings of a measure level is presented in Equation C-2.

Equation C-2: Lifetime Energy Savings

$$Lifetime\ Energy\ Savings = EUL \times Annual\ Energy\ Savings$$

Where:

- EUL = Estimated useful life of the retrofitted equipment

Appendix D Detailed Net-to-Gross Methodology

This appendix provides detail on the sampling plans for collecting NTG data, the instruments used to assess attribution and free-ridership, the implementation of the data collection, and the analysis methods.

The evaluation team developed effective questionnaires to assess free-ridership, an approach used successfully in several previous evaluations. The NTG ratio presented in Equation D-1 is defined as follows:

Equation D-1: Net-to-Gross Ratio

$$NTG = 1 - Average(FR_{stock}, FR_{upsell}, FR_{pricing})$$

Where:

- FR is free-ridership

D.1 Causal Pathway Methodology

Due to the midstream program design, the evaluation team calculated NTG using the causal pathway methodology for the Instant Discount Program. This methodology is an industry standard for midstream programs when high-quality contact information exists for more than one of the market actors that are influenced by the program.

The evaluation team developed and implemented market actor self-report surveys for distributors, contractors, and end-users associated with the program. Surveys collected data on stocking, upselling, and pricing to assess the causal pathways of influence on the overall purchasing process. The resulting analysis created a single market-level NTG estimate for the Instant Discount Program.

A *causal pathway* is a series of related events or influential factors that lead to an outcome or impact, such as adoption of the intended program offerings. In the case of the Instant Discount Program, the evaluation team examined the influence of the program on stocking, upselling, and pricing:

- Stocking:
  - The program influences distributors to stock high-efficiency units.
  - In turn, the stocked equipment can influence contractor and end-user purchasing decisions.
- Upselling:
  - The program encourages distributors and contractors to upsell high-efficiency units.
  - In turn, promotional efforts for high-efficiency units can influence end-user purchasing decisions.
- Pricing:
  - The program encourages distributors and contractors to reduce the price of high-efficiency units and/or passthrough incentives to end-users.
  - In turn, lower prices can influence end-user purchasing decisions.

Within the causal pathway methodology, the evaluation team utilized the non-nested approach for IDP given the data limitations.[12]

D.2 Market Actor Attribution

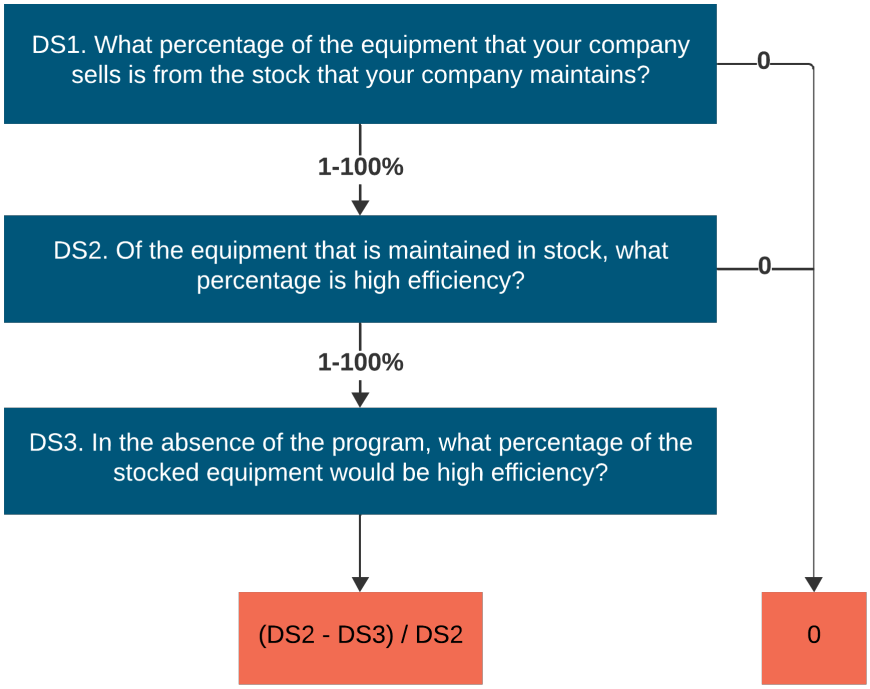
Attribution is the share of savings that are attributable to the program. Estimating attribution for each market actor group is the first step towards developing the overall NTG. For each causal pathway, a score of 0 indicates complete free-ridership, a score of 1 indicates no free-ridership, and a score between 0 and 1 indicates partial free-ridership.

[12]Evaluators can select between the "nested" or "non-nested" approaches within the causal pathway methodology. The nested approach matches contractor and/or end-user survey responses to their distributor's survey responses to examine specific sales events and decision making. A low response rate for any of the market actors would preclude the possibility of matching responses across market actors, ultimately limiting the number of responses that can be included in the NTG analysis. The non-nested approach does not match survey responses across market actors.

Distributor Attribution

The evaluation team estimated distributor attribution by assessing the program's causal pathways of influence on distributors. Figure D-1, Figure D-2, and Figure D-3 depict analysis of the causal pathways for distributors.

Figure D-1: Distributor Stocking Attribution Scoring

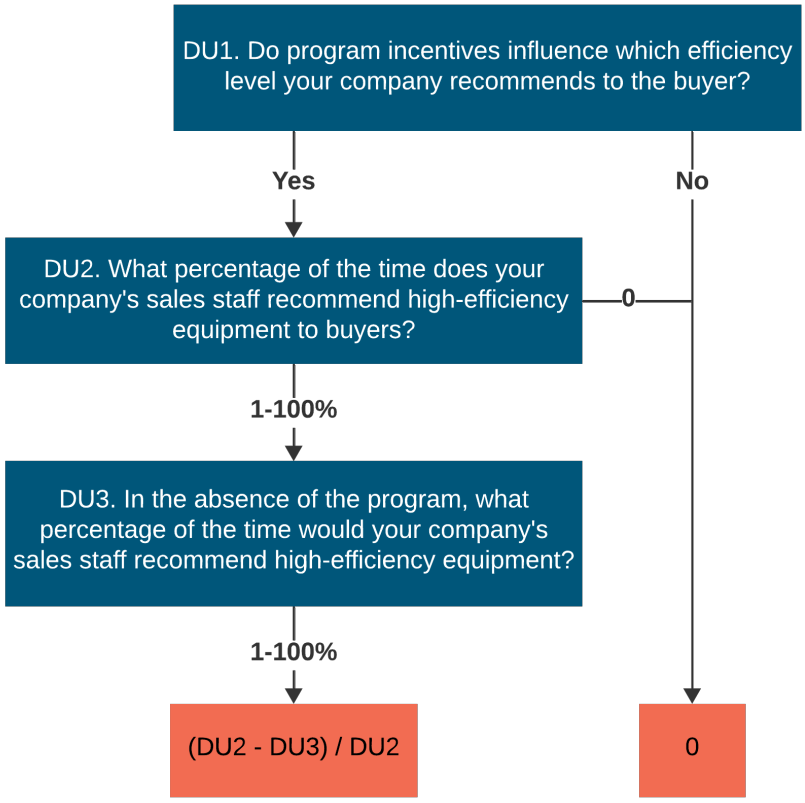


Where:[13]

- **DS1.** What percentage of the equipment that your company sells is from the stock that your company maintains?
- **DS2.** Of the equipment that is maintained in stock, what percentage is high efficiency?
- **DS3.** In the absence of the program, what percentage of the stocked equipment would be high-efficiency?

[13] Throughout the methodology, we define the variables in terms of the survey questions we will include in the survey.

Figure D-2: Distributor Upselling Attribution Scoring

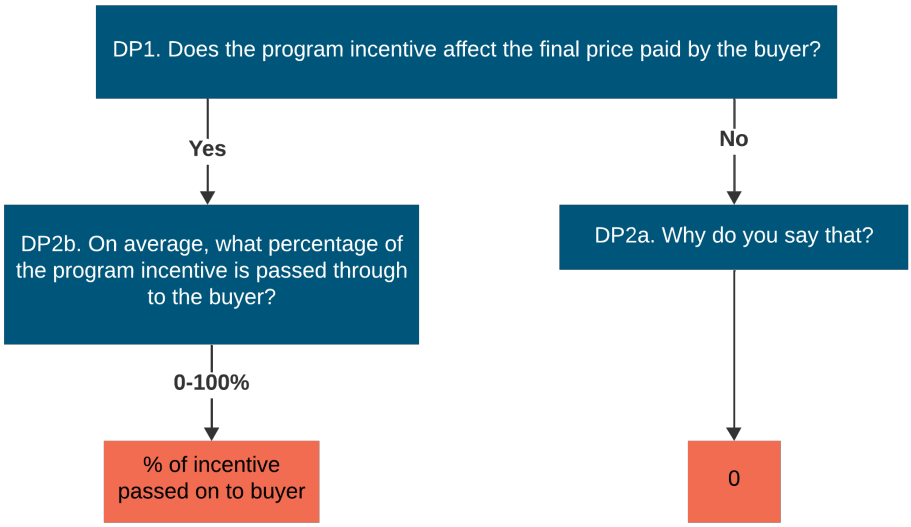


Where:

- **DU1.** When your company's sales staff are selling equipment, do the program incentives influence which efficiency level your company recommends to the buyer? [14]
- **DU2.** [If yes] What percentage of the time does your company's sales staff recommend high-efficiency equipment to buyers?
- **DU3.** [If >0] In the absence of the program, what percentage of the time would your company's sales staff recommend high-efficiency equipment?

[14] DU1 does not appear in the formula but it is defined here due to its importance for the scoring analysis.

Figure D-3: Distributor Pricing Attribution Scoring



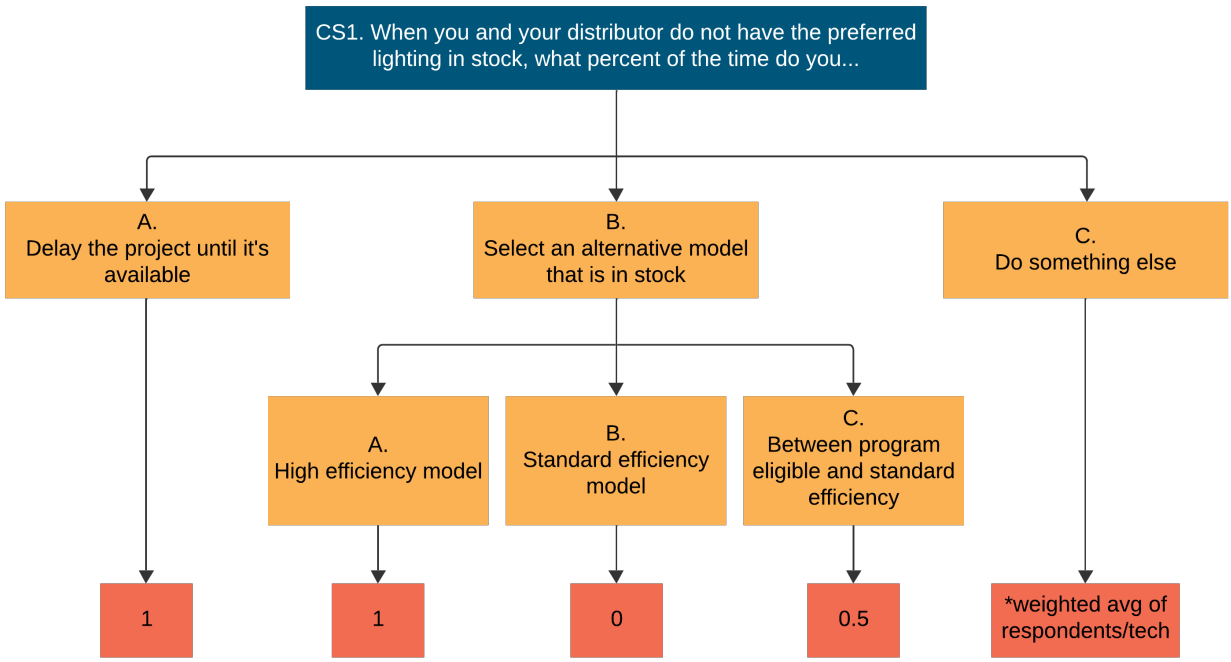
Where:

- **DP1.** Of the equipment your company sells through the program, does the program incentive affect the final price paid by the buyer?
- **DP2a.** [If DP1=no] Why do you say that?
- **DP2b.** [If DP1=yes] On average, what percentage of the program incentive is passed through to the buyer?

Contractor Attribution

The evaluation team estimated contractor attribution by assessing the program's causal pathways of influence on contractors. Figure D-4. Figure D-5, and Figure D-6 depict analysis of the causal pathways for contractors.

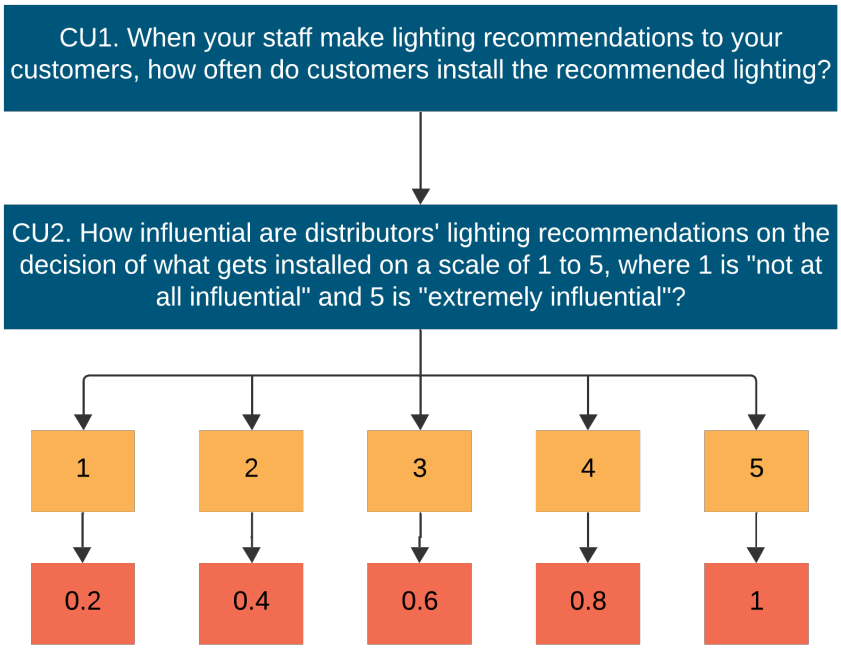
Figure D-4: Contractor Stocking Free Ridership Scoring



Where:

- **CS1.** When you and your distributor do not have the preferred lighting in stock, what percentage of the time do you…
  - Delay the project until it's available (score = 1)
  - Select an alternative model that is in stock:
    - Different high-efficiency model (score = 1)
    - Standard efficiency (score of 0)
    - Something in between (score = 0.5)
  - Do something else (score = weighted average of respondent per equipment type)

Figure D-5: Contractor Upselling Attribution Scoring



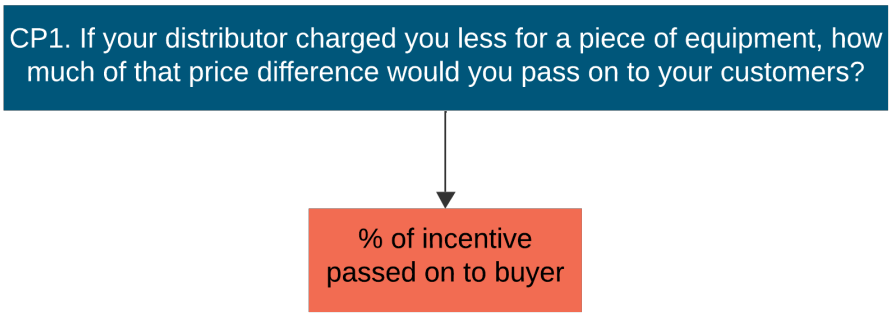
Where:

- **CU1.** When your staff make lighting recommendations to your customers, how do customers install the recommended lighting? [15]

- **CU2.** How influential are distributors' lighting recommendations on the decision of what gets installed on a scale of 1 to 5, where 1 is "not at all influential" and 5 is "extremely influential"?

[15] CU1 is not used directly in the scoring but it is defined here due to its relation to the scoring analysis.

Figure D-6: Contractor Pricing Attribution Scoring



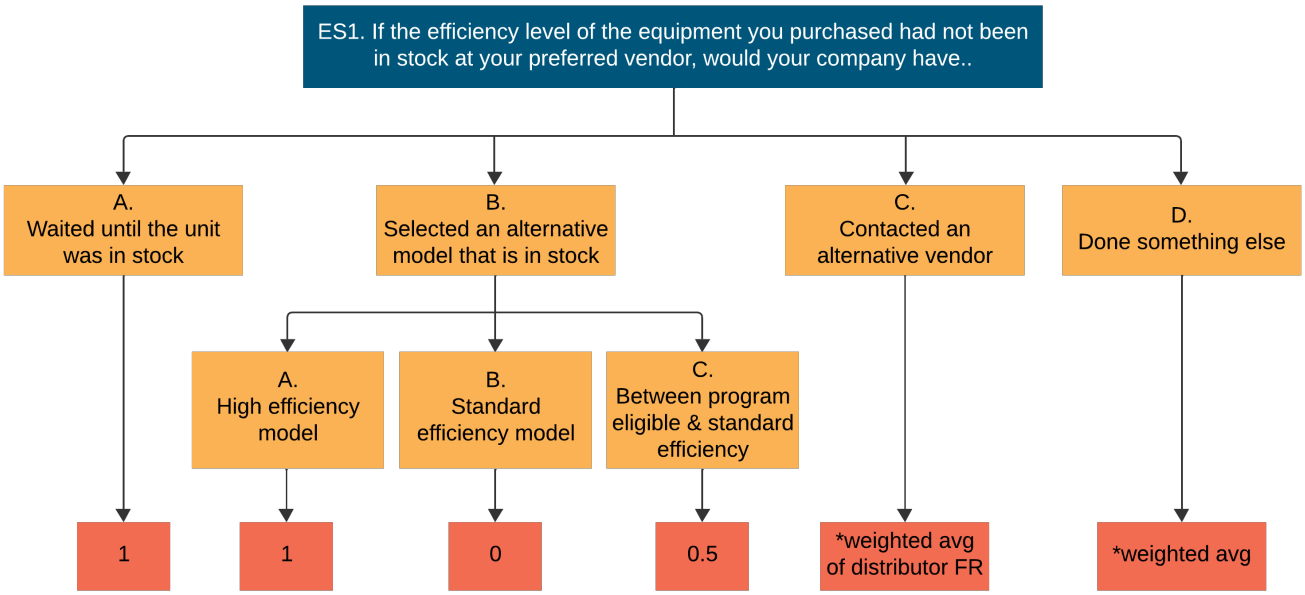
Where:

- **CP1.** If your distributor charged you less for a piece of equipment, how much, if any, of that price difference would you pass on to your customers?

End-User Attribution

The evaluation team estimated attribution by assessing the program's causal pathways of influence on end-users. Figure D-7, Figure D-8, and Figure D-9 depict analysis of the causal pathways for end-users.

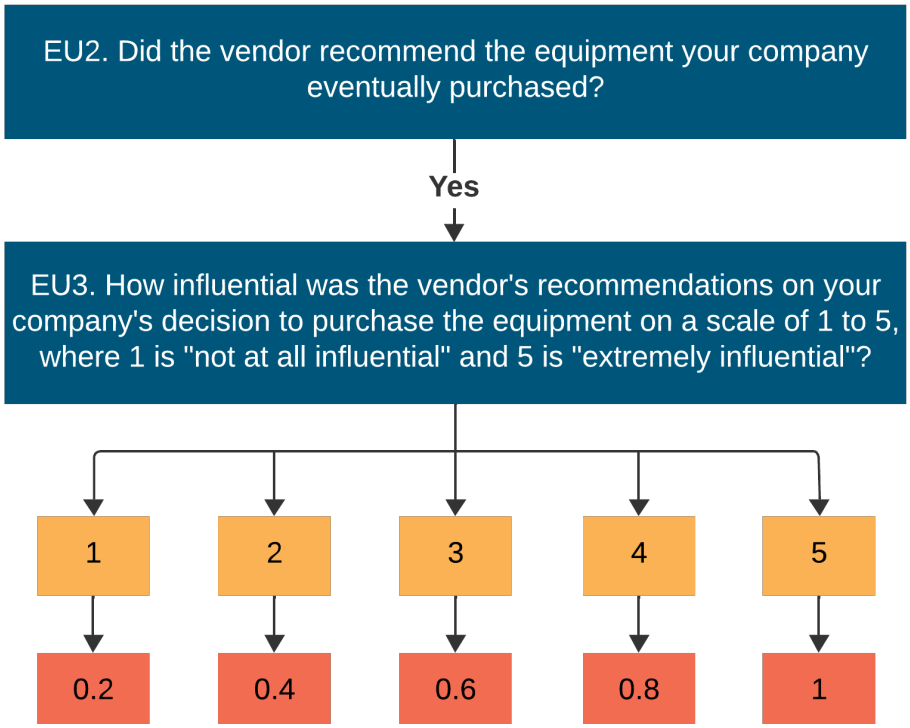
Figure D-7: End-User Stocking Free Ridership Scoring



Where:

- **ES1.** If the efficiency level of the equipment you purchased had not been in stock at your preferred vendor, would your company have…
  - Waited until the unit was in stock (score = 1)
  - Selected an alternative model that was in stock:
    - Different high-efficiency model (score = 1)
    - Standard efficiency (score of 0)
    - Something in between (score = 0.5)
  - Contacted an alternative vendor to get the same level of efficiency (score = weighted average of distributor score)
  - Done something else (score = weighted average of respondent score)

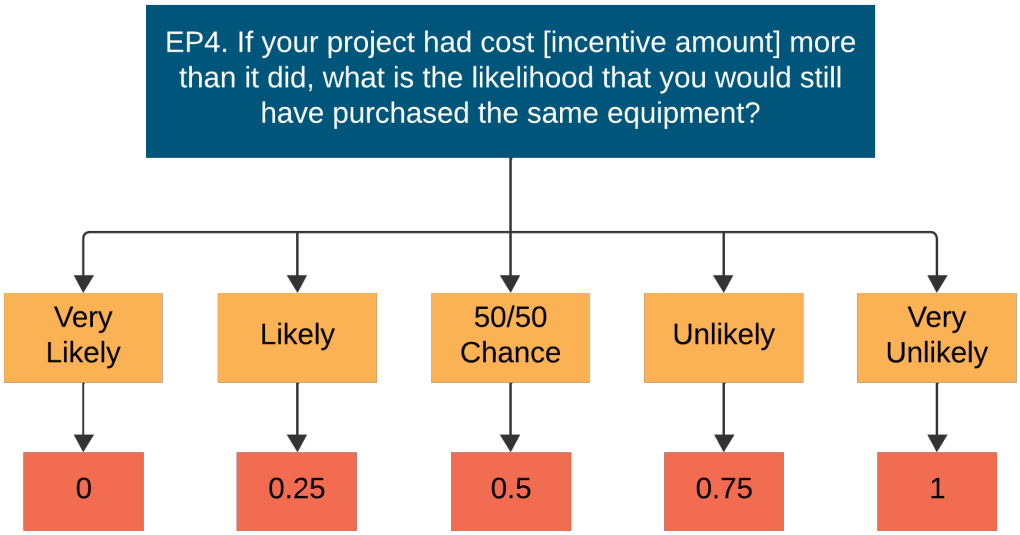
Figure D-8: End-User Upselling Attribution Scoring



Where:

- **EU2.** Did the vendor recommend the equipment your company eventually purchased? [16]
- **EU3.** How influential was the vendor's recommendations on your company's decision to purchase the equipment on a scale of 1 to 5, where 1 is "not at all influential" and 5 is "extremely influential"?

Figure D-9: End-User Pricing Attribution Scoring



Where:

- **EP4.** If your project had cost [incentive amount] more than it did, what is the likelihood that you would still have purchased the same equipment?
  - Very likely (Score = 0)
  - Likely (Score = 0.25)
  - 50/50 Chance (Score = 0.5)
  - Unlikely (Score = 0.75)
  - Very Unlikely (Score = 1)

[16] EU1 is not used directly in the scoring but it is defined here due to its relation to the scoring analysis.

D.3 Combining Market Actor Attribution Results

Combining the market actor group attribution values into a single NTG is a three-step process:

Step 1: Combine individual pathway attribution values (e.g., for stocking, upselling, and pricing) for each market actor group.

- Attribution is the inverse of FR, meaning Attribution (ATTR) = 1 – FR.
- This step yielded stocking, upselling, and pricing values for distributors, contractors, and end users, for a total of nine individual attribution values.

The evaluation team first calculated the stocking, upselling, and pricing attribution values for each market actor group (see Appendix D.2). Following this, we calculated the pathway attribution scores, where each of the market actor group attribution results are averaged together within each pathway (e.g., stocking, upselling, pricing). The calculations are as follows and are visualized in Figure D-10:

$$\boldsymbol{Pathway\ \mathrm{ATTR}_{stock} = Average(Distributor_{stock}, Contractor_{stock}, End\ User_{stock})}$$

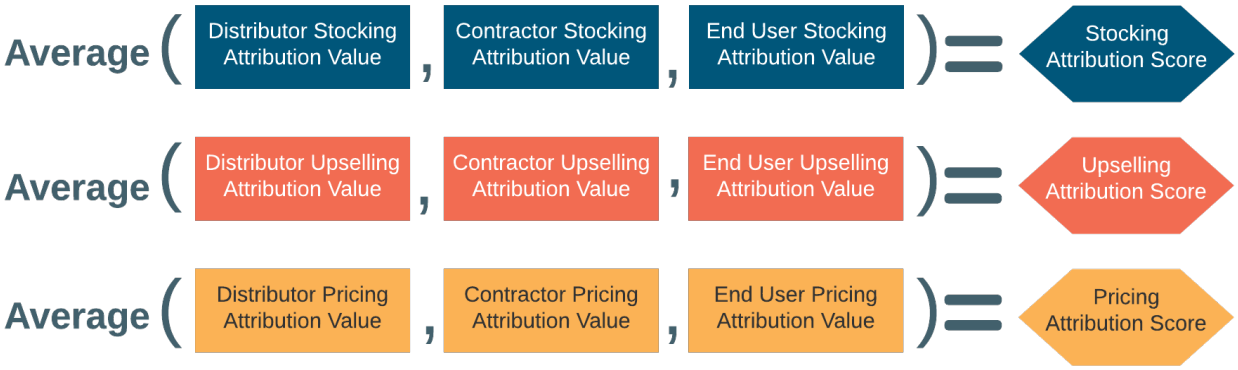
$$\boldsymbol{Pathway\ \mathrm{ATTR}_{upsell} = Average(Distributor_{upsell}, Contractor_{upsell}, End\ User_{upsell})}$$

$$\boldsymbol{Pathway\ ATTR_{price} = Average(Distributor_{price}, Contractor_{price}, End\ User_{price})}$$

Where:

- Pathway ATTR_{stock}, Pathway ATTR_{upsell}, and Pathway ATTR_{price} are the pathway attribution scores associated with the individual market actor stocking, upselling, and pricing attribution values, respectively.
- $\mathrm{Distributor}_{stock}$, $\mathrm{Distributor}_{upsell}$, and $\mathrm{Distributor}_{price}$ are the stocking, upselling, and pricing attribution values associated with distributors.
- $\mathrm{Contractor}_{stock}$, $\mathrm{Contractor}_{upsell}$, and $\mathrm{Contractor}_{price}$ are the stocking, upselling, and pricing attribution values associated with contractors.
- $\mathrm{End\ User}_{stock}$, $\mathrm{End\ User}_{upsell}$, and $\mathrm{End\ User}_{price}$ are the stocking, upselling, and pricing attribution values associated with end-users.

Figure D-10: Combining Market Actor Attribution Values into Pathway Attribution Scores



Step 2: Convert the pathway ATTR scores into pathway FR values.

Next, the evaluation team calculated the pathway FR values. To do so, we calculated the inverse of the pathway attribution values from the previous step, where FR is equal to 1 minus the pathway attribution values for stocking, upselling, or pricing. The calculations are as follows and are visualized in Figure D-11:

$$\boldsymbol{FR_{stock}} = \mathbf{1} - \boldsymbol{Pathway}\ \mathrm{ATTR}_{\boldsymbol{stock}}$$

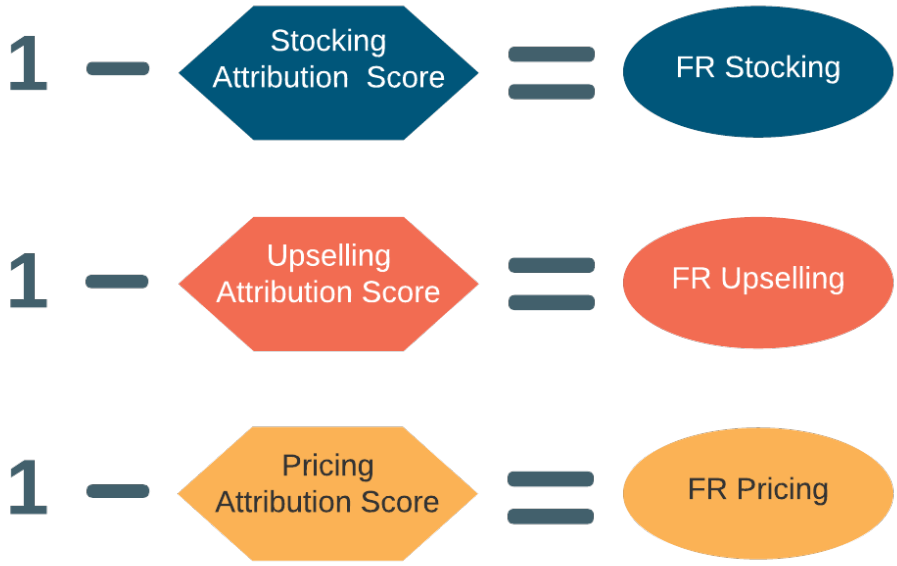
$$\boldsymbol{FR_{upsell}} = \mathbf{1} - \boldsymbol{Pathway}\ \mathrm{ATTR}_{\boldsymbol{upsell}}$$

$$\boldsymbol{FR_{pricing}} = \mathbf{1} - \boldsymbol{Pathway}\ \mathrm{ATTR}_{\boldsymbol{price}}$$

Where:

- FR_{stock}, FR_{upsell}, FR_{price}, are the FR values associated with each pathway (e.g., stocking, upselling, pricing).
- Pathway $ATTR_{stock}$, Pathway $ATTR_{upsell}$, Pathway $ATTR_{price}$, are the attribution values associated with each pathway (e.g., stocking, upselling, pricing).

Figure D-11: Converting Pathway ATTR Scores into Pathway FR Values



Step 3: Combine the pathway FR values into a single NTG value.

Finally, the evaluation team calculated the NTG by taking the inverse of the pathway FR values. To do so, we first took the average of the three pathway FR values calculated in the previous step and then subtracted this combined value from 1. The calculation is as follows and are visualized in Figure D-12:

$$\boldsymbol{NTG = 1 - Average\ (FR_{stock}, FR_{upsell}, FR_{pricing})}$$

Where:

- NTG is the market-level NTG estimate for IDP.
- FR_{stock}, FR_{upsell}, FR_{price}, are the FR values associated with each (e.g., stocking, upselling, pricing).

Figure D-12: Combining Pathway FR values into a Single NTG Value

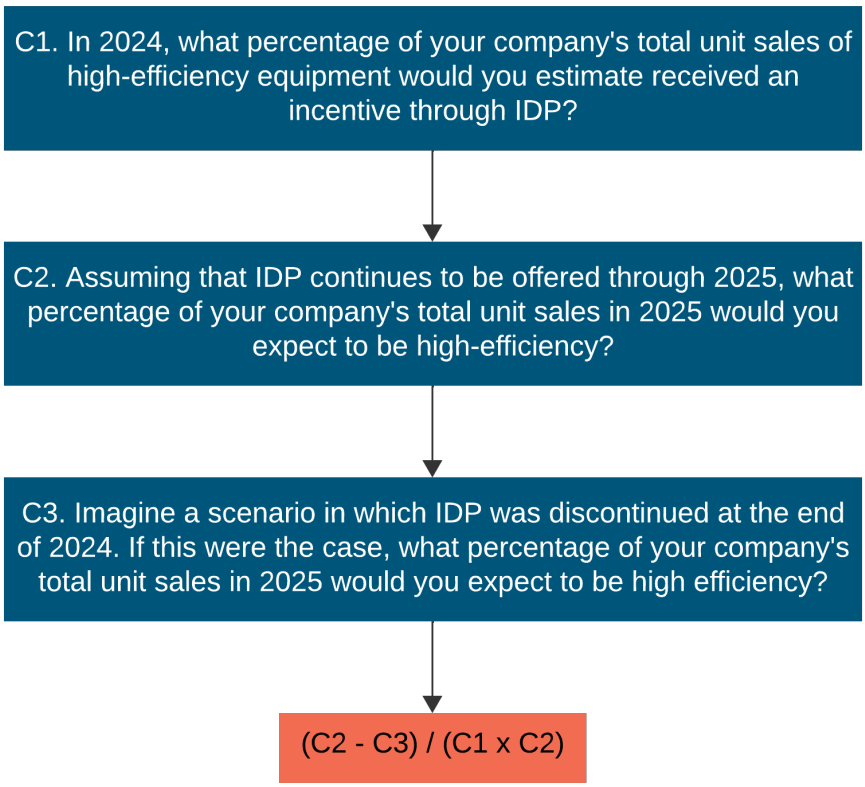
Weighting

When estimating attribution for each market actor group, the evaluation team used the energy savings from program tracking data to assign a relative weight to each respondent *within* each group to ensure that the results are representative.

D.4 Counterfactual Methodology

Had the evaluation team determined it was not feasible to estimate the NTG using the causal pathway method (e.g., if response rates and/or data quality for one or more of the market actor surveys were too low or were too poor in quality to provide valid results), we would have estimated NTG using the counterfactual methodology. To do so, the evaluation team included questions within the distributor self-report survey to assess the estimated percentage of sales of high-efficiency equipment in 2024 and 2025 compared to the estimated percentage of sales in 2025 *if IDP were discontinued*. The counterfactual approach was not utilized for this evaluation. Figure D-13 depicts the counterfactual NTG calculation.

Figure D-13: Counterfactual NTG Calculation



Where:

- NTG is the market-level NTG estimate for IDP.
- **C1.** In 2024, what percentage of your company's total unit sales of high-efficiency equipment would you estimate received an incentive through IDP?
- **C2.** Assuming that IDP continues to be offered through 2025, what percentage of your company's total unit sales in 2025 would you expect to be high-efficiency?
- **C3.** Next, please imagine a scenario in which IDP was discontinued at the end of 2024. If this were the case, what percentage of your company's total unit sales in 2025 would you expect to be high efficiency?

The evaluation team would have used the energy savings from program tracking data to assign a relative weight to each responding distributor's results to ensure that the results were representative.

D.5 Net-to-Gross Survey Implementation

The survey was implemented over the web. It was assumed that all contacts who responded to the web version of the survey were the appropriate contacts to answer the questions. The introductory text in the survey asked the respondent to forward the survey web link to the appropriate contact if they were not the appropriate contact to do so.

Appendix E Detailed Process Evaluation Methodology

This appendix provides additional details about the process evaluation methodology. Section 3.2 summarizes the methodology.

E.1 Research Question Development

Table E-1 provides a list of key research questions and data sources used to investigate each of these. The research questions were developed at the beginning of the PY2024 evaluation period, in September 2024 and October 2024. They were written in consultation with the IESO program and the IESO EM&V staff and were finalized after reviewing the timing of related survey instruments to ensure respondent fatigue would be minimized. After the research questions were finalized, they were adapted for inclusion in the interview guides and survey instruments, which were, in turn, reviewed and approved by the IESO EM&V and program staff (refer to Appendix E.2 for more information on the interview and survey methodology).

Table E-1: Retrofit Program Process Evaluation Research Questions and Data Sources

Research Questions	Document and Program Records Review	IESO & Delivery Vendor Staff Interviews	Distributor Surveys	Contractor Surveys	End-User Surveys
Is sufficient data being captured to effectively verify recommendations and savings? Is there additional data that is not currently collected that would benefit program administration and/or evaluation?	✓	✓			
What are the goals and objectives of the program, and how well is the program doing in terms of meeting them?	✓	✓			
What program processes are followed by the IESO and program vendors? What areas of process improvement may exist?		✓			
What strategies implemented by IESO were effective in terms of driving participation, increasing program awareness, and avoiding free ridership?		✓			

Research Questions	Document and Program Records Review	IESO & Delivery Vendor Staff Interviews	Distributor Surveys	Contractor Surveys	End-User Surveys
What program marketing and outreach occurred in support of the program? How did distributors, contractors, and end-use customers become aware of the program?		✓	✓	✓	✓
What were the program experiences of distributors, contractors, and end-use customers? Do distributors of different sizes experience the program similarly?			✓	✓	✓
What are the program strengths, barriers, and areas of improvement? How do distributors perceive the administrative burden of participating in the program, and how could it be improved?		✓	✓	✓	✓
Do the current range of program equipment meet end-user/contractor needs? Were end-users/contractors able to install all equipment models of interest to them? What suggestions exist for additional equipment?		✓	✓	✓	✓
What type of training did distributors receive? What type of training would distributors like to receive?			✓		
What was the program's influence on stocking practices?			✓		
What was the program's influence on upselling or promoting eligible equipment? What percentage of lighting products sold through participating distributors are program eligible?			✓		
What percent of the incentive did distributors passthrough to contractors? To end-users? What factors influence the percent of the incentive that is passed through?			✓		

Research Questions	Document and Program Records Review	IESO & Delivery Vendor Staff Interviews	Distributor Surveys	Contractor Surveys	End-User Surveys
Are there regions or business sectors in Ontario that are underserved by the program? How do regional differences affect program participation and sales?	✓		✓		
In what ways do distributors impact the buyer's decision about whether to purchase program qualified equipment?		✓	✓	✓	✓
Are the incentive rates offered through the program sufficient? Are there measures that are over/under-incentivized?	✓	✓	✓	✓	✓
Typically, what percent of distributor sales are to end-users, contractors, and/or retailers? How, if at all, has this changed since participating in the program?			✓		
What can the program do to increase sales volume of measures with little uptake to date?		✓	✓	✓	✓
What verification processes are in place? What other processes can be implemented to ensure accuracy of reported savings?		✓			
How scalable is the IDP for other energy efficient products beyond lighting (i.e., What other equipment types do participating distributors sell and could an upstream program model be implemented for those equipment types?)		✓	✓		
What non-energy impacts do end-users experience as participants in the program?					✓

E.2 In-Depth Interview and Survey Methodology

The process evaluation collected primary data from key program actors, including IESO staff, program delivery vendor staff, applicant representatives, distributors, contractors, and end-users, as shown in Table E-2. Data were collected using different methods, including web surveys or telephone in-depth interviews (IDIs), depending on what was most suitable for a particular respondent group. When collected and synthesized, these data provide a comprehensive understanding of the program.

All process evaluation data collection activities were carried out or managed by the evaluation team. The team developed all survey instruments, interview guides, and sample files for interviews and surveys. IESO EM&V staff approved the survey instruments and interview guides. The data used to develop the sample files were retained from program records, supplied either by IESO EM&V staff or the program delivery vendor.

Table E-2: Process Evaluation Primary Data Sources

Respondent Type	Methodology	Population	Completed	Response Rate	90% CI Error Margin
IESO Staff	Phone IDI	3	3	100%	0%
Program Delivery Vendor Staff	Phone IDI	1	1	100%	0%
Distributors	Web Survey	122	50[17]	41%	14.5%
Contractors	Web Survey	1,391	182[18]	13%	12.6%
End-Users	Web Survey	1,738	137[19]	8%	19.1%

The following subsections provide additional details about the process evaluation methodology.

E.3 IESO Staff and Program Delivery Vendor Staff Interviews

IDIs were completed with three members of IESO's staff and with the program delivery vendor, as shown in Table E-3. The interviews sought to better understand the perspectives

[17] The NTG evaluation included fewer distributor survey respondents (n=49) than the process evaluation (n=50) as three distributor survey respondents did not fully answer the process evaluation survey questions and four distributor survey respondents had not yet sold any equipment through the program so were excluded from the NTG analysis.
[18] The NTG evaluation included more contractor survey respondents (n=187) than the process evaluation (n=182) as five contractor survey respondents did not fully answer the process evaluation survey questions.
[19] The NTG evaluation included more end-user survey respondents (n=140) than the process evaluation (n=137) as three end-user survey respondents did not fully answer the process evaluation survey questions.

of the IESO program and of program delivery vendor staff related to the program design and delivery.

Table E-3: IESO Program Staff and Program Delivery Vendor Staff IDI Disposition

Disposition Report	IESO Staff	Program Delivery Vendor Staff	Total
Completes	3	1	4
No Response	-	-	-
Partial Complete	-	-	-
Total Invited to Participate	3	1	4

Interview topics included program roles and responsibilities, program design and delivery, outreach and marketing, equipment and services, market impact, program strengths and weaknesses, and improvement suggestions.

The appropriate staff to interview were identified in consultation with IESO EM&V staff. Telephone IDIs were conducted with IESO staff and program delivery vendor staff using in-house staff (rather than a survey lab). The interviews were completed between April and May of 2025. Each interview took approximately one hour to complete.

E.4 Distributor Survey

A total of 50 participating distributors were surveyed from a sample of 122 unique participating distributors, as shown in Table E-4. The survey's purpose was to better understand the distributors' perspectives on program delivery.

Table E-4: Participating Distributor Survey Disposition

Disposition Report	Total
Completes	50
Emails Bounced	3
Unsubscribed	2
Partial Complete	12
Screened Out	-
No Response	55
Total Invited to Participate	122

Survey topics included firmographics, distributor stocking and sales background, marketing and awareness, program training, the role of the incentives, the incentive passthrough, the influence of distributors, participation barriers, participation barriers, equipment customers expressed interest in, program improvement suggestions, stocking influence, upselling influence, pricing influence, counterfactual NTG, and job impacts.

The sample was developed from program records provided by the IESO EM&V staff. A census-based approach was employed to reach the largest number of respondents possible.

NMR staff delivered the survey over the web in partnership with Resource Innovations' survey lab, using Qualtrics survey software. NMR staff worked closely with Resource Innovations' survey lab to test the survey's programming and to perform quality checks on all data collected.

Survey implementation was conducted between February 27 and April 25, 2025. The survey took an average of 21 minutes to complete after removing outliers.[20] Weekly e-mail reminders were sent to non-responsive contacts through web survey fielding.

E.5 Contractor Survey

A total of 182 contractors were surveyed from a sample of 1,391 unique contacts, as shown in Table E-5. The survey's purpose was to better understand the contractors' perspectives related to the program experience.

Table E-5: Contractor Survey Disposition

Disposition Report	Web
Completes	182
Emails Bounced	118
Unsubscribed	60
Partial Complete	105
Screened Out	2
No response	924
Total invited to participate	1,391

[20] The survey was designed to allow a respondent to complete at a later time if they preferred. The average survey time was calculated with this in mind and assumed that any survey that took 40 minutes or more to complete was likely completed by a respondent who took a break before completing the survey.

Survey topics included firmographics, how contractors choose equipment, contractor sales background, marketing and awareness, the role of the discounts, contractor satisfaction, program barriers, program improvement recommendations, stocking influence, upselling influence, pricing influence, and jobs impacts.

The sample was developed from program records provided by IESO EM&V staff. A census-based approach was employed to reach the largest number of respondents possible, given the small number of unique contacts.

The survey was delivered over the web in partnership with Resource Innovations' survey lab, using Qualtrics survey software. NMR staff worked closely with Resource Innovations' survey lab to test the survey's programming and to perform quality checks on all data collected.

Survey implementation was conducted between March 3 and April 25, 2025. The survey took an average of 17 minutes to complete after removing outliers.[21] Weekly e-mail reminders were sent to non-responsive contacts through web survey fielding.

E.6 End User Survey

A total of 137 end-users were surveyed from a sample of 2,031 unique contacts, as shown in Table E-6. The survey's purpose was to better understand the end-users' perspectives related to the program experience.

Table E-6: End-User Survey Disposition

Disposition Report	Web
Completes	137
Emails bounced	319
Unsubscribed	68
Partial complete	116
Screened out	11
No response	1,380
Total invited to participate	2,031

Survey topics included firmographics, how end-users selected equipment, marketing and awareness, the role of the discounts, satisfaction, program improvement recommendations,

[21] The survey was designed to allow the respondent to come back to it at a later time if they preferred. The average survey time was calculated with this in mind and assumed any survey that took 40 minutes or more to complete was likely completed by a respondent who took a break before completing the survey.

stocking influence, upselling influence, pricing influence, jobs impacts, and perspectives on NEBs.

The sample was developed from program records provided by IESO EM&V staff. A census-based approach was employed to reach the largest number of respondents possible, given the small number of unique contacts.

The survey was delivered over the web in partnership with Resource Innovations' survey lab, using Qualtrics survey software. NMR staff worked closely with Resource Innovations' survey lab to test the survey's programming and to perform quality checks on all data collected.

Survey implementation was conducted between March 13 and April 25, 2025. The survey took an average of 13 minutes to complete after removing outliers.[22] Weekly e-mail reminders were sent to non-responsive contacts through web survey fielding.

[22] The survey was designed to allow the respondent to come back to it at a later time if they preferred. The average survey time was calculated with this in mind and assumed any survey that took 40 minutes or more to complete was likely completed by a respondent who took a break before completing the survey.

Appendix F Additional Net-to-Gross and Process Evaluation Results

This appendix provides additional results in support of the NTG and process evaluations.

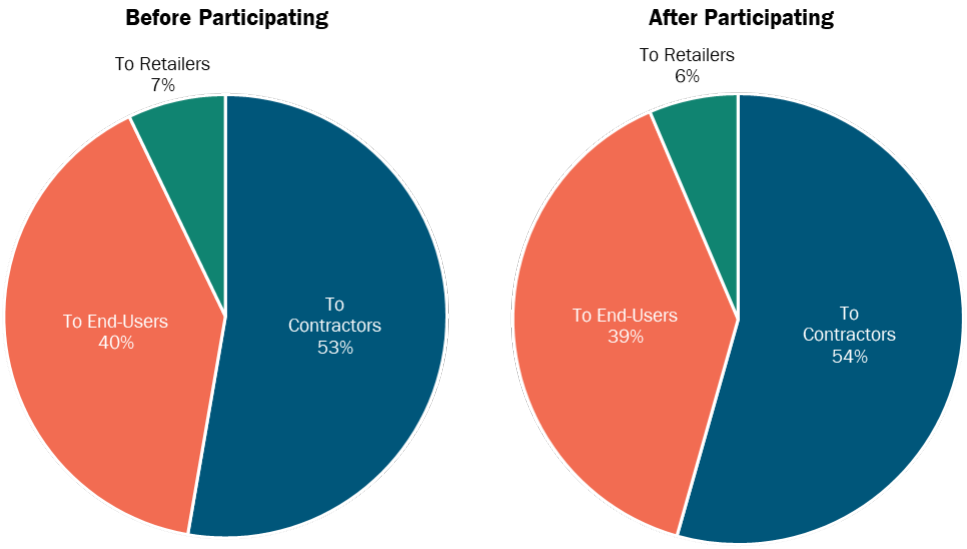
F.1 Additional Distributor Process Results

This appendix provides additional details regarding the process evaluation results collected as part of the distributor survey.

Stocking and Sales Background

Figure F-1 displays the average percentage of distributors' commercial lighting sales that were to contractors, end-users, and retailers, before and after participating in the Instant Discount Program. Prior to participating in the program, on average, 53% of distributors' commercial lighting sales were to contractors, 40% were to end-users, and 7% were to retailers. This distribution remained relatively unchanged after participating in the program, with distributors reporting an average of 54% of sales to contractors, 39% to end-users, and 6% to retailers. Section 6.2.2 includes additional discussion regarding distributor stocking and sales background.

Figure F-1: Distributor Commercial Lighting Sales Before and After Participating in the Program (n=50)*

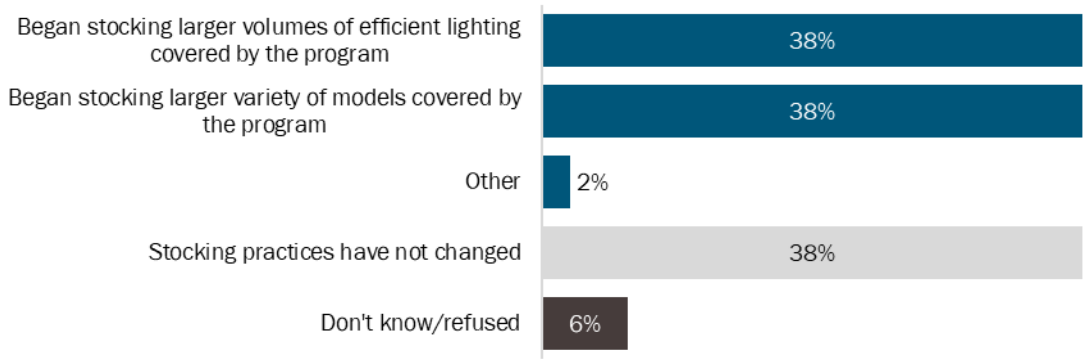


*May not sum to 100% due to rounding.

Over one-half (56%) of distributors reported one or more changes to their companies' commercial lighting stocking practices since participating in the Instant Discount Program. As shown in Figure F-2, around two-fifths (38%) of distributors began stocking larger volumes of efficient lighting covered by the program, while the same proportion (38%) began stocking a larger variety of models covered by the program.

Figure F-2: Changes to Distributor Stocking Practices

(Open-ended and multiple responses allowed; n=50)*

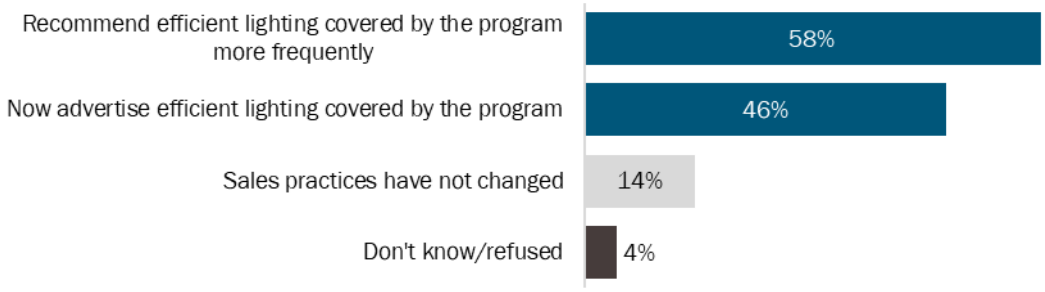


*Does not sum to 100% due to multiple response.

Most distributors (82%) reported changes to their sales practices since participating in the Instant Discount Program. Close to three-fifths (58%) said they recommend efficient lighting covered by the program more frequently, while nearly one-half (46%) said they now advertise efficient lighting covered by the program (Figure F-3).

Figure F-3: Changes to Distributor Sales Practices

(Open-ended and multiple responses allowed; n=50)*

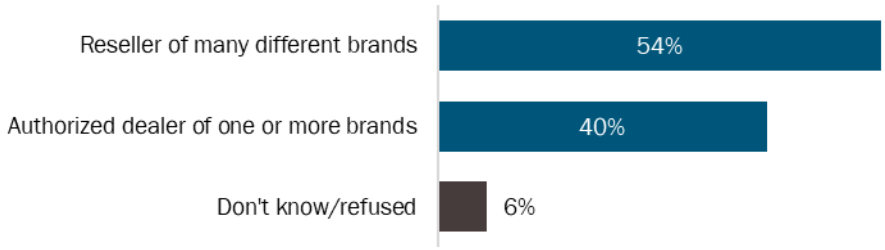


*Does not sum to 100% due to multiple response.

FIRMOGRAPHICS

As shown in Figure F-4, just over one-half (54%) of distributors were resellers of many different brands, while two-fifths (40%) were authorized dealers of one or more brands.

Figure F-4: Distributor Type (n=50)



As shown in Figure F-5, over one-half (58%) of distributors were independent equipment distributors with one location, while nearly one-third (30%) were independent equipment distributors with more than one location under a parent company. Two distributors (4%) were independent manufacturers' representatives.

Figure F-5: Distributor Distribution Model (n=50)

(Open-ended responses allowed)

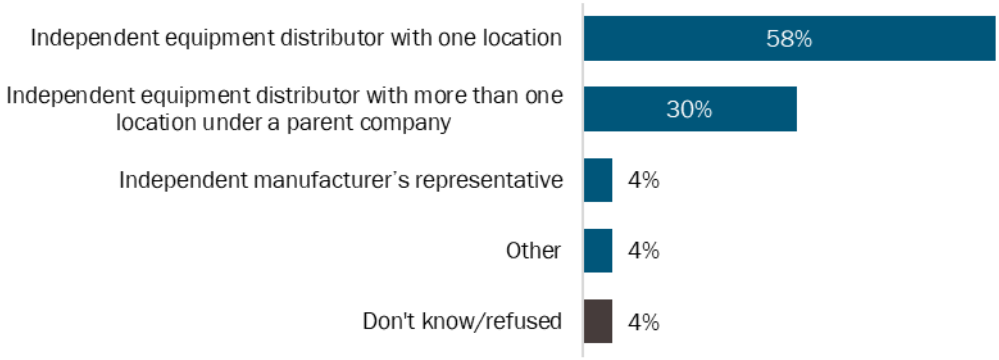


Table F-1 displays the number of full- and part-time employees at the distributors' companies. More than one-third (34%) of distributors were affiliated with companies with between one and five full-time positions, and nearly one-fifth (18%) were affiliated with companies that had 6 to 10 full-time positions. The average number of full-time employees among distributors' companies was 28. More than one-third of respondents (36%) reported that their company had part-time positions, with an average of two.

Table F-1: Distributors' Full- and Part-Time Employees (n=50)

Number of Employees	Full-Time	Part-Time
0	0%	8%
1 to 5	34%	36%
6 to 10	18%	0%
11 to 25	12%	0%
26 to 99	8%	0%
100+	8%	0%
Don't know/refused	20%	56%
Average	28	2

The distribution of the respondents' company's age is presented in Figure F-6. Over one-fourth (28%) were affiliated with companies that have been in business for ten or fewer years, while three-fifths (60%) were affiliated with companies that have been in business for 11 years or more.

Figure F-6: Distributors' Company Age (n=50)

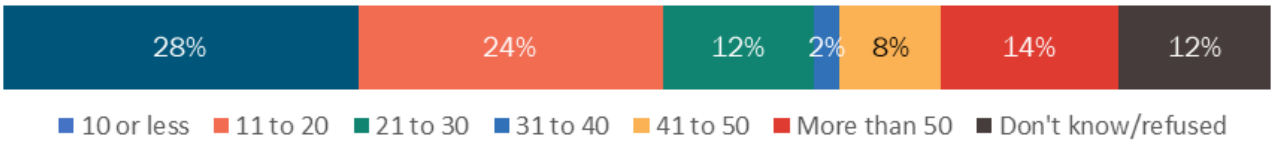
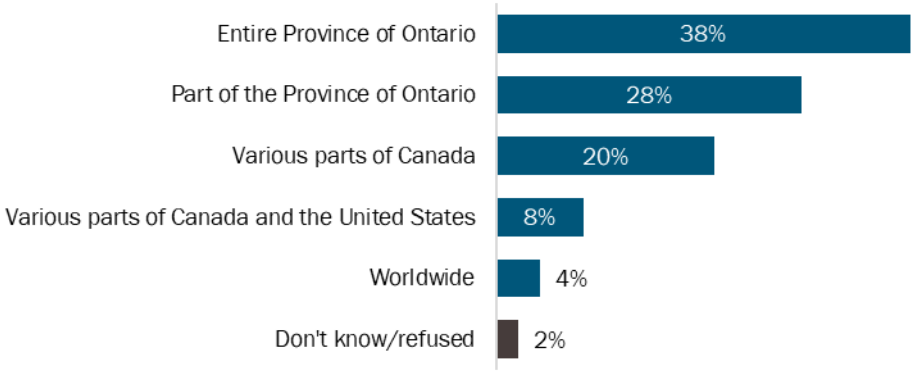


Figure F-7 displays the geographic regions distributors' sales covered. Nearly two-fifths (38%) of distributors covered the *entire* Province of Ontario. A little over one-fourth (28%) of distributors covered *parts* of the Province of Ontario, namely the Greater Toronto Area (eight distributors), Southern Ontario (three distributors), Southeastern Ontario (one distributor), Ottawa (one distributor), and Niagara (one distributor). One-fifth (20%) of distributors covered various parts of Canada, and nearly one-tenth (8%) covered various parts of Canada and the United States.

Figure F-7: Geographic Regions Distributors Cover (n=50)

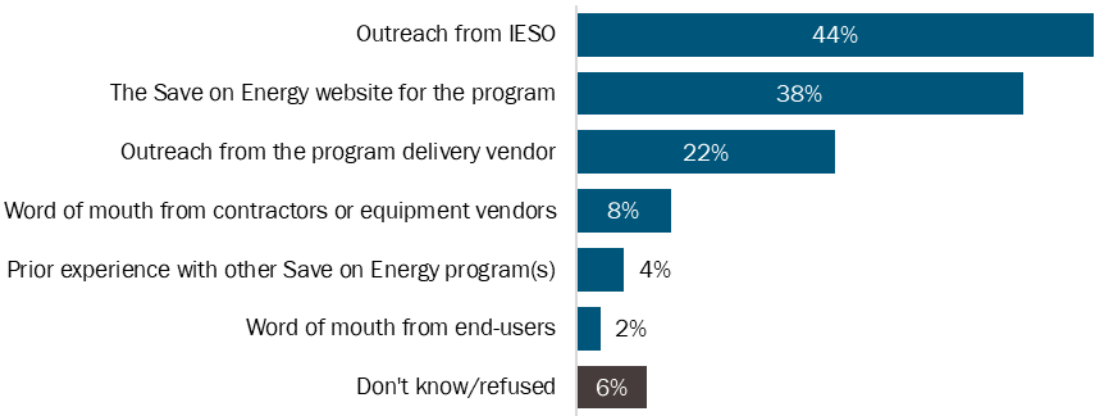


Program Awareness

Distributors reported how they became aware of the Instant Discount Program (Figure F-8). They most commonly heard about the program via outreach from IESO (44%) or the Save on Energy website for the program (38%). Around one-fifth of distributors (22%) learned about the program from the program delivery vendor. Less commonly, distributors learned about the program from contractors or equipment vendors (8%), prior experience with other Save on Energy programs (4%), or end-users (2%). Section 6.2.3 includes an additional discussion regarding distributor program awareness.

Figure F-8: How Distributors Became Aware of Program

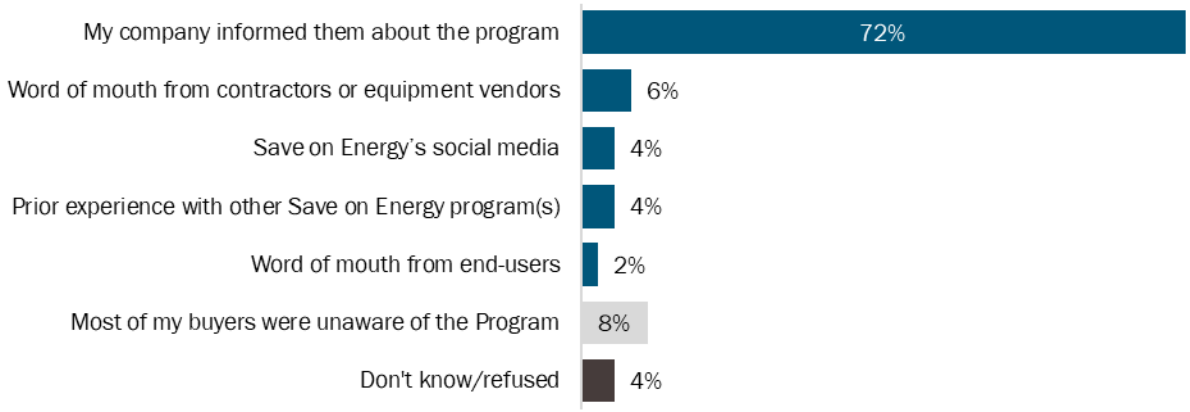
(Open-ended and multiple responses allowed; n=50)*



*Does not sum to 100% due to multiple responses.

Respondents reported the primary ways that their buyers heard about the Instant Discount Program prior to purchasing incentivized equipment (Figure F-9). Nearly three-fourths of distributors (72%) reported that their company informed buyers about the program. Less than one-tenth of distributors said buyers became aware of the program through contractors or equipment vendors (6%), Save on Energy's social media (4%), prior experience with other Save on Energy program(s) (4%), or from end-users (2%). Around one-tenth of distributors (8%) said their buyers were unaware of the program. Section 6.2.3 includes an additional discussion regarding distributor awareness.

Figure F-9: How Buyers Became Aware of Program (n=50)

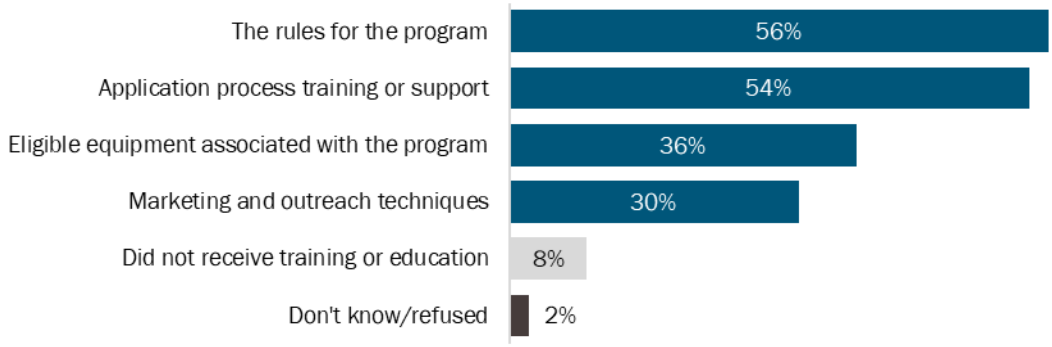


Training and Education

Most distributors (90%) reported receiving some type of training and education in support of the Instant Discount Program. Over one-half of distributors received training on the program rules (56%) or the application process (54%), as shown in Figure F-10. Around one-third of respondents received training on eligible equipment associated with the program (36%) or marketing and outreach techniques (30%). Around one-tenth of respondents (8%) indicated they had not received any training at all. Section 6.2.4 includes an additional discussion regarding training and education.

Figure F-10: Types of Training Received by Distributors

(Open-ended and multiple responses allowed; n=50)*

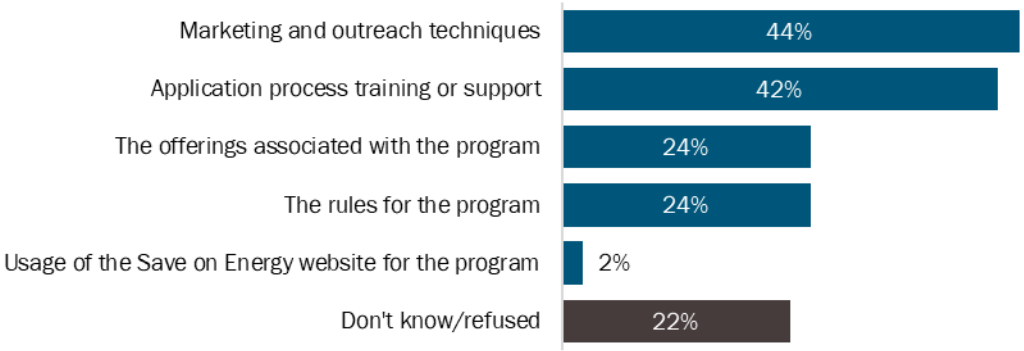


*Does not sum to 100% due to multiple response.

Distributors were asked what type of additional training or education would help support their future work with the Instant Discount Program. As shown in Figure F-11Figure , distributors most often suggested marketing and outreach techniques (44%) or application process training or support (42%). In addition, around one-fourth of distributors recommended the offerings associated with the program (24%) or program rules (24%). Section 6.2.4 includes an additional discussion regarding training and education.

Figure F-11: Training and Education Topics Recommended by Distributors

(Open-ended and multiple responses allowed; n=50)*



*Does not sum to 100% due to multiple response.

Program Incentives

Distributors rated the role the incentives played on their decision to participate in the Instant Discount Program on a scale of 1 to 5, where 1 is "no role at all" and 5 is "a great role." As shown in Figure F-12, the incentives were highly influential as most distributors said they played a "great" (52%) or "very large" (38%) role in their decision to participate. Section 6.2.5 includes an additional discussion regarding the program incentives.

Figure F-12: Role of Incentive in Decision to Participate (n=50)

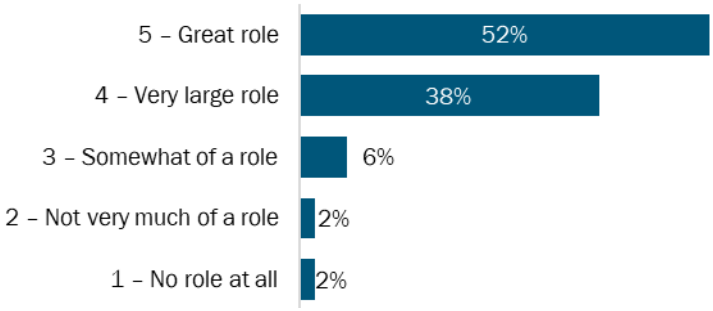
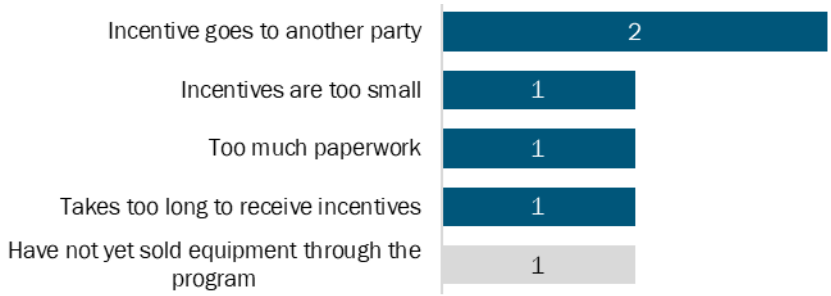


Figure F-13 displays reasons given by the few distributors who indicated the incentives did not play a large role in their decision to participate. Two distributors stated the incentive goes to another party and one distributor each stated the incentives were too small, there was too much paperwork involved, or it takes too long to receive incentives. Lastly, one distributor explained that they had not yet sold equipment through the program.

Figure F-13: Why Incentive Was Not Influential in Distributor Decision to Participate

(Open-ended and multiple responses allowed; n=5)*



*Counts displayed rather than percentage due to small n. Does not sum to 5 due to multiple responses.

Respondents were asked to provide the average percentage of the incentive they received that was passed through to the contractors and end-users. As shown in Table F-2, distributors passed through approximately the same percentage of the incentive to contractors as to end-users: on average, distributors passed through 76% to contractors and

77% to end-users. A little over one-fifth (22%) of distributors passed through the full incentive to contractors, while nearly one-fourth (24%) passed through the full incentive to end-users.

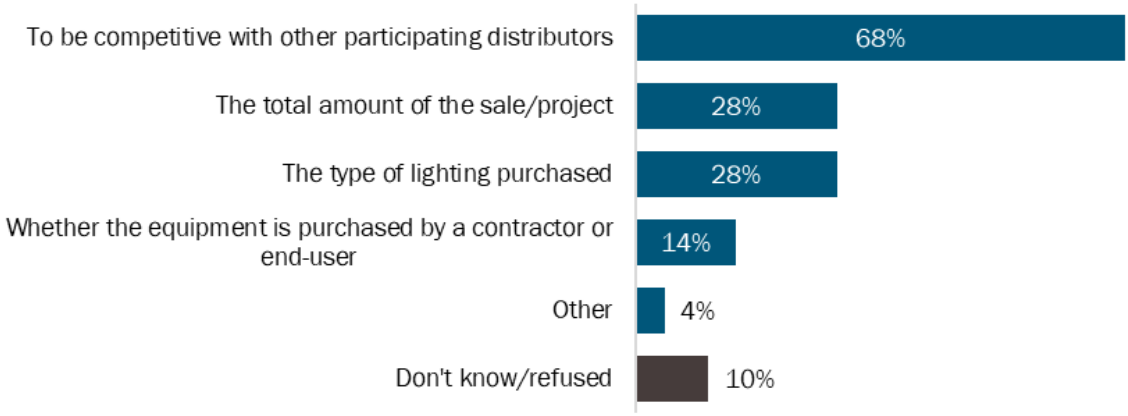
Table F-2: Percentage of Incentive Passed Through to Contractors and End-Users (n=50)

Percentage of Incentive Passed Through	To Contractor	To End-User
100%	22%	24%
76-99%	32%	30%
51-75%	20%	26%
26-50%	4%	2%
1-25%	4%	4%
0%	2%	0%
Don't know/refused	16%	14%
Average	76%	77%

Figure F-14 displays which factors influence how much of the incentive distributors pass through to contractors and end-users. The most common factor, mentioned by over two-thirds (68%) of distributors, was the desire to be competitive with other distributors participating in the Instant Discount Program. Other influential factors include the total amount of the sale or project (28%), the type of lighting purchased (28%), and whether the equipment was purchased by a contractor or end-user (14%).

Figure F-14: Factors that Influence Percentage of Incentive Passed Through

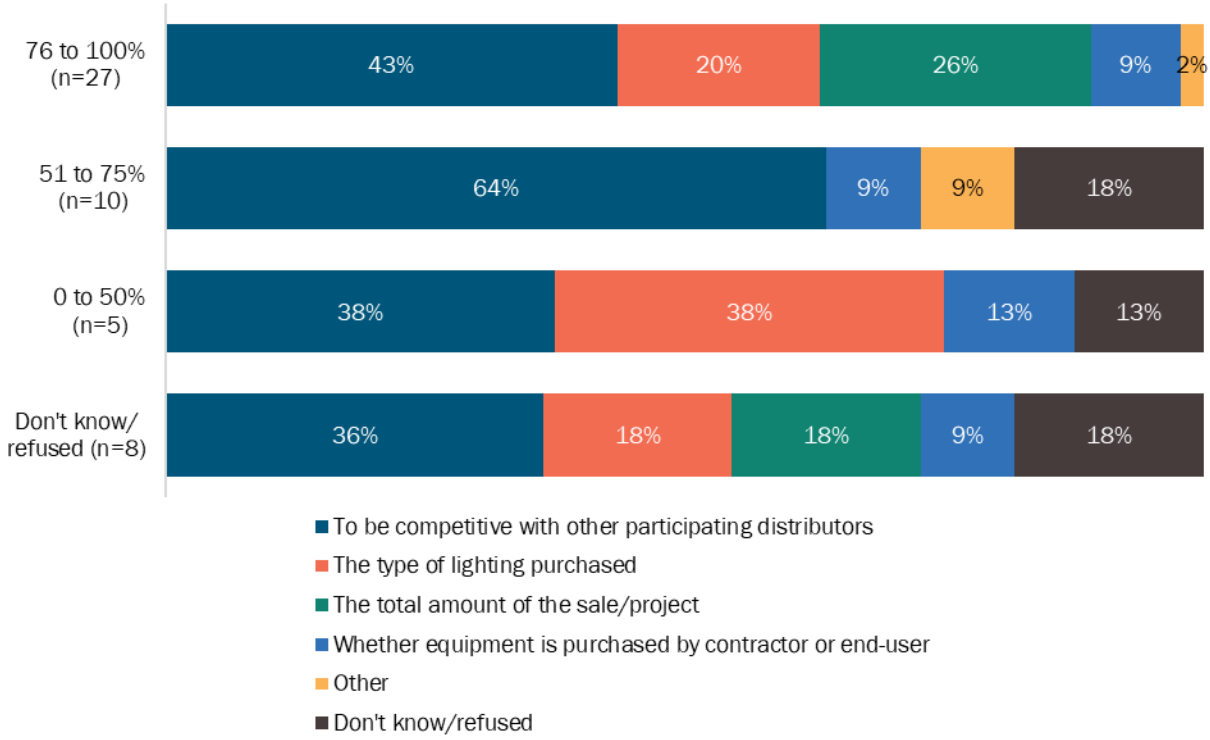
(Open-ended and multiple responses allowed; n=50)*



*Does not sum to 100% due to multiple responses.

Figure F-15 displays the *factors* influencing the amount of the passthrough to contractors by *ranges of average passthrough amounts*. The desire to be competitive with other participating distributors was a primary factor regardless of the percentage passed through.

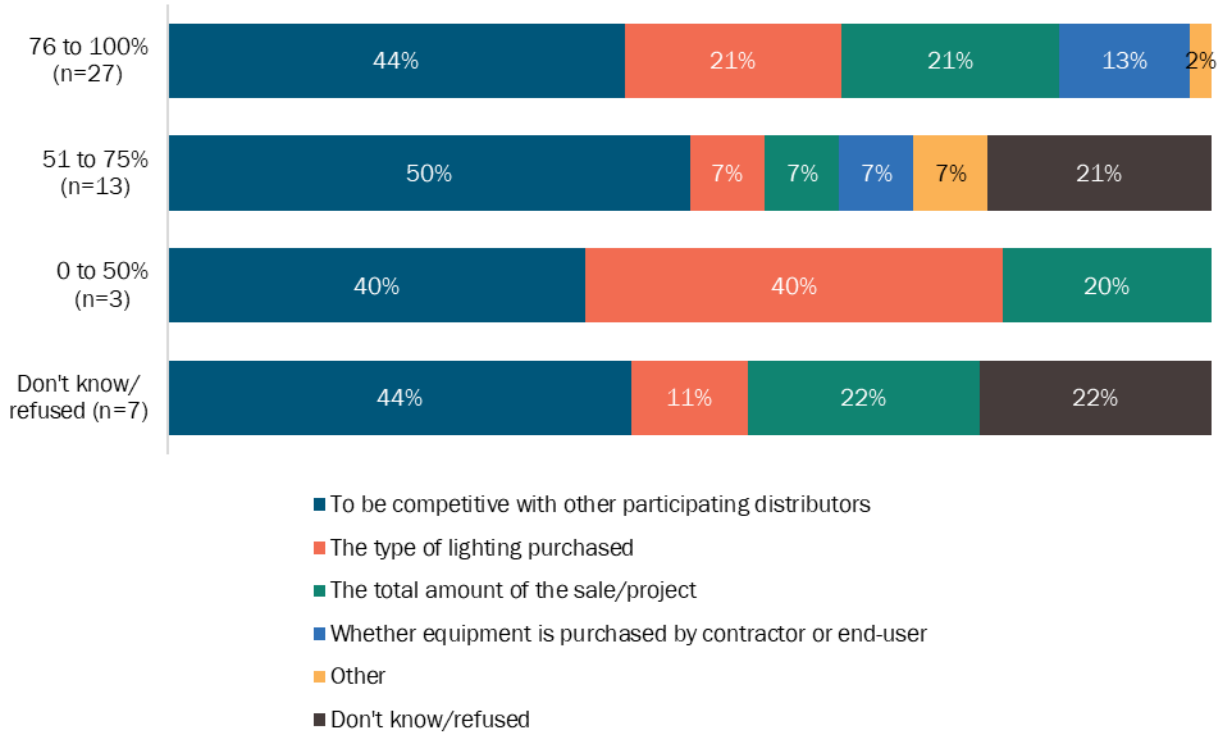
Figure F-15: Percentage of Incentive Passed Through to Contractors by Influential Factors (n=50)*



*May not sum to 100% due to rounding.

Figure F-16 displays the *factors* influencing the amount of the passthrough to end-users by *ranges of average passthrough amounts*. As seen with contractors, the desire to be competitive with other participating distributors was the primary factor regardless of the percentage passed through.

Figure F-16: Percentage of Incentive Passed Through to End-Users by Influential Factors (n=50)*

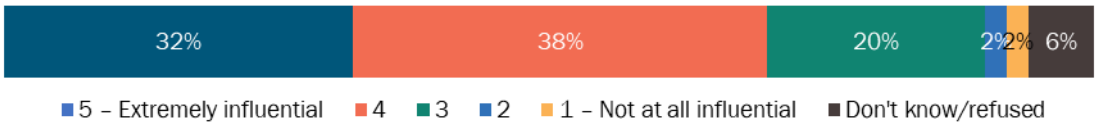


*May not sum to 100% due to rounding.

Influence of Distributors

Distributors rated their own influence on buyers' decision-making regarding energy-efficient commercial lighting equipment on a scale of 1 to 5, where 1 is "not at all influential" and 5 is "extremely influential." As shown in Figure F-17, most distributors gave a rating of 4 (38%) or 5 (32%), suggesting distributors believe they are influential in buyers' decision making. Section 6.2.6 includes an additional discussion regarding the influence of distributors.

Figure F-17: Distributor Influence on Buyer's Decision-Making (n=50)



Program Barriers

Distributors were asked to identify the barriers they thought prevented more distributors from participating in the Instant Discount Program (Figure F-18). Nearly one-half (46%) of distributors said that other distributors did not think the incentives were worth the trouble of participating, while over one-third (36%) supposed it was because participating was not a business priority. Around one-tenth of distributors mentioned supply chain constraints (14%) or lack of awareness about the program (10%). One-tenth of distributors (10%) did not believe there were any barriers to program participation. Section 6.2.7 includes an additional discussion regarding the program incentives.

Figure F-18: Barriers to Distributor Participation

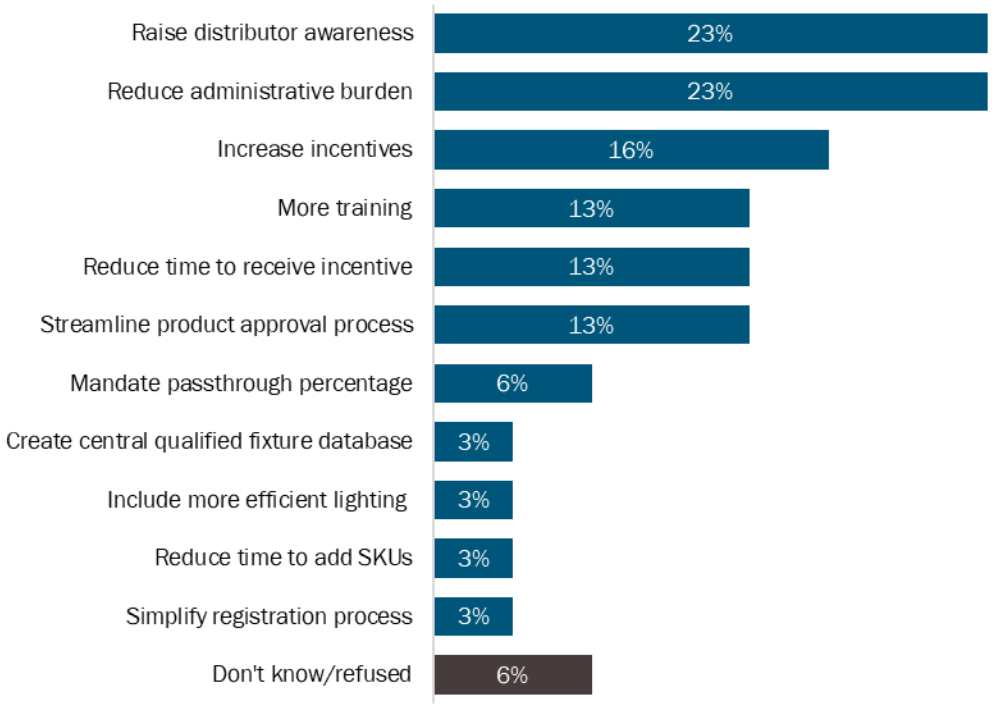
(Open-ended and multiple responses allowed; n=50)*

*Does not sum to 100% due to multiple responses.

Figure F-19 provides a full list of suggestions to overcome participation barriers, as reported by distributors who had identified one or more barriers. Respondents most commonly suggested raising distributor awareness of the program (23%) or reducing the administrative burden (23%). Other suggestions included increasing the incentives (16%), providing more training (13%), reducing the time to receive incentives (13%), and streamlining the product approval process (13%).

Figure F-19: Suggestions to Overcome Participation Barriers

(Open-ended and multiple responses allowed; n=31)*



*Does not sum to 100% due to multiple responses.

Program Scalability

Distributors were asked if there is other equipment they sell that would benefit from an upstream program delivery model. This question solicited a wide range of responses from ten distributors which are displayed in Table F-3. The most commonly mentioned equipment types were variable frequency drives (VFDs, mentioned by three distributors), followed by building automation systems and HVAC equipment (mentioned by two distributors each). Section 6.2.8 includes an additional discussion regarding the program incentives.

Table F-3. Recommended Equipment Types for Midstream Delivery Model

(Open-ended and multiple responses allowed; n=10)*

Additional Equipment Types Recommended	Count of Respondents
VFDs	3
Building automation systems	2
HVAC equipment	2
Cables and wires	1
Compressors	1
Electric car chargers	1
ENERGY STAR exhaust fans	1
Floor heating	1
GFIs	1
Heat pumps	1
Motor controls	1
Sensors	1
Smoke and heat detectors	1
Snow-melting systems	1
Soft starters	1
Software modelling	1
Transformers	1

*Counts displayed rather than percentage due to small n. Does not sum to 10 due to multiple responses.

Program Experience and Improvement Suggestions

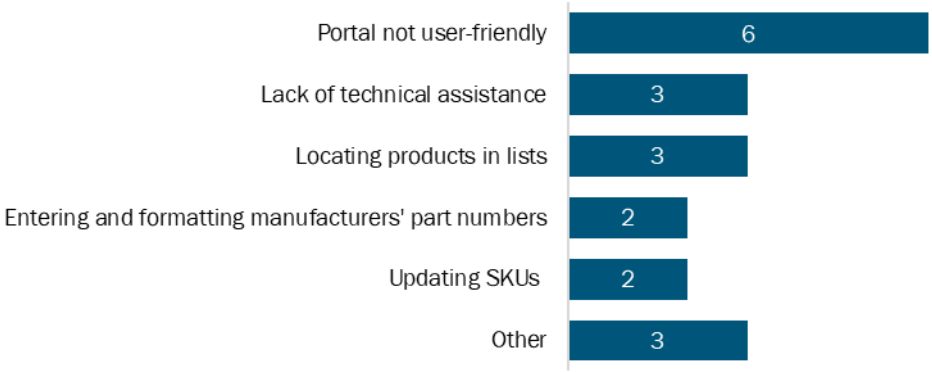
Distributors found the administrative process associated with the Instant Discount Program to be relatively easy. Figure F-20 shows that over four-fifths (82%) of distributors assigned a rating of 3 or above on a scale of 1 to 5, where 1 is "not at all easy" and 5 is "extremely easy." Section 6.2.9 includes an additional discussion regarding the ease of the administration process.

Figure F-20: Ease of Administrative Process (n=50)

Distributors who assigned a rating of 2 or below on the 1 to 5 scale were asked which aspects of the administrative process were not as easy to address. Figure F-21 shows that six distributors found the application portal not to be user-friendly, three distributors said technical assistance was lacking, and another three had experienced difficulty locating products in lists.

Figure F-21: Aspects of Administrative Process that Were not Easy

(Open-ended and multiple responses allowed; n=9)*



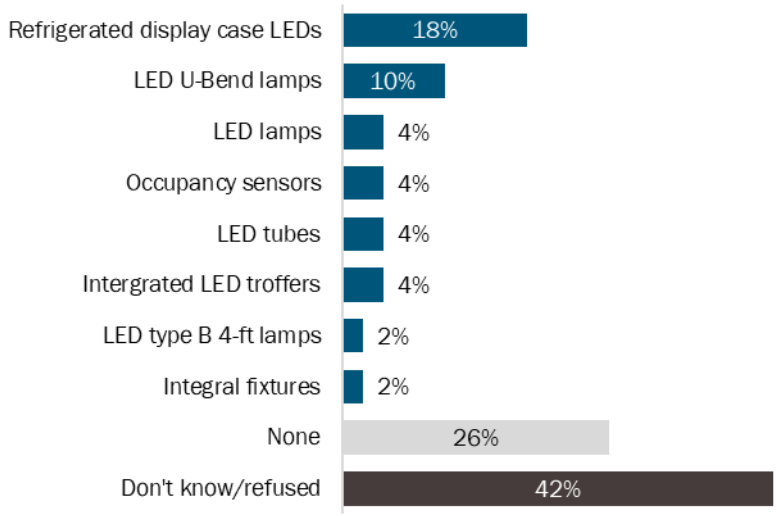
* Counts displayed rather than percentage due to small n. Does not sum to 9 due to multiple response.

Distributors were asked what, if any, commercial lighting types experienced lower uptake than they would have expected. Around one-third (32%) of distributors mentioned one or more commercial lighting types with lower-than-expected uptake and about one-fourth (26%) of respondents said they did not notice any such equipment. Figure F-22 shows that around one-fifth of distributors (18%) mentioned refrigerated display case LEDs, and one-tenth (10%) of distributors said LED U-bend lamps had lower uptake than expected.

Distributors' suggestions for increasing uptake for these measures are displayed in Figure F-23, and include increasing the incentive (seven distributors), promoting benefits to customers on bills (one distributor), and not reducing the incentive (one distributor). Section 6.2.9 includes an additional discussion regarding equipment that experienced lower than expected uptake.

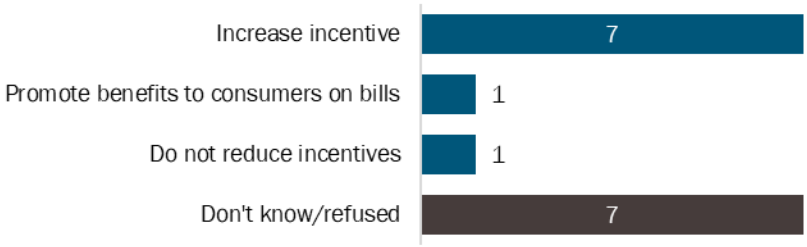
Figure F-22: Lighting Types with Lower Uptake

(Open-ended and multiple responses allowed; n=50)*



*Does not sum to 100% due to multiple responses.

Figure F-23: Suggestions for Increasing Uptake (n=16)*



*Counts displayed rather than percentage due to small n.

Two-thirds (66%) of distributors recommended additional energy-efficient commercial lighting equipment or services for inclusion in the program (Table F-4). Among these 33 distributors, the most common recommendation was exterior lighting (70%). In addition, two distributors recommended canopy lighting and two recommended lighting controls. Section 6.2.9 includes an additional discussion regarding equipment and services that distributors recommend for inclusion in the program.

Table F-4. Additional Equipment and Services Recommended

(Open-ended and multiple responses allowed; n=33)*

Additional Equipment and Services Recommended	Percent of Respondents
Exterior lighting	70%
Canopy lighting	6%
Lighting controls	6%
Emergency exit lighting	3%
A19 bulbs	3%
Advanced LED retrofit kits	3%
Energy audits	3%
Flood lights	3%
Generation One - Five LED replacements	3%
HID replacement lamps	3%
Horticulture lights	3%
Installation services	3%
Lighting design consultations	3%
Networked lighting controllers & switches	3%
Residential lighting	3%
Smart lighting controls	3%
Track lighting	3%

*Does not sum to 100% due to multiple responses.

Around one-half (52%) of distributors offered additional suggestions for improving the Instant Discount Program; these are displayed in Table F-5. Over one-third (35%) of these 26 distributors suggested reducing the amount of time it takes to receive the incentive, followed by making the application portal more user-friendly (27%), mandating the

passthrough percentage (12%), publishing eligible products (12%), and improving technical assistance (8%).

Table F-5: Additional Program Improvement Suggestions

(Open-ended and multiple responses allowed; n=26)*

Program Improvement Suggestions	Percent of Respondents
Reduce time to receive incentive	35%
Make portal more user-friendly	27%
Mandate passthrough percentage	12%
Publish eligible products	12%
Improve technical assistance	8%
Add 'Same as Bill to' button after 'Bill to'	4%
Add more distributors	4%
Additional incentive for DarkSky rated	4%
Cater to Canadian contractor market	4%
Correct misclassified fixtures	4%
Ensure incentive goes to end-user	4%
Exclude small, low-quality distributors	4%
Extend program renewal from 1 to 3 years	4%
Extend installation time from 3 to 9 months	4%
Improve communication	4%
Incentivize distributors based on their participation	4%
Increase incentives	4%
Make product lists searchable	4%
Reduce time to add SKUs	4%
Shift administration from distributors to vendors	4%
Streamline process for submitting projects	4%
Subsidize equipment installation	4%

*Does not sum to 100% due to multiple responses.

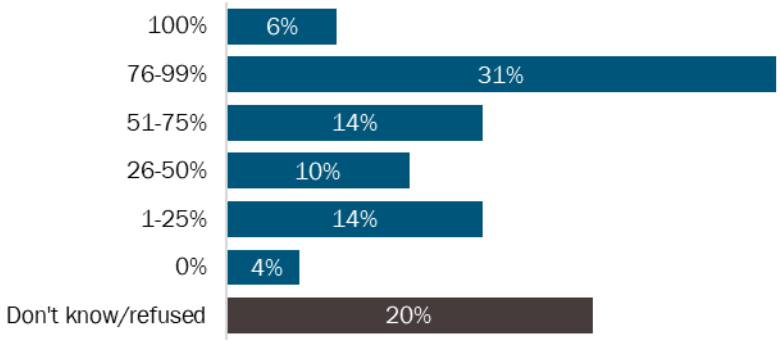
F.2 Additional Distributor Net-to-Gross Results

This section includes detailed NTG results associated with Instant Discount Program distributors.

Stocking Influence

Distributors were asked to share the percentage of commercial lighting equipment their companies sold that was from the stock they maintained. Figure F-24 shows that nearly two-fifths (37%) of distributors said more than 75% of their commercial lighting sales were from stock they maintained, while another two-fifths (42%) said that 75% of their sales or fewer were from their stock. On average, 61% of the commercial lighting equipment that distributors sold was from the stock they maintained.

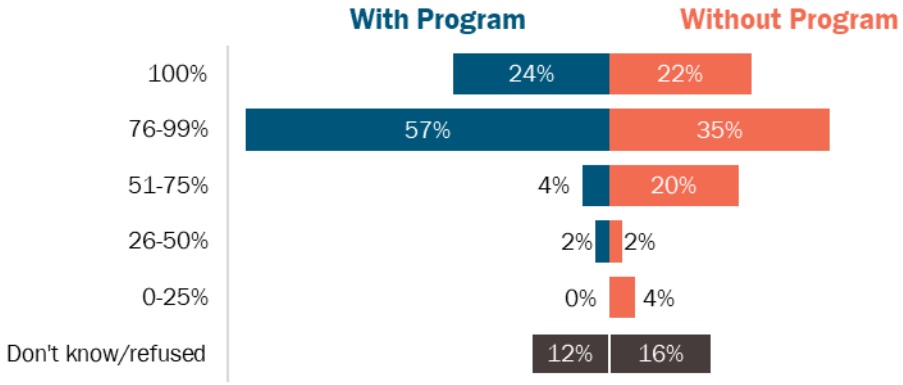
Figure F-24: Percent of Commercial Lighting Sales from Distributor Stock (n=49)*



*Does not sum to 100% due to rounding.

Distributors were asked to share what percentage of their stocked commercial lighting equipment is high efficiency.[23] Next, they were asked to estimate the percentage of the stocked commercial lighting equipment that would be high efficiency in the absence of the program. Figure F-25 displays the distribution of distributors' responses, the averages of which were 92% with the program, and 81% without the program.

Figure F-25: Percent of Distributor Stock that Is High Efficiency (n=49)*



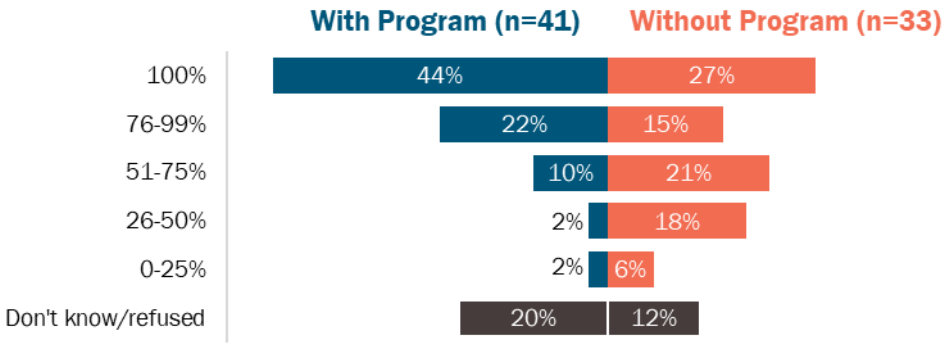
*May not sum to 100% due to rounding.

[23] Respondents were provided the following definition of high efficiency: general purpose and specialty ENERGY STAR or Design Lights Consortium (DLC) qualified lighting products.

Upselling Influence

Most (84%) distributors said that the Instant Discount Program incentives influenced the efficiency level that their sales staff recommended to commercial lighting equipment buyers. These distributors were asked to share the percentage of time their company's sales staff recommend high-efficiency lighting to buyers. Next, they were asked to estimate the percentage of time their company's sales staff would recommend high-efficiency lighting in the absence of the program. Figure F-26 displays the distribution of distributors' responses, the averages of which were 91% with the program, and 72% without the program.

Figure F-26: Percent of Time Staff Recommend High Efficiency Equipment*

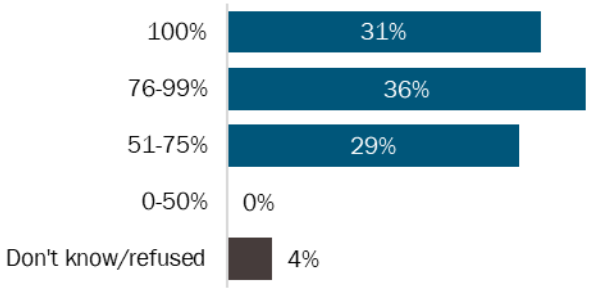


*May not sum to 100% due to rounding. Different n's because 8 respondents who said "don't know/refused" to the first question (n=41) were excluded from the next question (n=33).

Pricing Influence

Most (92%) distributors said the program incentive affected the final price paid by the buyer. These distributors were asked to share the average percentage of the incentive that was passed through to the buyer. As shown in Figure F-27, nearly one-third (31%) of these distributors said that 100% of the incentive was passed through to the buyer, just over one-third (36%) said 76% to 99% was passed through to the buyer, and less than one-third (29%) said 51% to 75% was passed through to the buyer. The average percentage passed through to the buyer was 83%.

Figure F-27: Percentage of Incentive Passed Through to Buyer (n=45)



Counterfactual Net-to-Gross

Distributors were asked for the percentage of their company's total commercial lighting sales that were represented by program-eligible equipment. Next, they were asked for the percentage of their commercial lighting sales that actually received program incentives. Table F-6 displays the distribution of distributors' responses. On average, 67% of distributors' commercial lighting sales were *eligible* for program incentives, while 59% of sales *received* program incentives.

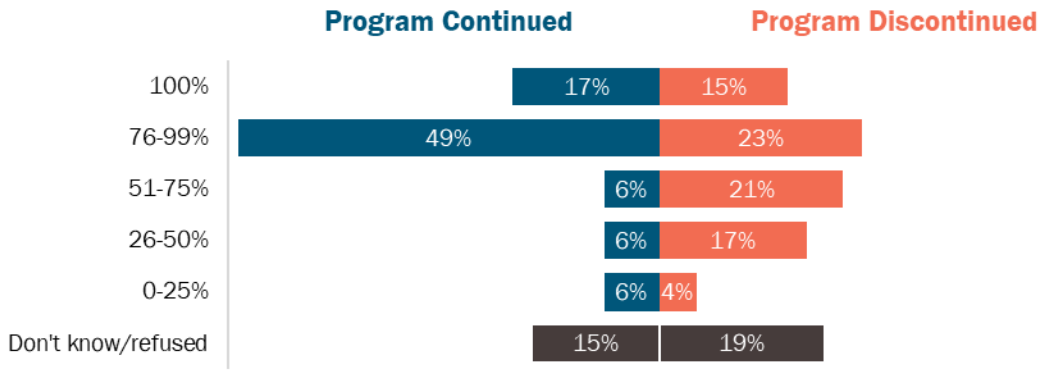
Table F-6: Percent of Sales Eligible for and Received Program Incentives (n=49)*

Percent of Sales	Eligible for the Program	Received Program Incentives
100%	4%	10%
76-99%	29%	17%
51-75%	8%	15%
26-50%	14%	17%
1-25%	8%	17%
0%	0%	0%
Don't know/refused	37%	25%
Average	67%	59%

*May not sum to 100% due to rounding.

Distributors were asked to estimate the percentage of their company's total 2025 commercial lighting sales they would expect to be high efficiency if the Instant Discount Program continued to be offered. Next, they were asked to estimate the percentage of 2025 sales that they would expect to be high efficiency if the program was discontinued at the end of 2024. Figure F-28 displays the distribution of distributors' responses, the averages of which were 83% with the program, and 72% without the program.

Figure F-28: Estimated High Efficiency Sales with and without Program (n=47)*



* May not sum to 100% due to rounding.

F.3 Additional Contractor Process Results

Firmographics

Respondents were asked various questions about their business characteristics. Table F-7 displays the number of full- and part-time employees who work at the respondents' companies. About one-half (45%) of respondents were affiliated with companies with between one and five full-time employees, and nearly one-fifth (15%) were affiliated with companies that had between six and ten full-time employees. One-fourth (25%) of respondents worked at companies with part-time staff. Almost one-fourth (23%) of respondents said their company has one to five part-time employees.

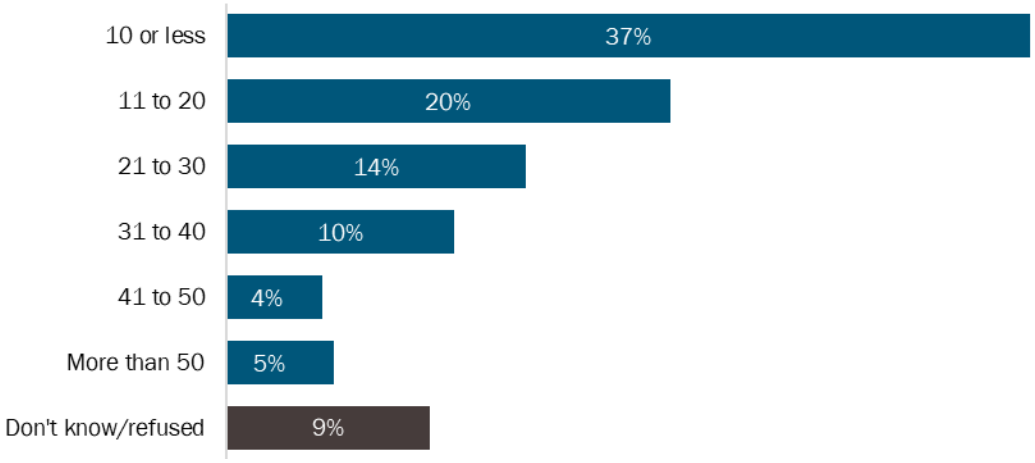
Table F-7: Distributors' Full- and Part-time Employees (n=182)*

Number of Employees	Full-Time	Part-Time
0	-	8%
1-5	45%	23%
6-10	15%	1%
11-25	10%	1%
26-99	2%	-
100+	3%	-
Don't know / refused	25%	68%

*May not sum to 100% due to rounding.

The breakdown of the respondents' company age is presented in Figure F-29. Figure F-29: Distributors' Company Age (n=182)More than one-third (37%) of respondents were affiliated with companies that have been in business for 10 or less years and close to one-half (48%) of respondents were affiliated with companies that have been in business between 11 and 50 years. Less than one-tenth (5%) of respondents were affiliated with companies that have been in business for more than 50 years.

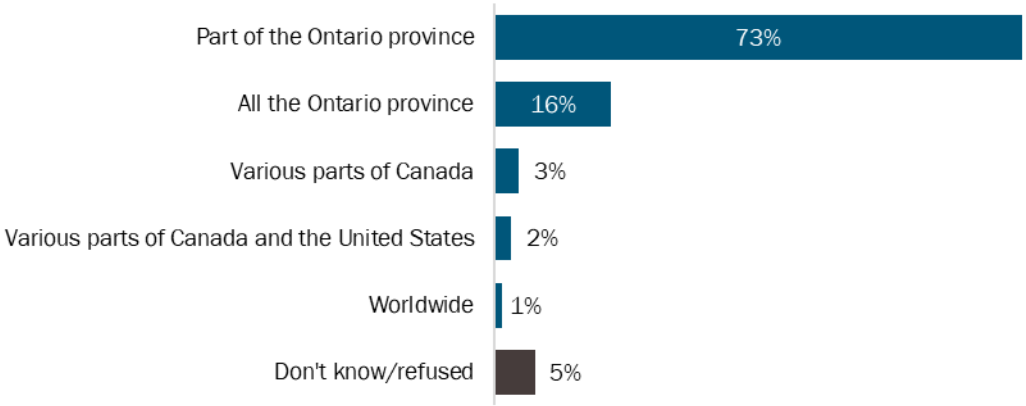
Figure F-29: Distributors' Company Age (n=182)*



*Does not sum to 100% due to rounding.

Contractors reported which geographic regions are covered by their company's sales. (Figure F-30). Most commonly, respondents reported that their company's sales cover *part* of Ontario (73%). Almost one-fifth (16%) of respondents reported that their company's sales cover the *entire* province of Ontario.

Figure F-30: Geographic Sales Regions Covered by Distributor (n=182)



Respondents who indicated that their company's sales cover *part* of the Province of Ontario were asked which parts they primarily cover (Table F-8). Around one-fourth (27%) of respondents indicated that their company's sales cover the Greater Toronto Area. More than one-tenth of respondents reported that their company's sales cover the Southwestern Ontario region (15%) or Southern Ontario (11%).

Table F-8: Geographic Sales Regions Within Ontario Province

(Open-ended and multiple responses allowed; n=132)*

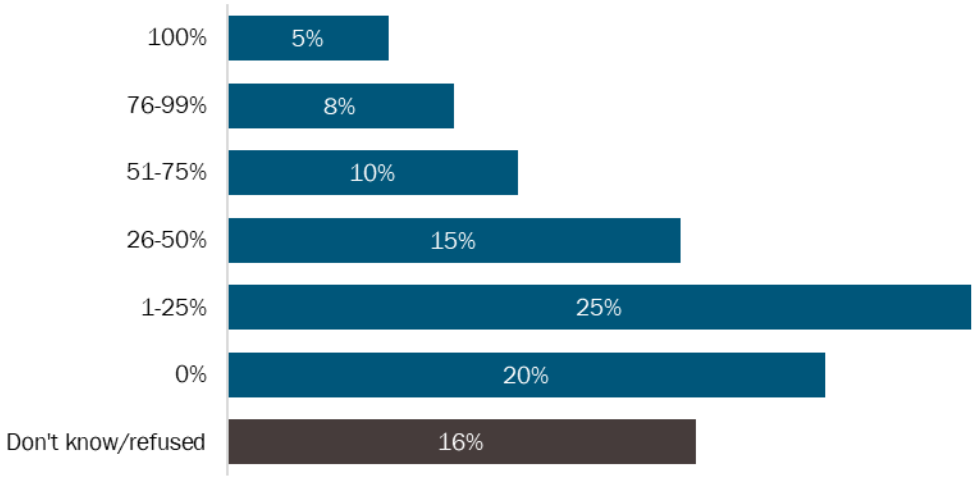
Parts of Ontario	Percent of Respondents
Greater Toronto Area	27%
Southwestern Ontario	15%
Southern Ontario	11%
Ottawa	8%
Eastern Ontario	5%
Southeastern Ontario	5%
Greater Toronto Area and Golden Horseshoe	2%
Greater Toronto Area and Niagara	2%
Grey and Bruce Counties	2%
Niagara	2%
Northeastern Ontario	2%
Central and Eastern Ontario	2%
Central Ontario	2%
Lambton County	2%
London	2%
Northern Ontario	2%
Belleville and Kingston	1%
Central and Southwestern Ontario	1%
Essex and Kent counties	1%
Essex County	1%
Golden Horseshoe	1%
Guelph	1%
Hamilton	1%
Kitchener	1%
North Bay	1%
Northwestern Ontario	1%
Oakville	1%
Peterborough County	1%
Wellington County	1%

*Does not sum to 100% due to multiple response.

Equipment Choices

Contractors were asked how often the commercial lighting equipment they purchase for a customer is pre-specified by someone outside of their firm (Figure F-31). One-fourth (25%) of respondents reported that the lighting is pre-specified 1% to 25% of the time. About one-fourth (23%) of respondents reported that someone outside the firm selected the lighting equipment more than 50% of the time. One-fifth (20%) of respondents indicated that the lighting is never pre-specified by someone outside their firm. Section 6.3.2 includes an additional discussion regarding contractor equipment choices.

Figure F-31: Percentage of Time that Commercial Lighting Equipment is Pre-Specified (n=182)*



*Does not sum to 100% due to rounding.

Respondents who indicated that commercial lighting equipment is not always pre-specified by someone outside of their firm were asked how often their company, the customer, or both parties have the most significant influence on what type of commercial lighting is eventually installed (Table F-9). On average, contractors reported that they have the most influence about one-half (56%) of the time and the customer has the most influence about one-fourth (23%) of the time. The contractor and customer are both influential about one-fifth (21%) of the time. About one-third (36%) of respondents stated the customer has the most influence 1% to 25% of the time and that the contractor and customer have equal influence none of the time (36%).

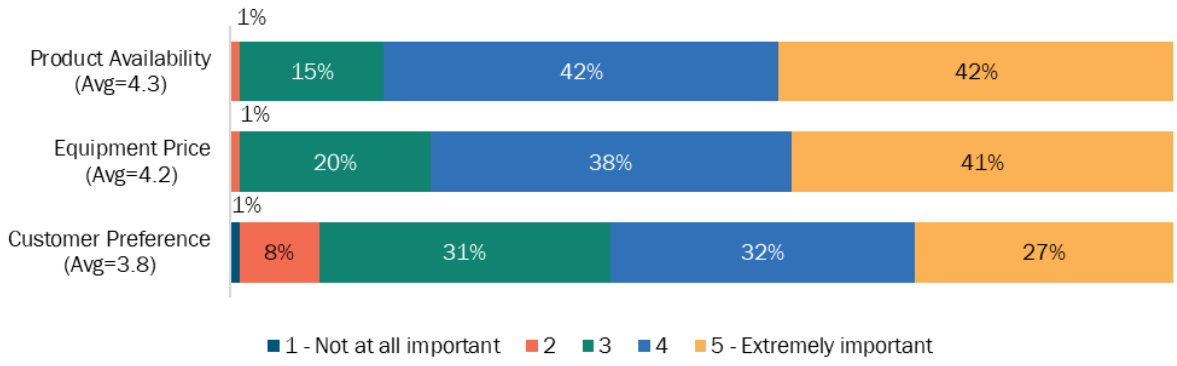
Table F-9: Contractor and Customer Influence over Commercial Lighting Choices (n=143)*

Percent of Time	Contractor Has Most Influence	Customer Has Most Influence	Contractor & Customer Have Equal Influence
100%	14%	2%	5%
76-99%	17%	5%	1%
51-75%	14%	1%	1%
26-50%	21%	17%	21%
1-25%	16%	36%	27%
0%	9%	30%	36%
Don't know/refused	8%	8%	8%
Average	56%	23%	21%

*May not sum to 100% due to rounding.

Respondents who indicated that commercial lighting equipment is not always pre-specified by someone outside of their firm were also asked to rate the importance of product availability, equipment price, and customer preference on the choices they offer to the customer. Respondents used a scale of one to five, where one indicates "not at all important" and five indicates "extremely important." As shown in Figure F-32, most respondents (84%) indicated that product availability is very or extremely important. Similarly, about three-fourths (79%) of respondents indicated that the price of the equipment is very or extremely important. Fewer respondents (59%) indicated that customer preference is very or extremely important.

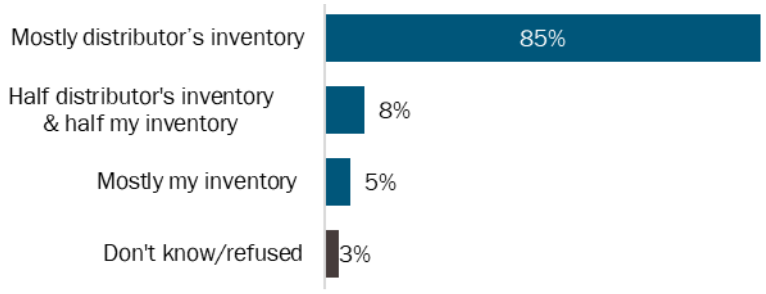
Figure F-32: Importance of Product Availability, Equipment Price, and Customer Preference on the Choices that Contractors Offer Customers (n=143)*



*May not sum to 100% due to rounding.

Contractors were asked if their sales come out of their own inventory or out of a distributor's inventory (Figure F-33). Most respondents (85%) indicated that their sales mostly come out of a distributor's inventory. Few respondents indicated that half of their sales come out of their own inventory (8%) or most of their sales come out of their own inventory (5%).

Figure F-33: Source of Distributor and Contractor Sales (n=182)*



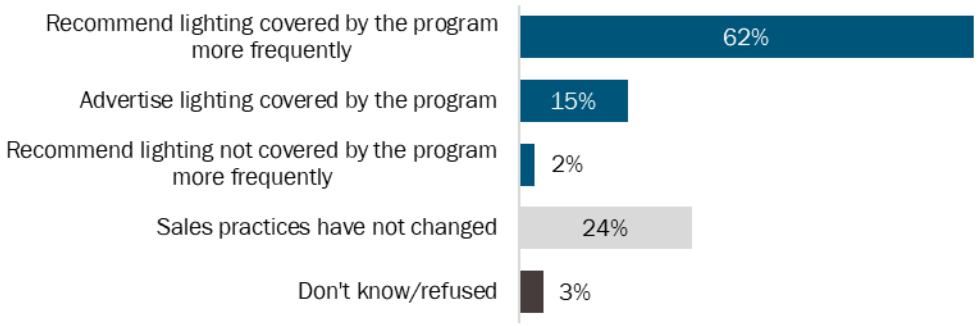
*May not sum to 100% due to rounding.

Sales Background

Contractors were asked how their company's sales practices have changed since purchasing equipment that was discounted through the program (Figure F-34). About two-thirds (62%) of respondents indicated that they now recommend lighting covered by the program more frequently and nearly one-fifth (15%) indicated that they now promote or advertise equipment covered by the program. About one-fourth (24%) of respondents reported that their sales practices have not changed since participating in the program. Section 6.3.3 includes an additional discussion regarding contractor sales background.

Figure F-34: Changes in Company Sales Practices

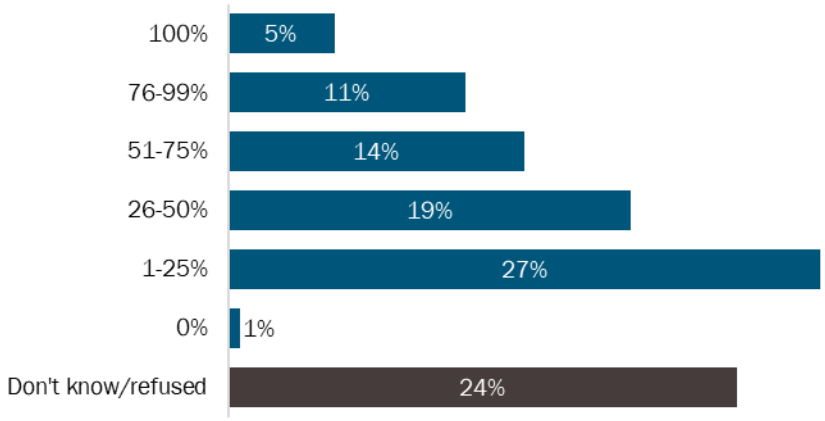
(Open-ended and multiple responses allowed; n=182)*



*Does not sum to 100% due to multiple response.

Contractors also reported what percentage of their company's total commercial lighting-related sales were represented by lighting equipment that was *eligible* for the Instant Discount Program in 2024, regardless of whether the equipment was discounted through the program (Figure F-35). Close to one-third (30%) of respondents indicated that 51% or more of their total commercial lighting-related sales were *eligible* for the program.

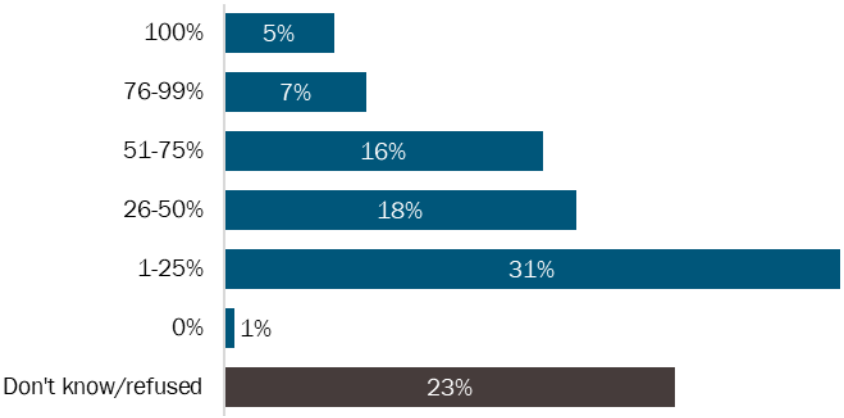
Figure F-35: Commercial Lighting Sales Represented by Program-Eligible Equipment (n=182)*



*May not sum to 100% due to rounding.

Contractors reported how much of their company's total commercial lighting-related sales were represented by lighting equipment that was discounted through the Save on Energy Instant Discount Program in 2024 (Figure F-36). Over one-fourth (28%) of respondents indicated that 51% or more of their total commercial lighting-related sales were discounted for the program.

Figure F-36: Commercial Lighting Sales Discounted through the Program (n=182)*



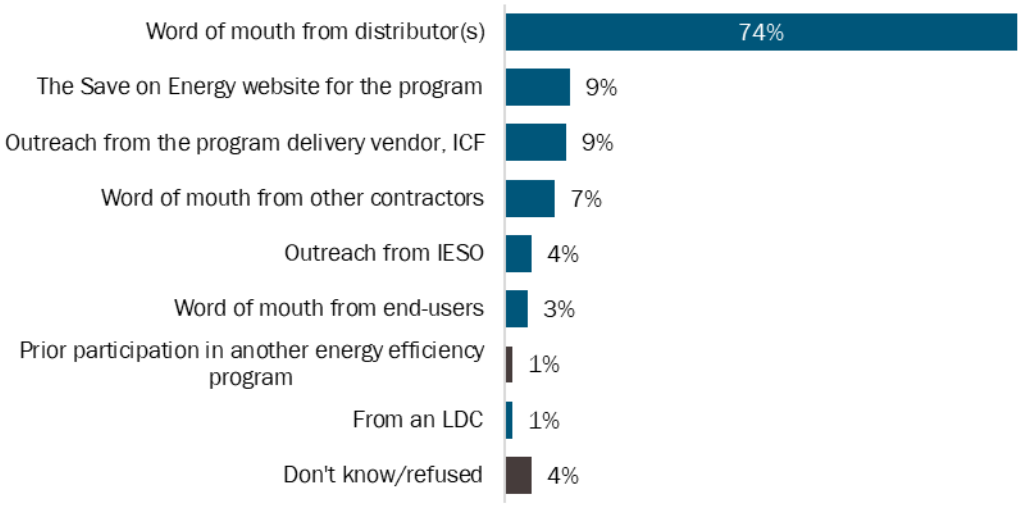
*May not sum to 100% due to rounding.

Program Awareness

Contractors reported how they became aware of the Instant Discount Program (Figure F-37). Respondents most commonly (74%) learned of the program from distributors. Less often, respondents learned about the program from the Save on Energy website (9%), the program delivery vendor (9%), or other contractors (7%). Section 6.3.4 includes an additional discussion regarding contractor program awareness.

Figure F-37: Contractor Awareness of the Program

(Open-ended and multiple responses allowed; n=182)*

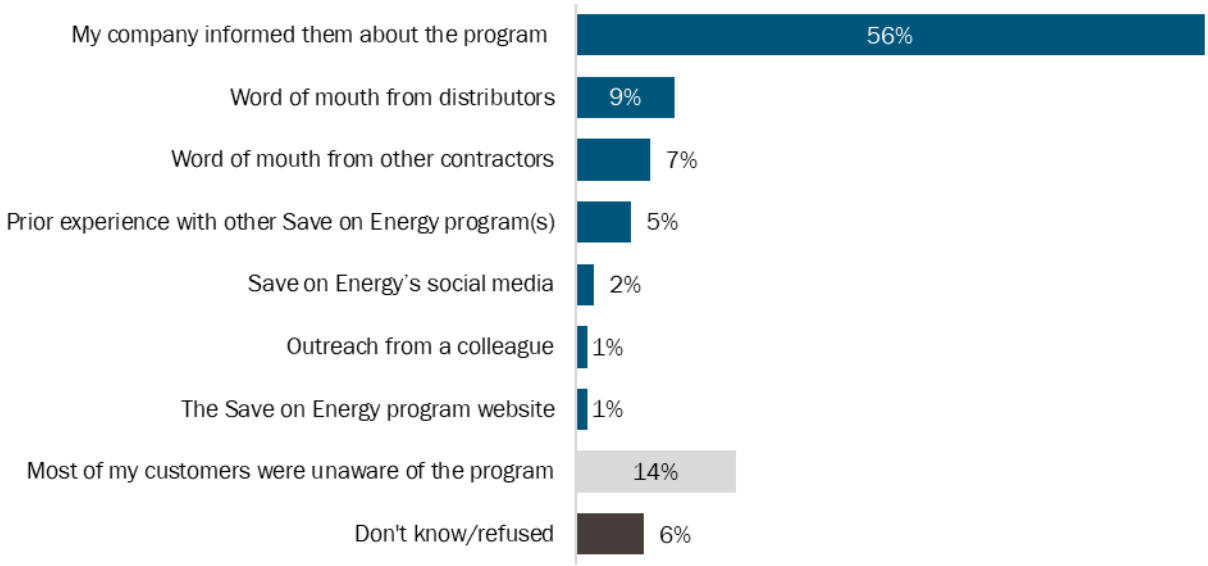


*Does not sum to 100% due to multiple responses.

Contractors reported the primary way that their customers learned about the Instant Discount Program (Figure F-38). Over one-half (56%) of respondents reported that their company informed customers about the program. Respondents less frequently said that the primary way customers were made aware of the program was by distributors (9%), contractors (7%), or by prior participation in other Save on Energy programs (5%). Other responses included Save on Energy's social media (2%), a colleague (1%), and the Save on Energy website for the program (1%). Section 6.3.4 includes an additional discussion regarding customer awareness.

Figure F-38: Primary Way Customers Became Aware of the Program

(Open-ended and multiple responses allowed; n=182)*



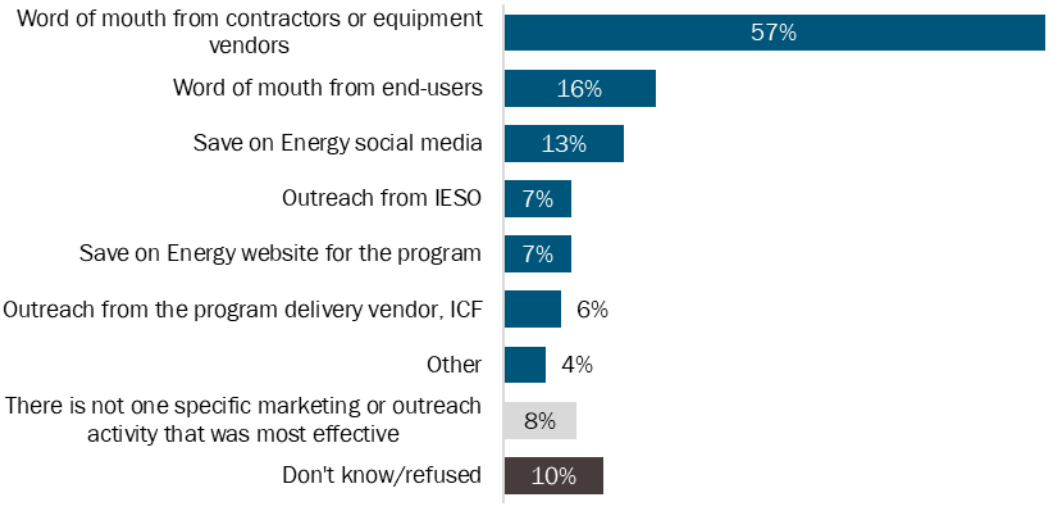
*Does not sum to 100% due to multiple responses.

Program Marketing

Respondents were asked which marketing or outreach activities most effectively generated customer awareness of the Instant Discount Program. As shown in Figure F-39, most respondents (57%) said that word of mouth from contractors or equipment vendors are the most effective in terms of generating customer awareness. Respondents also mentioned word of mouth from end users (16%) and Save on Energy social media (13%). Less commonly, respondents cited outreach from IESO (7%), the Save on Energy website for the program (7%), and outreach from the program delivery vendor (6%). Section 6.3.5 includes an additional discussion regarding marketing and outreach effectiveness.

Figure F-39: Most Effective Marketing and Outreach Activities

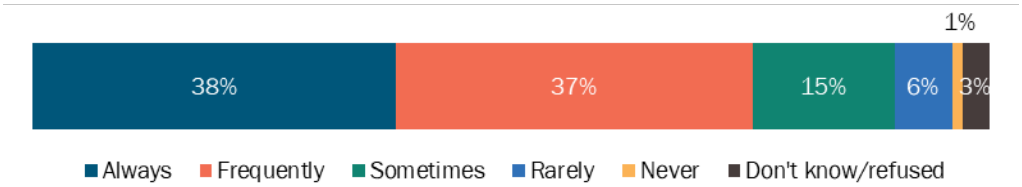
(Open-ended and multiple responses allowed; n=182)*



*Does not sum to 100% due to multiple responses.

Contractors were also asked how often they informed customers about the availability of the Save on Energy Instant Discount program (Figure F-40). More than one-third of respondents each said they always (38%) or frequently (37%) inform their customers. A small number of respondents said they rarely (6%) or never (1%) inform their customers about the program.

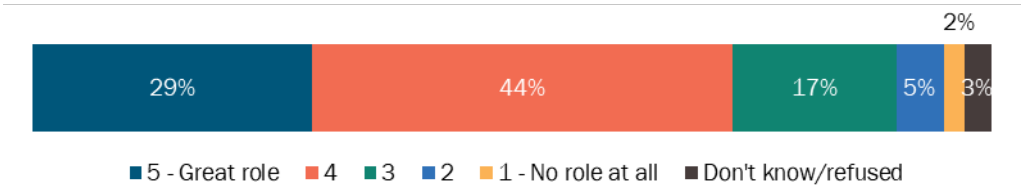
Figure F-40: How Often Contractors Inform Customers about the Instant Discount Program (n=182)



Program Discounts

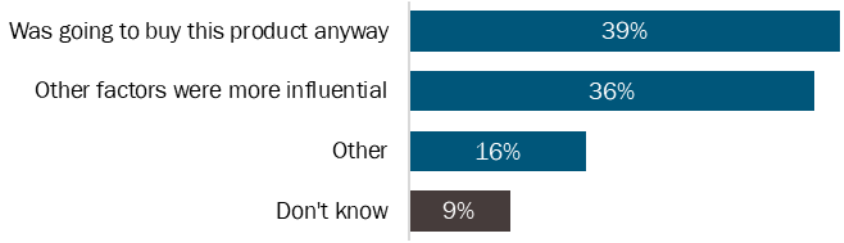
Contractors were asked how much of a role the program discounts played in their decision to purchase the specific program eligible equipment that they selected, as shown in Figure F-41. Contractors rated the program's discounts on a scale from one to five, where one indicates the program played "no role at all" and five indicates the program played "a great role." Close to three-fourths (73%) of respondents said the program discounts played a "great" or "very large" role in influencing their decision to buy the program eligible equipment that was ultimately purchased. A small number of respondents said the discounts did not play much of a role (5%) or played no role at all (2%). Section 6.3.6 includes an additional discussion regarding the role of the program discounts on the decision to purchase the program eligible equipment.

Figure F-41: Role of Program Discounts on the Decision to Purchase Equipment (n=182)



Respondents who reported that the program discounts did not play a "great" or "very large" role in the decision to buy program eligible equipment were asked why this was the case (Figure F-42). About two-fifths (39%) of respondents reported that they were going to purchase the equipment anyway and about one-third (36%) of respondents reported that other factors were more influential.

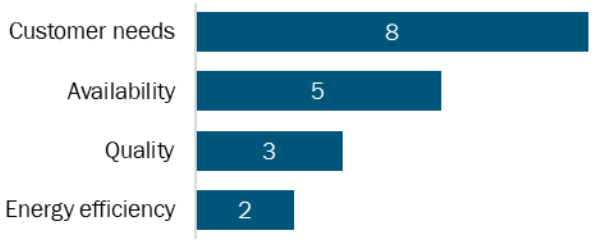
Figure F-42: Reasons Discounts Did Not Play Large Role on the Decision to Purchase Equipment (n=44)



The factors that respondents mentioned being more influential than the availability of the discounts included the customer's needs (8 respondents), product availability (5 respondents), product quality (3 respondents), and energy-efficiency level (2 respondents) (Figure F-43).

Figure F-43: Factors that Were More Influential on the Decision to Purchase Equipment

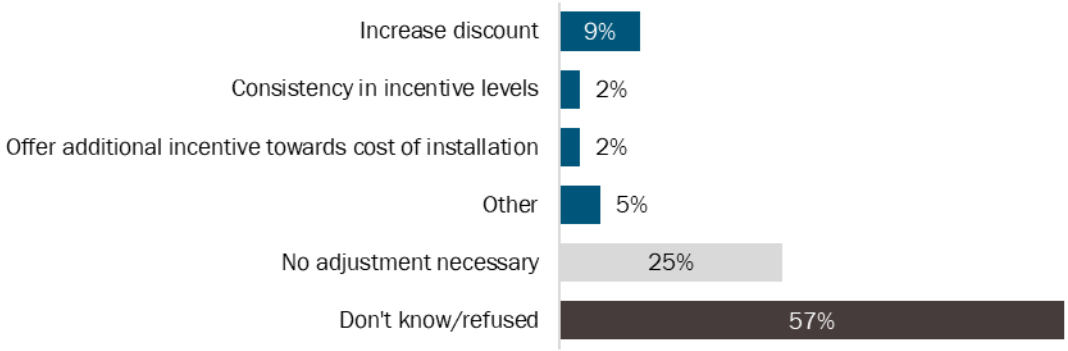
(Open-ended and multiple responses allowed; n=16)*



*Counts displayed rather than percentage due to small n. Does not sum to 16 due to multiple response.

Respondents who reported that the program discounts did not play a "great" or "very large" role in the decision to buy program eligible equipment were asked how, if at all, the discounts on commercial lighting equipment need to be adjusted (Figure F-44). About one-fourth (25%) of these respondents reported that a discount adjustment is not necessary and about one-tenth (9%) indicated that the discounts should be increased.

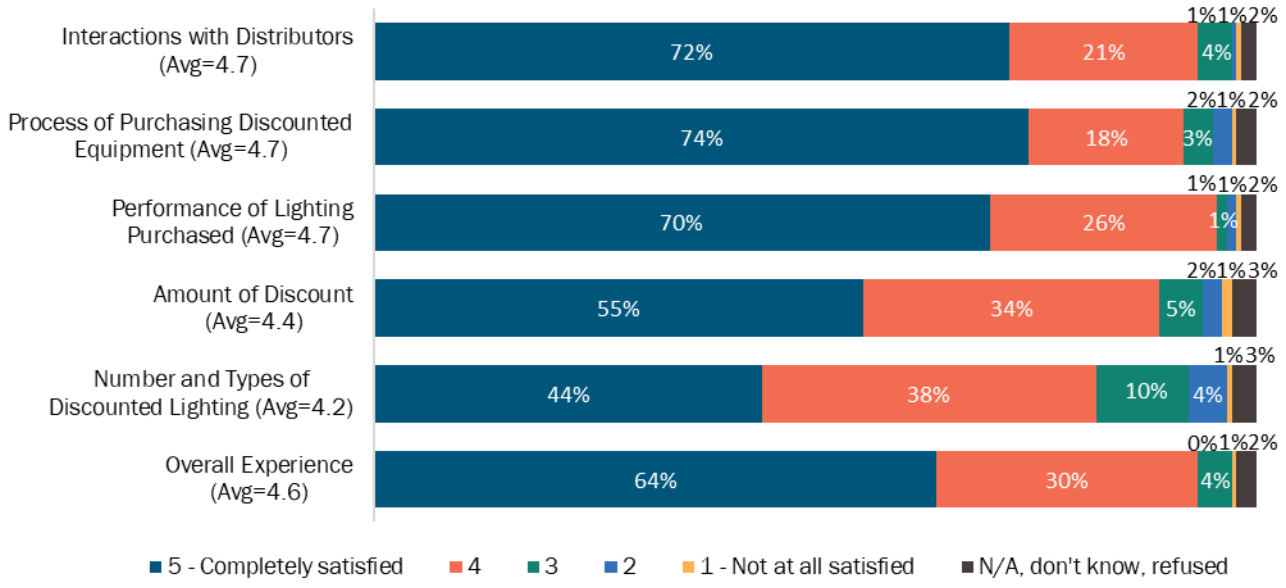
Figure F-44: Recommended Adjustments to Discounts (n=44)



Program Satisfaction

The survey then asked all respondents to rate their satisfaction with various aspects of the Save on Energy Instant Discount Program in 2024. Contractors rated satisfaction on a scale from one to five, where one indicates "not at all satisfied" and five indicates "completely satisfied." Most respondents indicated that they were completely or very satisfied with their interactions with distributors (93%), the process of purchasing discounted equipment (92%), the performance of the lighting purchased (96%), the amount of the discount (89%), and the number and types of discounted lighting (82%) (ratings of 4.0 and above). Most respondents (94%) were also satisfied with their overall program experience (Figure F-45). The small number of contractors who indicated they were "not at all satisfied" or "somewhat dissatisfied" with any aspect of the Instant Discount Program in 2024 were asked why this was the case (Table F-10). Section 6.3.7 includes an additional discussion regarding contractor satisfaction with program aspects.

Figure F-45: Program Aspect Satisfaction (n=182)*



*May not sum to 100% due to rounding.

Table F-10: Program Aspect and Reason for Dissatisfaction

Program Aspect and Reason for Dissatisfaction	Count of Respondents
Interactions with Distributors (n=2)	
Don't know/refused	2
Process of Purchasing Lighting (n=5)	
Forms were tedious	1
Difficult to ascertain eligibility and availability	1
Extra steps required when invoicing	1
Other	1
Don't know/refused	1
Performance of Lighting Purchased (n=3)	
Certain products had high failure rates	2
Don't know/refused	1
Amount of the Discount (n=6)	
The discount is too low	5
Don't know/refused	1
The Number and Types of Lighting (n=8)*	
Too few types	5
Desire parking lot/garage lighting	2
Desire commercial office lighting	1
Don't know/refused	1
Overall Experience (n=1)	
Don't know/refused	1

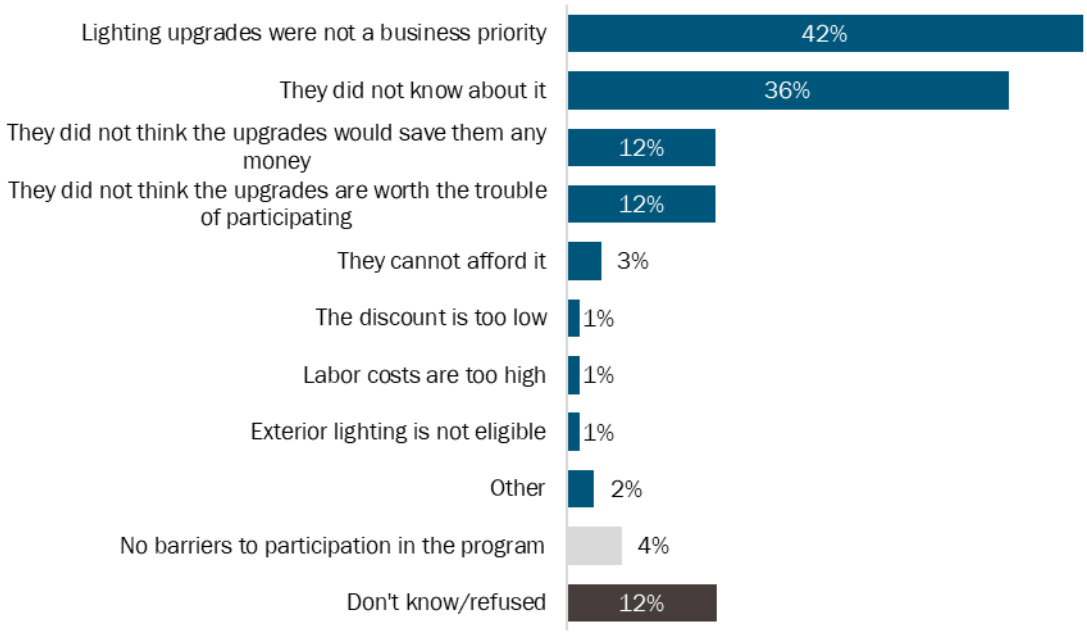
*Does not sum to 8 due to multiple responses.

Program Barriers

Figure F-46 provides a full list of customer participation barriers, as reported by contractors. Respondents most often said that customers did not view lighting upgrades as a priority (42%) and customers did not know about the program (36%). Respondents also reported that customers did not think the upgrades would save them money (12%) and they did not perceive the upgrades to be worth the trouble of participating (12%). Section 6.3.8 includes an additional discussion regarding program barriers.

Figure F-46: Barriers to Customer Participation

(Open-ended and multiple responses allowed; n=182)*

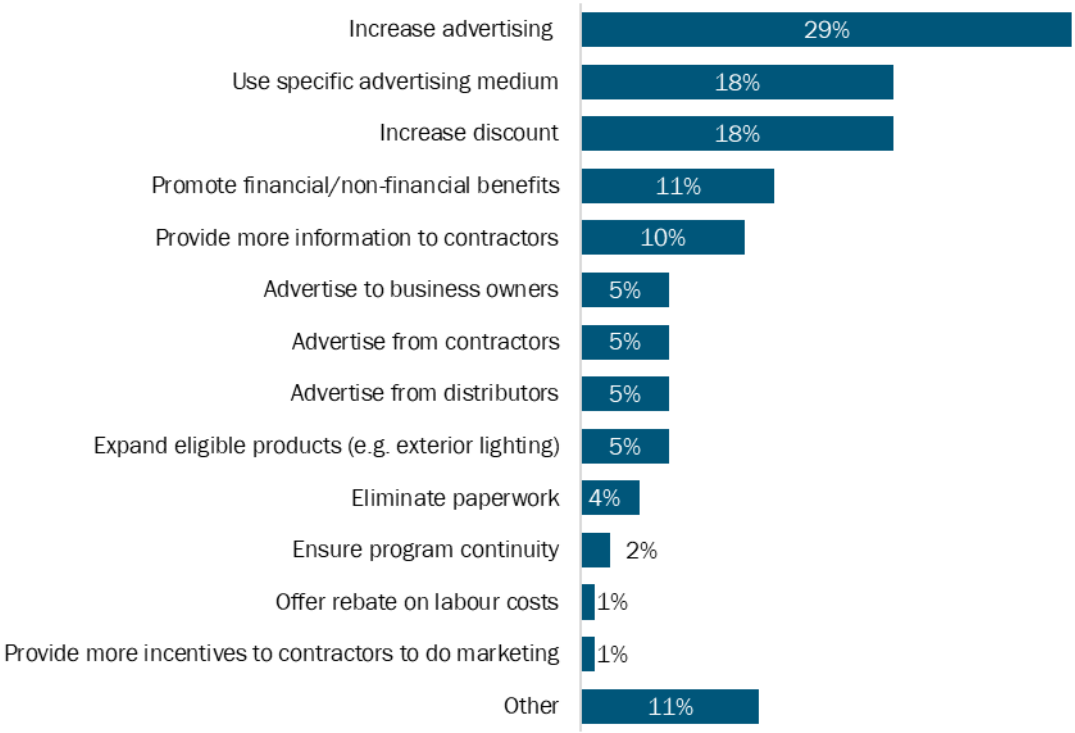


*Does not sum to 100% due to multiple responses.

Figure F-47 provides a full list of suggestions to overcome participation barriers, as reported by contractors. Respondents most commonly suggested increasing advertising (29%), using specific advertising mediums (18%), and increasing incentive amounts (18%). Other common suggestions included promoting the financial and non-financial benefits or participation (11%) and providing more information to contractors (10%).

Figure F-47: Suggestions to Overcome Participation Barriers

(Open-ended and multiple responses allowed; n=114)*

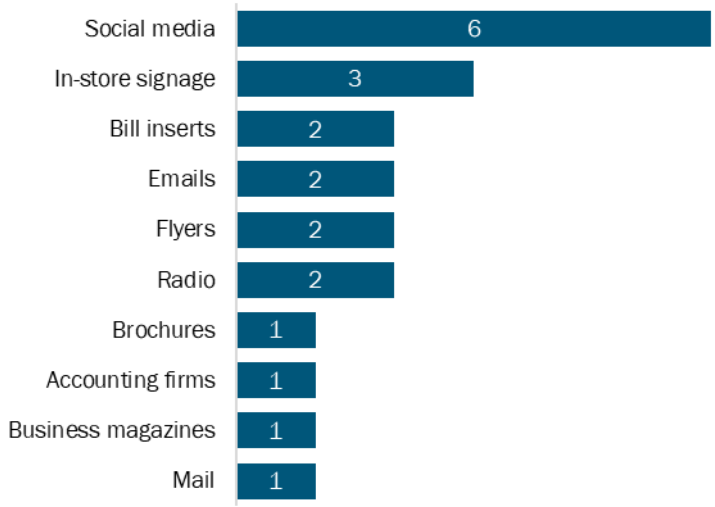


*Does not sum to 100% due to multiple responses.

The specific advertising mediums suggested by contractors are shown in Figure F-48. The most often mentioned mediums were social media (6 respondents) and in-store signage (3 respondents).

Figure F-48: Advertising Mediums to Address Customer Participation Barriers (

(Open-ended and multiple responses allowed; n=15)*



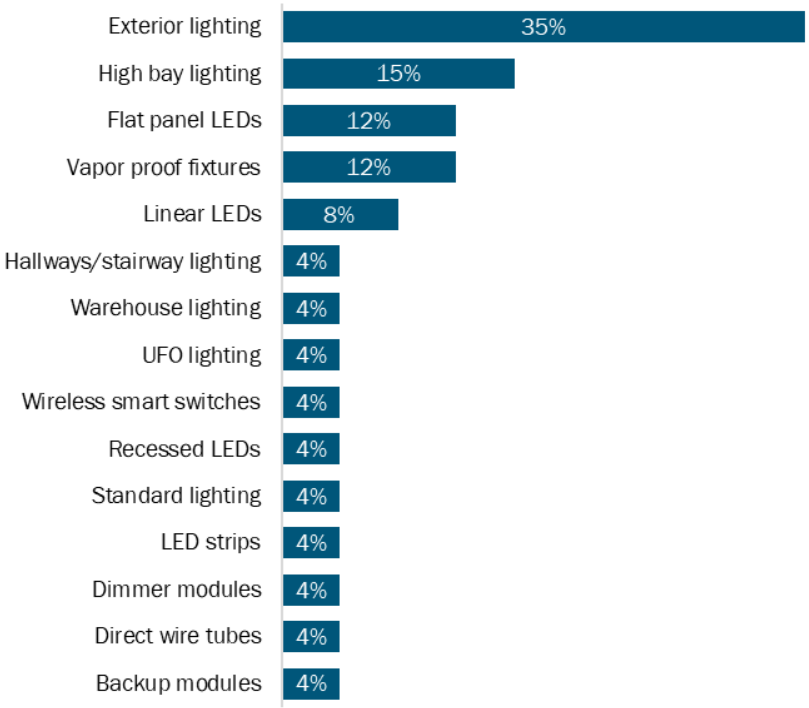
*Counts displayed rather than percentage due to small n. Does not sum to 15 due to multiple responses.

Lighting Equipment Interest and Uptake

Less than one-fifth of contractors (14%) reported energy-efficient commercial lighting measures that customers were initially interested in but ultimately decided not to install at the time of the completed project (Figure F-49). Most commonly, responses mentioned exterior lighting (35%), high bay lighting (15%), flat panel LEDs (12%), and vapor proof fixtures (12%). Section 6.3.9 includes an additional discussion regarding contractor equipment choices.

Figure F-49: Customer Lighting of Interest that was not Installed

(Open-ended and multiple responses allowed; n=26)*

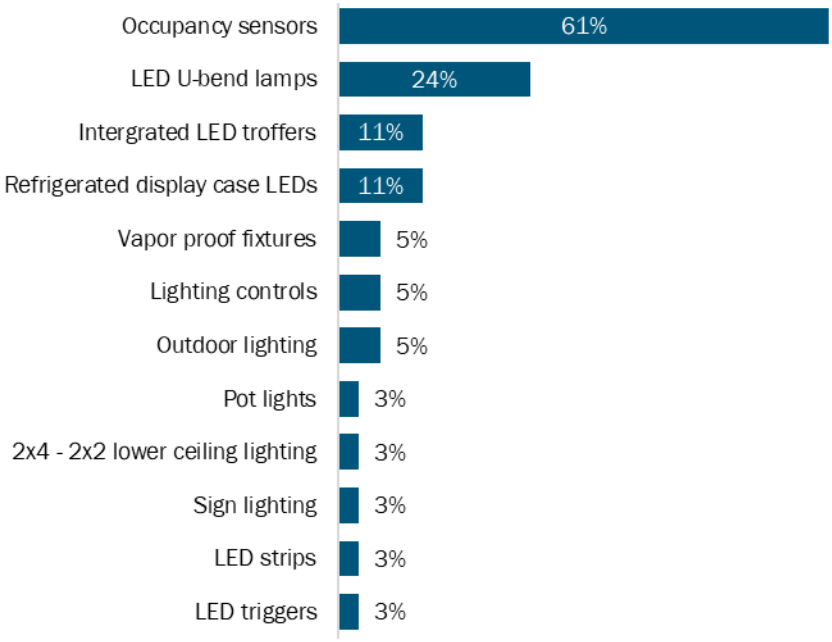


* Does not sum to 100% due to multiple responses.

Contractors were asked what, if any, commercial lighting types experienced lower uptake than they expected (Figure F-50). Of the one-fifth (21%) of respondents who identified at least one lighting type, the most commonly mentioned equipment included occupancy sensors (61%), LED U-bend lamps (24%), integrated LED troffers (11%), and refrigerated display case LEDs (11%).

Figure F-50: Commercial Lighting Types with Perceived Low Uptake

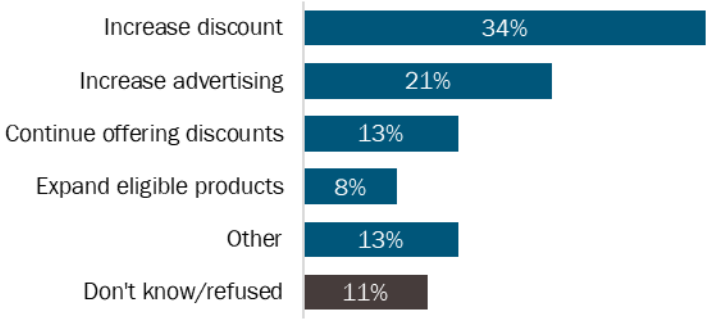
(Open-ended and multiple responses allowed; n=38)*



* Does not sum to 100% due to multiple responses.

These same respondents were also asked what the Save on Energy Instant Discount Program can do to increase sales volume of the equipment that experienced low uptake (Figure F-51). About one-third (34%) of these respondents suggested increasing the discount and about one-fourth (21%) of respondents suggested increasing advertising.

Figure F-51: Ways to Increase Sales Volume for Commercial Lighting (n=38)



Recommendations for Program Improvement

Nearly one-half (45%) of respondents offered recommendations for additional energy-efficient equipment or services to consider for inclusion in the Instant Discount Program. Most commonly, recommendations included exterior lighting (54%), all efficient lighting (16%), and lighting controls (10%). Table F-11 includes a full list of energy-efficient equipment or services that contractors recommended for future inclusion in the Instant Discount Program. Section 6.3.10 includes additional discussion regarding these equipment recommendations.

Table F-11: Recommended Energy-Efficient Equipment or Services to Improve the Instant Discount Program

(Open-ended and multiple responses allowed; n=82)*

Recommended Additional Equipment and Services	Percent of Respondents
Exterior lighting	54%
All efficient lighting	16%
Lighting controls	10%
Occupancy sensors	6%
Emergency lighting and exit signs	5%
Panel lights	4%
Pot lights	4%
Low voltage lighting	2%
Smart switches	2%
All new commercial installations	1%
Appliances with lighting	1%
Architectural fixtures	1%
Corn cob bulbs	1%
Daylight harvesting	1%
Decorative lighting	1%
Dimmer switches	1%
High bay lighting	1%
Industrial application lighting	1%
In-suite fixtures	1%
Parking garage luminaires	1%
Security systems with lighting	1%
Specialty fixtures	1%
Theater lighting fixtures	1%
Track lights	1%
Type B LED tubes	1%
Wall sconces	1%

* Does not sum to 100% due to multiple responses.

One-third (33%) of respondents provided additional recommendations to improve the Instant Discount Program. The most common suggestions included increasing advertising (27%), increasing incentives (13%), continuing instant rebates (12%) and giving contractors a list of eligible products and discounts (10%). Table F-12 includes a full list of recommendations that respondents provided to improve the Instant Discount Program. Section 6.3.10 includes additional discussion regarding these responses.

Table F-12: Recommendations to Improve the Retrofit Program

(Open-ended and multiple responses allowed; n=60)*

Suggestions for Improvement	Percent of Respondents
Increase advertising	27%
Increase incentives	13%
Continue instant rebates	12%
Give contractors list of eligible products and discounts	10%
Ensure consistency in incentive levels	5%
Announce/prolong duration of the program	3%
Engage more distributors	3%
Offer discounts for residential lighting	3%
Advertise on TV	2%
Advertise to business owners	2%
Advertise via in-store signage	2%
Base product eligibility on compatibility with network standards	2%
Connect customers with contractors	2%
Ensure distributors disclose discounts to contractors	2%
Notify contractors of site visits in advance	2%
Offer fixture recycling program	2%
Offer solar/net metering program	2%
Promote as a new program	2%
Provide list of approved vendors on the site	2%
Provide more access to the portal back end	2%
Provide more referrals to contractors	2%
Provide training to distributors	2%
Require some of the incentive go to contractor	2%
Pay incentives to contractor based on number of projects completed	2%
Offer higher discounts for really old fixtures	2%

* Does not sum to 100% due to multiple responses.

F.4 Additional Contractor Net-to-Gross Results

This section includes detailed NTG results associated with contractors who bought program-incentivized commercial lighting equipment from distributors who participated in the Instant Discount Program.

Stocking Influence

Contractors were asked what they did if a customer agreed to install high-efficiency commercial lighting but neither their company nor the distributor had the preferred lighting in inventory. Table F-13 shows the percentage of time that their customers selected an alternative model that is in stock, delayed the project until the preferred equipment is available, or did something else. On average, their customer selected an alternative model that is in stock over one-half (56%) of the time, delayed until the preferred equipment is available over one-third (34%) of the time, and did something else one-tenth (10%) of the time.

Table F-13: Customer Decision from Lack of Preferred Commercial Lighting Available (n=187)*

Percent of Time Customer…	Selects Alternative Model in Stock	Delays Until Preferred Equipment Available	Does Something Else
100%	17%	5%	1%
76-99%	9%	8%	2%
51-75%	9%	7%	0%
26-50%	20%	14%	5%
1-25%	13%	17%	18%
0%	7%	24%	48%
Don't know/refused	26%	26%	26%
Average	56%	34%	10%

*May not sum to 100% due to rounding.

If a contractor indicated that their customer might select an alternative model that is in stock, they were asked to share the percentage of time the alternate model met program efficiency requirements, was between program and standard efficiency, or was standard efficiency (Table F-14). On average, customers selected an alternative model that met program efficiency requirements over two-fifths (61%) of the time, chose an alternative model that is between program and standard efficiency around one-tenth (21%) of the time, and selected a standard efficiency model around one-fifth (18%) of the time.

Table F-14: Customer Selecting Alternative Model Meeting Program Requirements (n=96)*

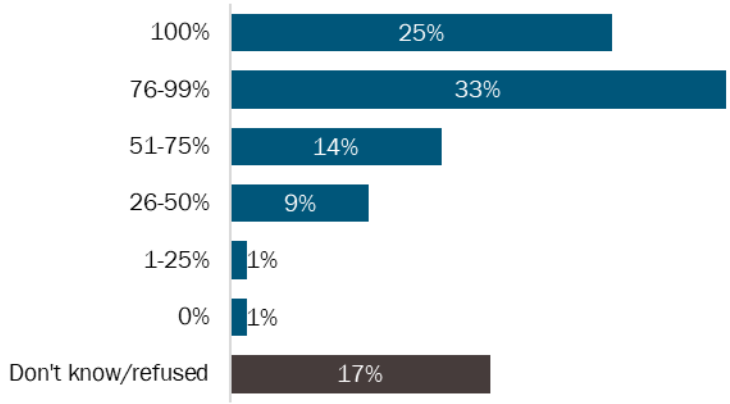
Percent of Time Alternative Model…	Meets Program Efficiency Requirements	Between Program and Standard Efficiency	Is Standard Efficiency
100%	28%	5%	2%
76-99%	7%	3%	2%
51-75%	7%	1%	2%
26-50%	14%	12%	13%
1-25%	9%	19%	13%
0%	10%	36%	44%
Don't know/refused	24%	24%	24%
Average:	61%	21%	18%

*May not sum to 100% due to rounding.

Upselling Influence

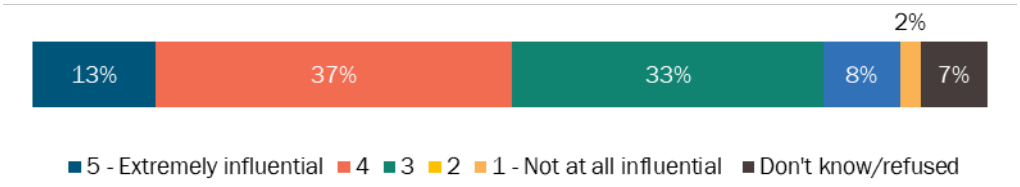
Contractors were asked how often customers ultimately install the commercial lighting equipment that the contractor recommended. One-fourth (25%) of respondents said that customers always (100% of the time) install the recommended commercial lighting equipment (Figure F-52). One-third (33%) of respondents reported that customers install the recommended lighting equipment 76-99% of the time. Few respondents indicated that customers never (1%) or rarely (1%, 1-25% of the time) install the recommended equipment.

Figure F-52: Commercial Lighting Install After Recommendation (n=187)



Contractors rated how influential distributors' commercial lighting recommendations were on the decision of what ultimately gets installed on a scale of 1 to 5, where one is "not at all influential" and 5 is "extremely influential." As shown in Figure , one-half (50%) of contractors gave a rating of 4 (37%) or 5 (13%), suggesting that one-half (50%) of contractors believe distributors strongly influenced the decision of what gets installed.

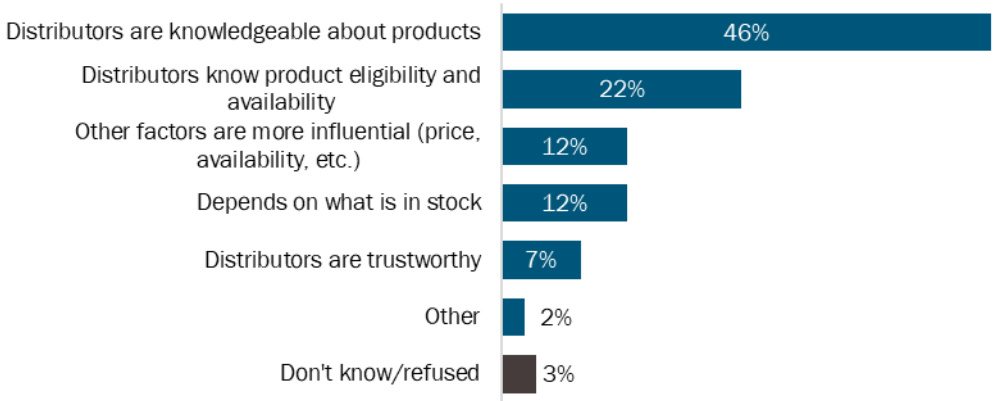
Figure F-53: Influence of Distributor Recommendation (n=187)



Contractors who reported that distributors' commercial lighting recommendations had a strong influence on what ultimately gets installed (a rating of 4 or 5) were asked why they said that (Figure F-54). Around one-half of respondents (46%) reported that distributors were knowledgeable about the products and one-fifth of respondents (22%) reported that distributors knew product eligibility and availability.

Figure F-54: Reasons why Distributor Recommendations are Influential

(Open-ended and multiple responses allowed; n=94)*

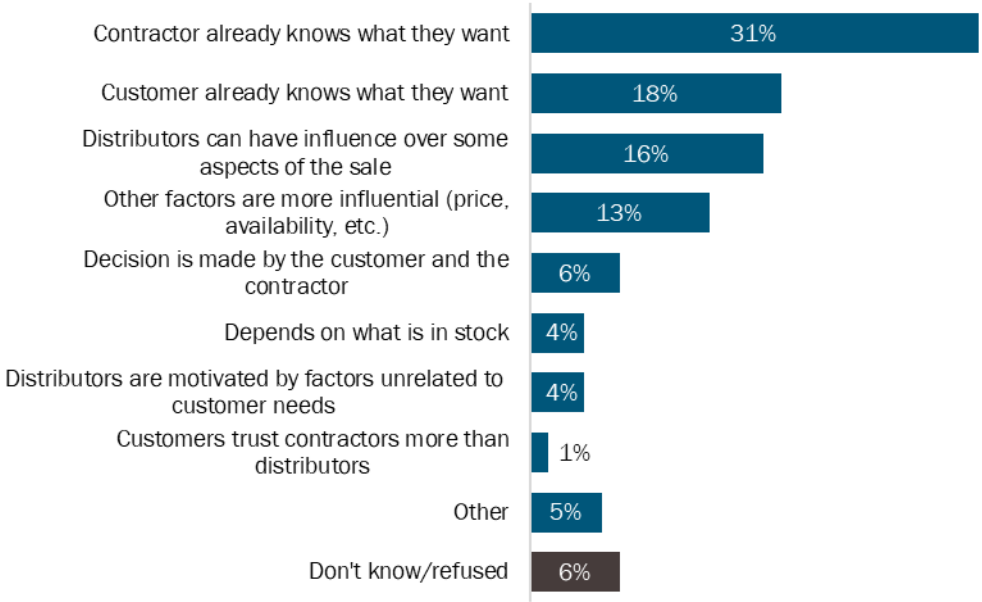


* Does not sum to 100% due to multiple responses.

Contractors who reported that distributors' commercial lighting recommendations did not have a strong influence on what ultimately gets installed (a rating of 1, 2, or 3) were asked why they said that (Figure F-55). Around one-third (31%) of respondents reported that the contractors already know what they want, and one-fifth of respondents reported that the customer already knows what they want (18%) or distributors can have influence over some aspects of the sale (16%). Over one-tenth of contractors mentioned that other factors were more influential than the distributor recommendations. As shown in Figure F-56, these factors include price (70%), and availability of the equipment (25%).

Figure F-55: Reasons why Distributor Recommendations are Not Influential

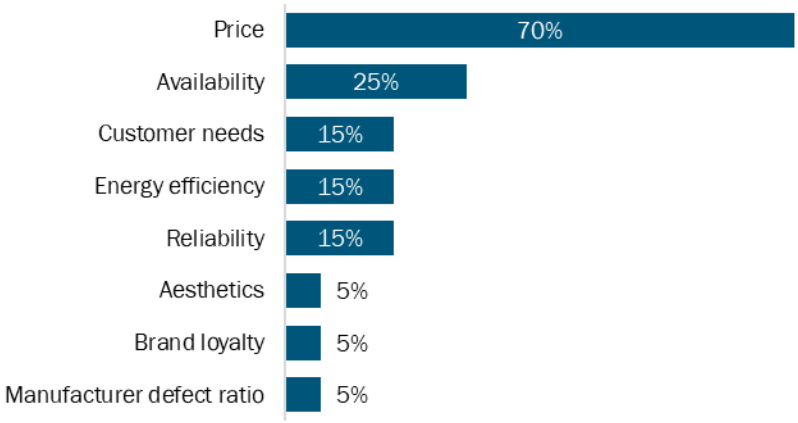
(Open-ended and multiple responses allowed; n=78)*



* Does not sum to 100% due to multiple responses.

Figure F-56: Factors More Important than Distributor Recommendation

(Open-ended and multiple responses allowed; n=20)*

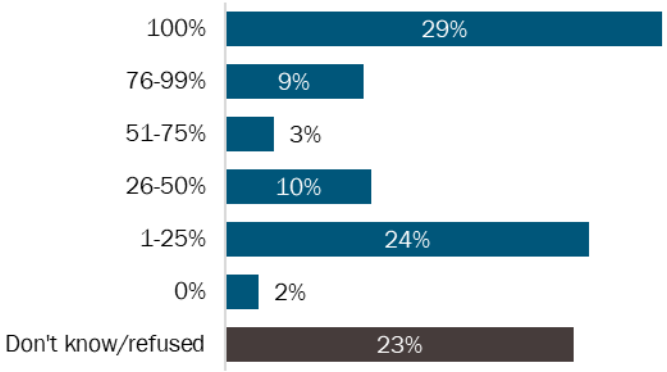


* Does not sum to 100% due to multiple responses.

Pricing Influence

Contractors were asked to consider if the distributor charged them less for a piece of equipment, about how much of that price difference would they pass on to the customer (Figure F-57). About one-third (29%) of repondents reported they would pass along 100% of the price difference to the customer, while about one-fourth (24%) of respondents reported they would pass along 1-25% of the difference.

Figure F-57: Percentage of Discount Passed to Customer (n=187)



Contractors who estimated how much of the price difference they would pass on to the customer were asked to explain their response (Figure F-58). Respondents who were likely to pass along 0% to 50% of the price difference reported that it is the fair thing to do (27%), it is their standard markup practice (22%), and it helps them make the sale (10%). Respondents who were likely to pass along 51% to 100% of the price difference reported it is the fair thing to do (22%), the incentive is for the customer (21%), it is their standard markup pratice (17%), and it is good for business (13%). Around one-half of all respondents (49%) reported that passing along 0% to 100% of the price difference is because it is fair.

Figure F-58: Reason for Passing Along Price Difference to Customer

(Open-ended and multiple responses allowed; n=144)*

* Does not sum to 100% due to multiple responses.

Contractors were asked how likely a customer would be to purchase the same lighting if its price increased by 5%, 10%, 25%, and 50% (Table F-15). Respondents used a scale of one to five, where one indicates "not at all likely" and five indicates "extremely likely." On average, customers were decreasingly likely to purchase the same lighting as the price increased. With a 5% price increase, contractors estimated that about one-half (53%) of customers would be extremely or very likely to install the same lighting. With a 10%, 25%, and 50% increase, contractors estimated that about 38%, 9%, and 9% of customers would be extremely or very likely to install the same lighting.

Table F-15: Likelihood of Purchasing Lighting After Price Increase (n=187)*

Likelihood Customer Would Still Purchase	5% Price Increase	10% Price Increase	25% Price Increase	50% Price Increase
5 - Extremely likely	20%	8%	3%	4%
4 - Very likely	33%	30%	6%	5%
3 - Somewhat likely	32%	38%	27%	9%
2 - Not very likely	3%	10%	37%	24%
1 - Not at all likely	3%	4%	18%	50%
Don't know/refused	9%	10%	9%	7%
Average	3.7	3.3	2.3	1.8

*May not sum to 100% due to rounding.

F.5 Additional End-User Process Results

Firmographics

Table F-16 displays the number of full- and part-time employees at the end-users' companies. More than one-fourth were affiliated with companies with between one and five full-time positions (26%) and between six and 99 full-time positions (27%). One-tenth (10%) were affiliated with companies that had 100 or more full-time positions. The average number of full-time employees among end-users' companies was 74. More than one-third of end-users (34%) reported that their company had part-time positions, with an average of five.

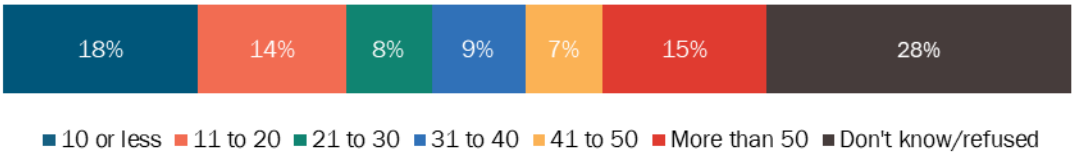
Table F-16: End-User Full- and Part-time Employees (n=137)*

Number of Employees	Full-Time	Part-Time
0	0%	29%
1-5	26%	23%
6-10	9%	7%
11-25	11%	4%
26-99	7%	0%
100+	10%	0%
Don't know/refused	36%	36%
Average	74	5

*Does not sum to 100% due to rounding.

The breakdown of the respondents' company age is presented in Figure F-59. Less than one-fifth (18%) were affiliated with companies that have been in business for ten or fewer years and over one-half (53%) were affiliated with companies that have been in business for 11 years or more.

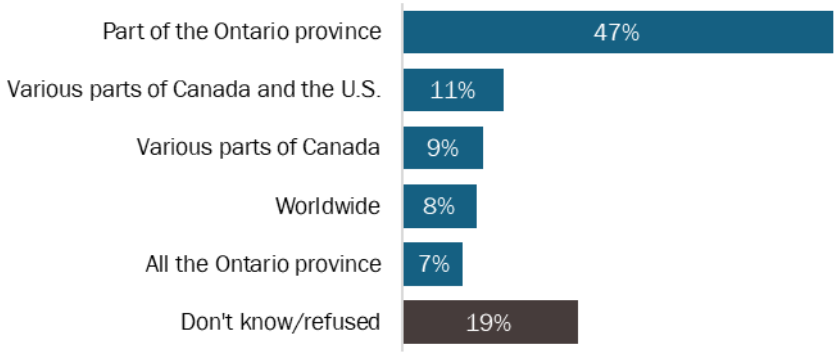
Figure F-59: Respondents' Company Age (n=137)*



*Does not sum to 100% due to rounding.

Figure F-60 displays the geographic regions end-users' sales covered. Around one-fourth (28%) of end-users regions extended beyond Ontario. Most often (47%) end-users covered only certain parts of Ontario, which are displayed in Table F-17.

Figure F-60. Geographic Regions End-Users Cover (n=137)*



*Does not sum to 100% due to rounding.

Table F-17: Parts of Ontario End-Users Cover

(Open-ended and multiple responses allowed; n=62)*

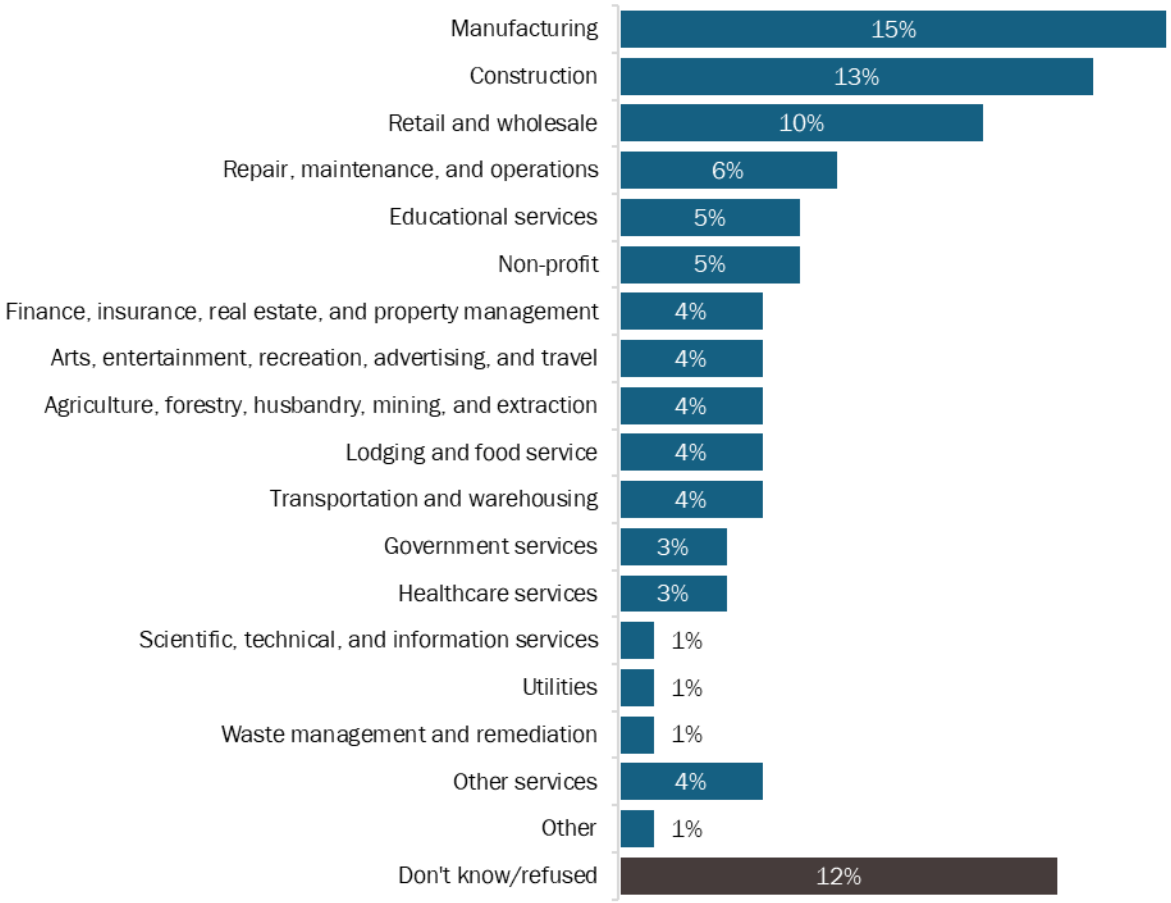
Part of Ontario	Percent of Respondents	Part of Ontario	Percent of Respondents
Greater Toronto Area	19%	Georgian bay	2%
Southern Ontario	10%	Georgina	2%
Southwest Ontario	10%	Grey Bruce	2%
Northern Ontario	6%	Guelph Wellington	2%
Durham	5%	Hamilton	2%
Niagara	5%	Haliburton	2%
Eastern Ontario	3%	Halton	2%
Kingston	3%	Huron	2%
Mississauga	3%	Kanata	2%
Muskoka	3%	Kawartha	2%
North Bay	3%	Kitchener	2%
Ottawa	3%	Lucknow	2%
Peel	3%	Manitoulin Island	2%
Simcoe	3%	Moorefield	2%
York	3%	Parry Sound	2%
Brampton	2%	Perth	2%
Brant	2%	Pickering	2%
Caledon	2%	Sault Ste. Marie	2%
Central Ontario	2%	St. Catharine's	2%
Chatham	2%	Waterloo	2%

*Does not sum to 100% due to multiple responses.

Respondent business categories varied, as presented in Figure F-61. The top business categories were manufacturing (15%), construction (13%), and retail and wholesale (10%), followed by repair, maintenance, and operations (6%), educational services (5%), and non-profit (5%).

Figure F-61: End-Users' Business Category

(Open-ended and multiple responses allowed; n=137)*



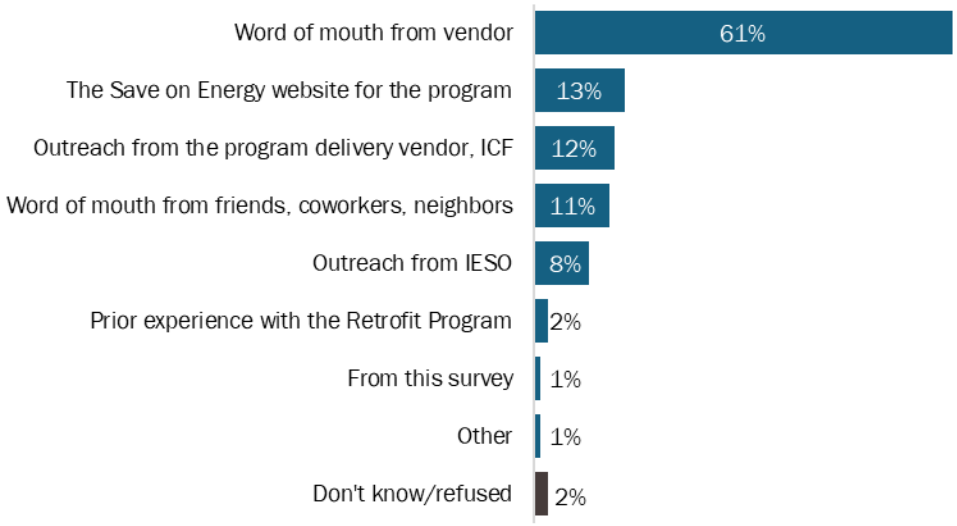
*Does not sum to 100% due to multiple responses.

Program Awareness

Figure F-62 displays how end-users became aware of the program. Over three-fifths (61%) of end-users learned of the program from a vendor. Less commonly, end-users learned about IDP from the Save on Energy website for the program (13%), outreach from the program delivery vendor (12%), friends, coworkers, and neighbors (11%), or outreach from IESO (8%). Section 6.4.2 includes an additional discussion regarding end-user awareness.

Figure F-62: How End-Users Became Aware of Program

(Open-ended and multiple responses allowed; n=137)*

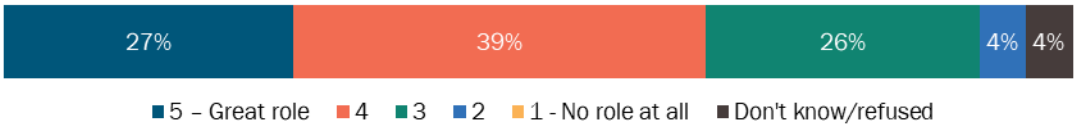


*Does not sum to 100% due to multiple responses.

Program Discounts

Respondents were asked to rate the role the discounts played on their decision to buy the program-eligible equipment using a scale of 1 to 5, where 1 is "no role at all" and 5 is "great role." Figure F-63 shows that most end-users assigned a rating of either 5 (27%) or 4 (39%), suggesting the discounts played a relatively large role. Section 6.4.3 includes an additional discussion regarding the role of the discounts on the decision to purchase the program eligible equipment.

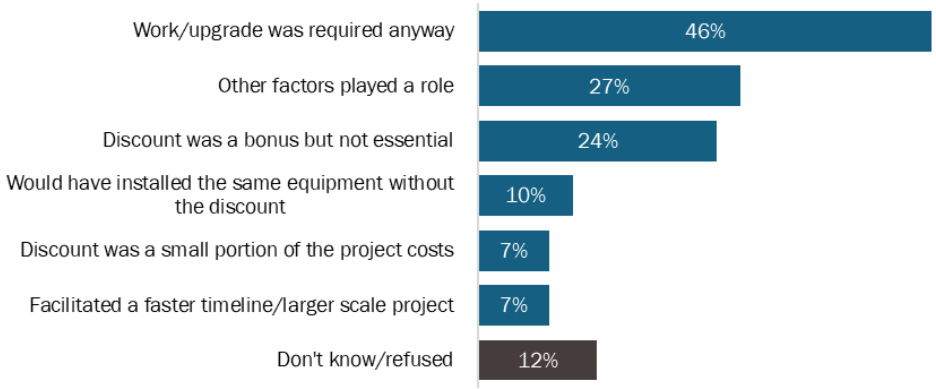
Figure F-63: Role of Discounts on Decision to Purchase Equipment (n=137)



End-users who assigned a rating of 3 or less (30% of all respondents) were asked why the discounts did not play a large role in their decision to buy the program-eligible equipment. Figure F-64 shows that around one-half (46%) of these respondents explained the work/upgrade was required anyway, and around one-fourth each said that other factors played a role (27%) or the discount was a bonus but was not essential (24%). Other reasons include that they would have installed the same equipment without the discount (10%), the discount was a small portion of project costs (7%), and that it facilitated a faster timeline/larger scale project (7%).

Figure F-64: Why Discounts Did Not Play a Large Role

(Open-ended and multiple responses allowed; n=41)*

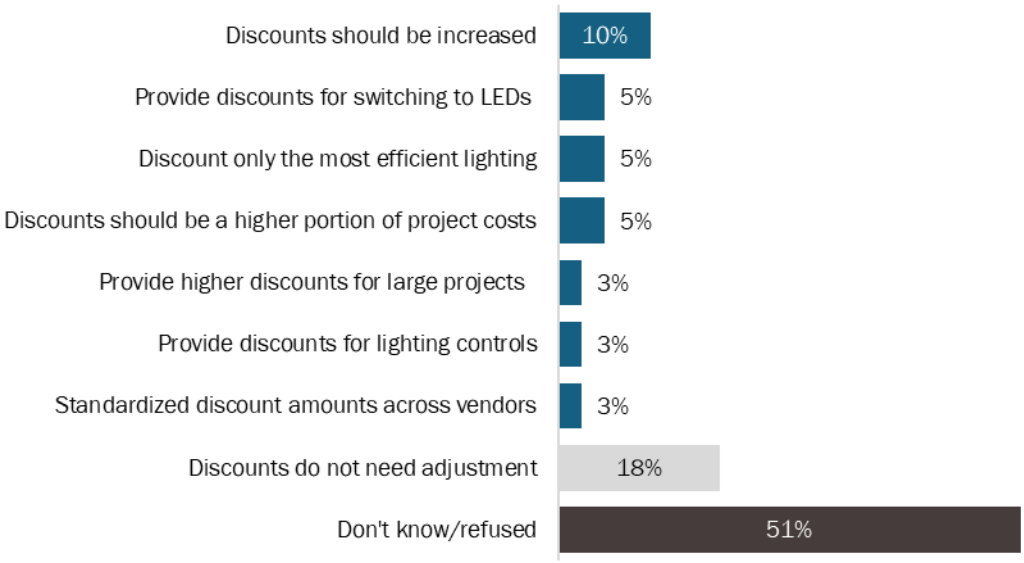


*Does not sum to 100% due to multiple responses.

End-users who assigned a rating of 3 or less (30% of all respondents) were asked how, if at all, the discounts for commercial lighting equipment should be adjusted. Figure F-65 shows that most of these end-users did not know how (51%) or did not believe (18%) the discounts needed to be adjusted. Meanwhile, 10% said the discounts should be increased, 5% advised providing discounts for switching to LEDs, 5% suggested discounting only the most efficient lighting, and another 5% said the discounts should be a higher portion of project costs. Other suggestions included providing higher discounts for large projects (3%), providing discounts for lighting controls (3%), and standardizing discount amounts across vendors (3%).

Figure F-65: How Discounts Should Be Adjusted

(Open-ended and multiple responses allowed; n=41)*



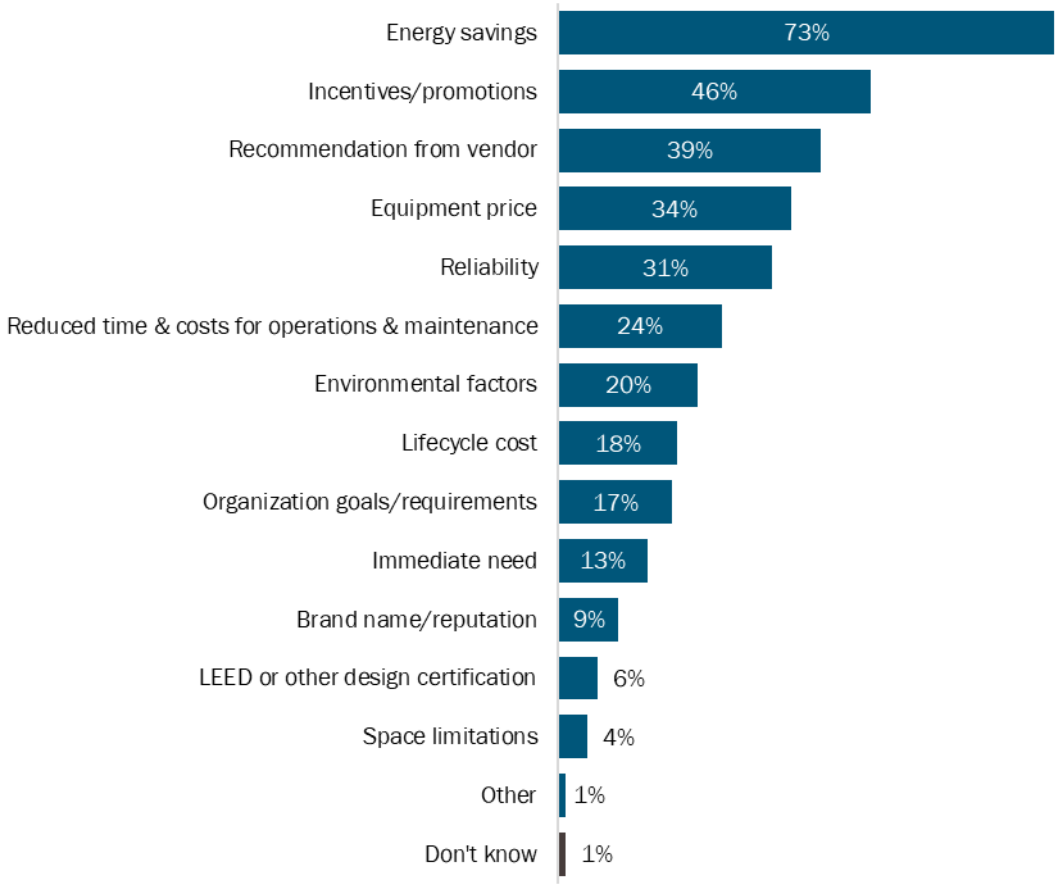
*Does not sum to 100% due to multiple responses.

Equipment Choices

Figure F-66 displays the factors that influenced end-users' decisions regarding the commercial lighting equipment they purchased. Energy savings was the most influential factor, mentioned by nearly three-fourths (73%) of end-users, followed by incentives/promotions (46%), vendor recommendations (39%), equipment price (34%), and reliability (31%). Other influential factors included reduced time and costs for operations and maintenance (24%), environmental factors (20%), lifecycle cost (18%), organizational goals/requirements (17%), immediate need (13%), brand name/reputation (9%), LEED or other design certification (6%), and space limitations (4%). Section 6.4.4 includes an additional discussion regarding end-user equipment choices.

Figure F-66: Purchase Decision Factors

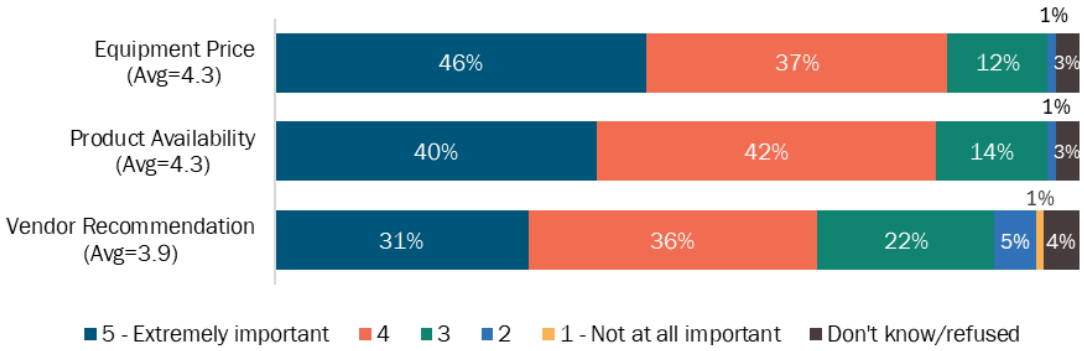
(Open-ended and multiple responses allowed; n=137)*



*Does not sum to 100% due to multiple responses.

Next, end-users rated the importance of equipment price, product availability, and vendor recommendations when purchasing commercial lighting equipment. Figure F-67 shows that all three factors were relatively influential. Furthermore, price and availability, each with an average rating of 4.3, were slightly more influential than vendor recommendations, with an average rating of 3.9.

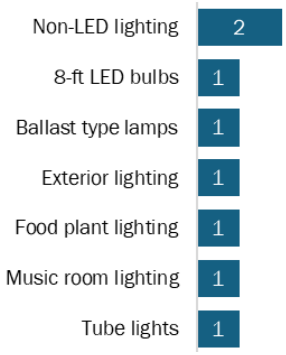
Figure F-67: Importance of Factors on Lighting Purchases (n=137)*



*May not sum to 100% due to rounding.

End-users were asked if there was any energy-efficient commercial lighting they were initially interested in but ultimately decided not to install. As shown in Figure F-68, very few (6%) indicated this was the case; eight end-users mentioned a total of seven types of equipment, including non-LED lighting, eight-foot LED bulbs, ballast type lamps, exterior lighting, food plant lighting, music room lighting, and tube lights.

Figure F-68: Initially Interested in But Did Not Purchase (n=8)*



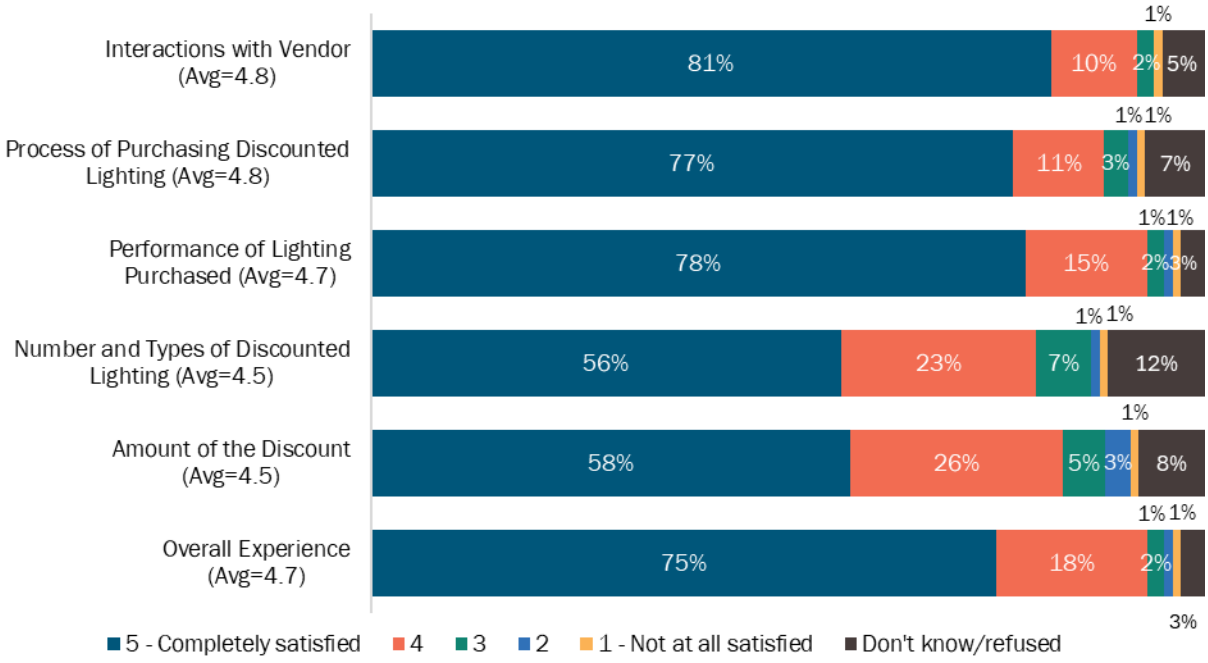
*Counts displayed rather than percentage due to small n.

Program Satisfaction

Figure F-69 displays end-users' satisfaction ratings with various aspects of the program and it suggests high levels of satisfaction with the program. On a scale from 1 to 5, where 1 means "not at all satisfied" and 5 means "completely satisfied," end-users provided an average satisfaction rating of 4.8 for both (1) their interactions with vendors and (2) the process of purchasing discounted lighting, 4.7 for the performance of lighting purchased, and 4.5 for both (1) the number and types of discounted lighting and (2) the amount of the discount. The average satisfaction rating for end-users' overall experience was 4.7. Section 6.4.5 includes an additional discussion regarding end-user awareness.

Figure F-69: Satisfaction with Aspects of IDP (n=137)*

(Rating on a scale from 1 to 5)



*May not sum to 100% due to rounding.

Table F-18 through Table F-23 display the reasons end-users gave for providing a low (1 or 2) satisfaction rating for the various aspects and overall experience.

Table F-18: Reasons for Dissatisfaction with Amount of Discount (n=5)*

Reason for Dissatisfaction with the Amount of Discount	Count of Respondents
Lack of significant discounts for project	3
Retrofit Program was more work but provided higher incentives	1
Fixtures were never installed	1

*Counts displayed rather than percentage due to small n.

Table F-19: Reason for Dissatisfaction with Process of Purchasing Lighting (n=3)*

Reason for Dissatisfaction with the Process of Purchasing Lighting	Count of Respondents
Contractor handled the purchases	2
Contractor did not communicate or fulfill obligations	1

*Counts displayed rather than percentage due to small n.

Table F-20: Reasons for Dissatisfaction with Number and Types of Lighting (n=3)*

Reason for Dissatisfaction with the Number and Types of Lighting	Count of Respondents
Fewer options now than when lighting was in the Retrofit Program	1
Using American DLC excludes the same Canadian fixtures with different voltages	1
Fixtures were never installed	1

*Counts displayed rather than percentage due to small n.

Table F-21: Reasons for Dissatisfaction with Performance of Lighting (n=3)*

Reason for Dissatisfaction with the Performance of Lighting	Count of Respondents
New fixtures lack of improvement	1
Fixtures were never installed	1
Lack of performance	1

*Counts displayed rather than percentage due to small n.

Table F-22: Reasons for Dissatisfaction with Interactions with Vendors

(Open-ended and multiple responses allowed; n=2)*

Reason for Dissatisfaction with Interactions with Vendors	Count of Respondents
Lack of communication	1
The installation process was slow	1
Installation work was not up to code	1

*Counts displayed rather than percentage due to small n. Does not sum to two due to multiple responses.

Table F-23: Reasons for Dissatisfaction with Overall Experience (n=2)*

Reason for Dissatisfaction with Overall Experience	Count of Respondents
Overall bad experience	2

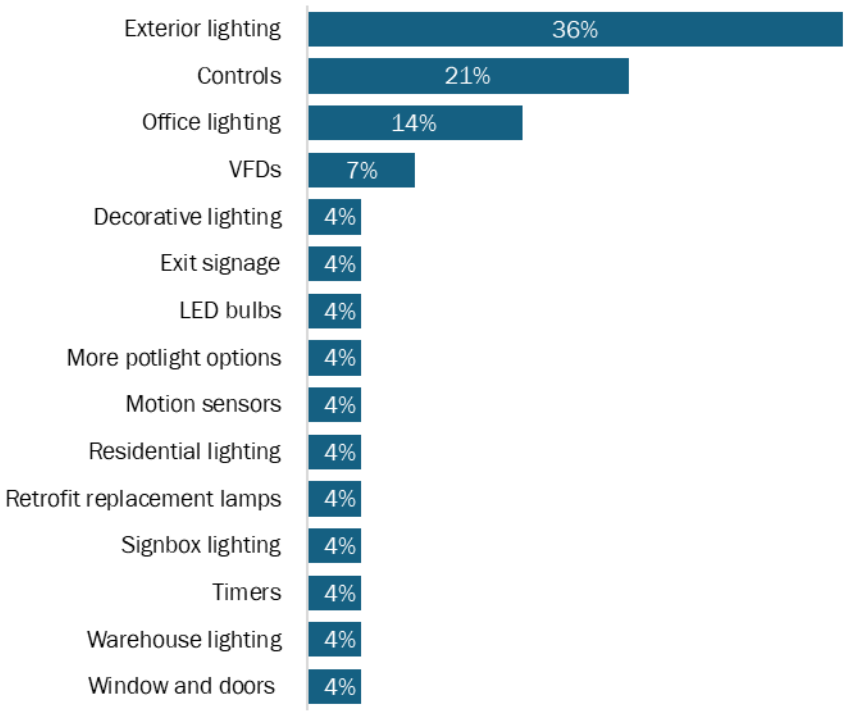
*Counts displayed rather than percentage due to small n.

Recommendations for Program Improvements

One-fifth (20%) of the end-users recommended additional energy-efficient commercial lighting equipment or services for inclusion in the program; these are displayed in Figure F-70. The most commonly recommended equipment was exterior lighting, mentioned by over one-third (36%) of end-users who offered recommendations, followed by controls (21%), office lighting (14%), and VFDs (7%). Additionally, each of the following was recommended by one end-user: decorative lighting, exit signage, LED bulbs, more potlight options, motion sensors, residential lighting, retrofit replacement lamps, signbox lighting, timers, warehouse lighting, windows and doors. Section 6.4.6 includes an additional discussion regarding end-user end-users' recommendations for program improvement.

Figure F-70: Additional Equipment and Services Recommended

(Open-ended and multiple responses allowed; n=28)*

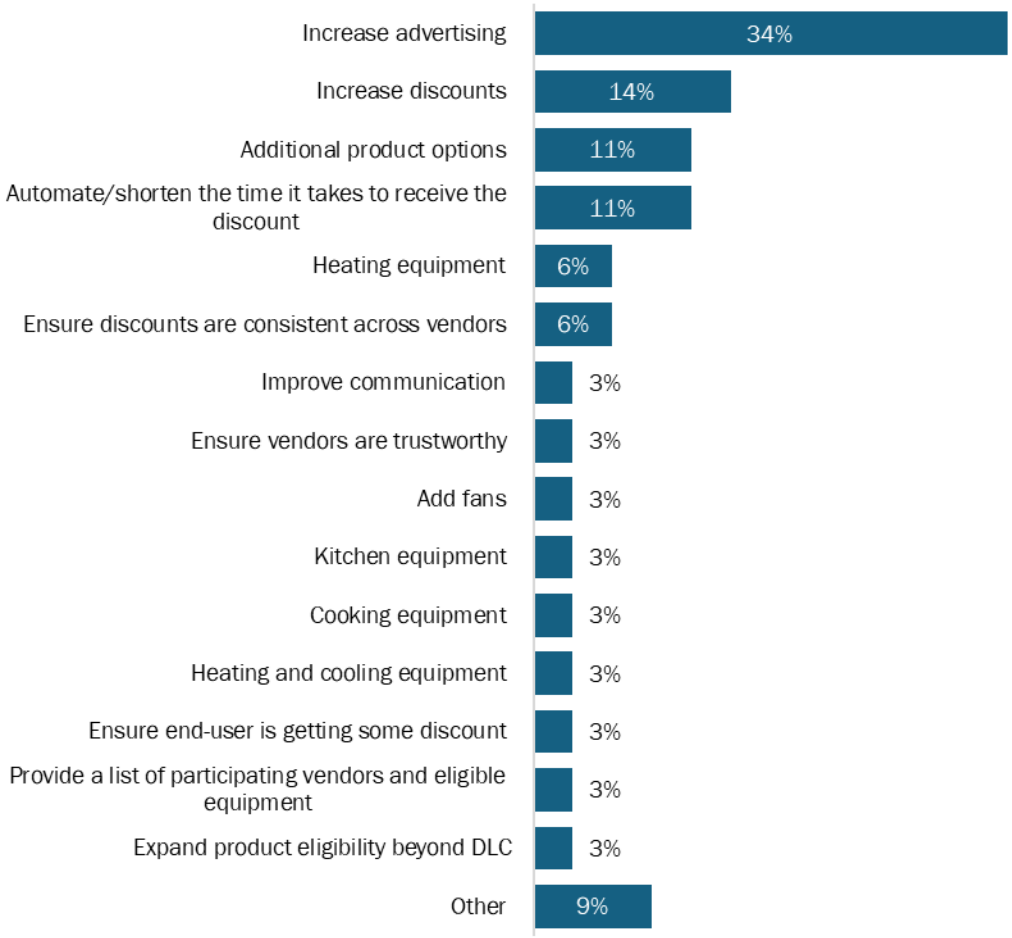


* Does not sum to 100% due to multiple responses.

Around one-fourth (26%) of the end-users offered additional suggestions for improving IDP; these are displayed in Figure F-71. One-third (34%) of these end-users suggested increasing advertising, followed by increasing discounts (14%), additional product options (11%), automating or shortening the time it takes to receive the discount (11%), offering heating equipment (6%), and ensuring discounts are consistent across vendors (6%). Additionally, each of the following was recommended by one end-user: improve communication, ensure vendors are trustworthy, add fans, kitchen equipment, cooking equipment, heating and cooling equipment, ensure end-user is getting some discount, provide a list of participating vendors and eligible equipment, and expand product eligibility beyond DLC.

Figure F-71: Additional Program Improvement Suggestions

(Open-ended and multiple responses allowed; n=35)*



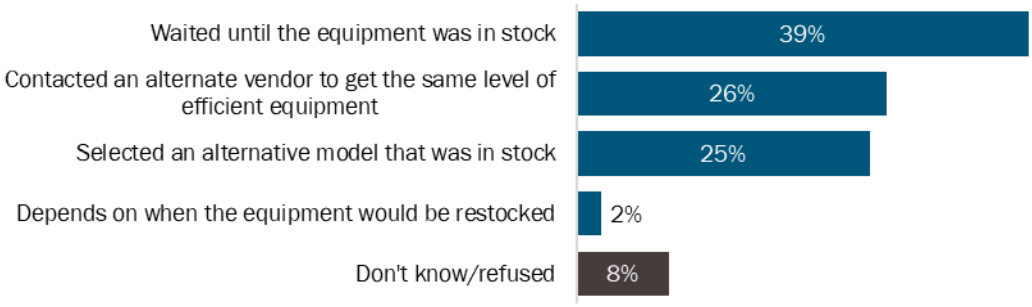
* Does not sum to 100% due to multiple responses.

F.6 Additional End-User Net-to-Gross Results

Stocking Influence

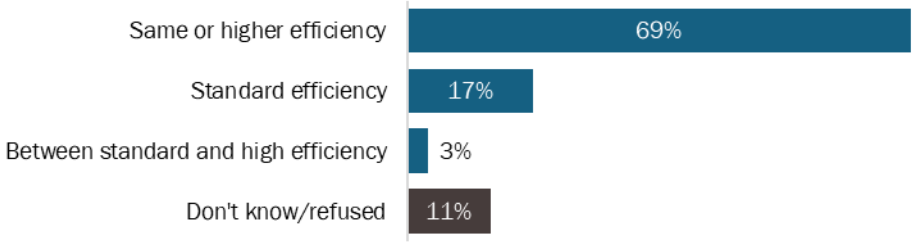
End-users were asked what they would have done if the efficiency level of the equipment they purchased had not been in stock at their preferred vendor. Figure F-72 shows that around two-fifths (39%) of end-users would have waited until the equipment was in stock, around one-fourth (26%) would have contacted an alternate vendor to get the same level of efficient equipment, and one-fourth (25%) would have selected an alternative model that was in stock.

Figure F-72: Action If Efficiency Level Had Not Been in Stock (n=140)



End-users who indicated they would have selected an alternative model in stock (25% of all respondents) were asked about the efficiency level of that model. Figure F-73 shows that around two-thirds (69%) of these end-users said they would have selected the same efficiency or higher, around one-fifth (17%) said standard efficiency, and a small number (3%) said something in between standard and high efficiency.

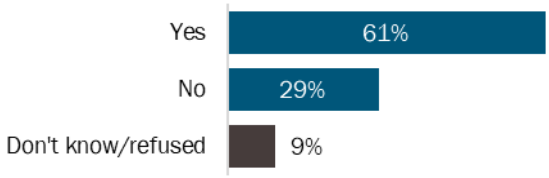
Figure F-73: Efficiency Level of Alternative Model in Stock (n=35)



Upselling Influence

End-users were asked if their vendor discussed multiple types of commercial lighting to choose from when they purchased the incentivized commercial lighting. Figure F-74 shows that around three-fifths (61%) of end-users said their vendors discussed multiple types of commercial lighting.

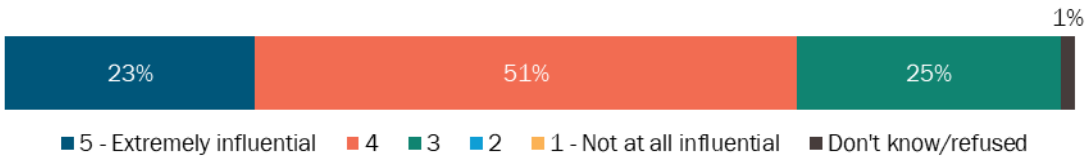
Figure F-74: Vendor Discussed Multiple Types of Lighting (n=140)*



*Does not sum to 100% due to rounding.

Most (90%) of the end-users whose vendors discussed multiple types of commercial lighting said the vendor recommended some or all the equipment they eventually purchased. These end-users rated the influence of vendors' recommendations on their decision to purchase the equipment using a scale of 1 to 5, where 1 is "not at all influential" and 5 is "extremely influential." As shown in Figure F-75, most end-users (74%) gave a rating greater than 3, suggesting vendors' recommendations were relatively influential on their decision to purchase the equipment.

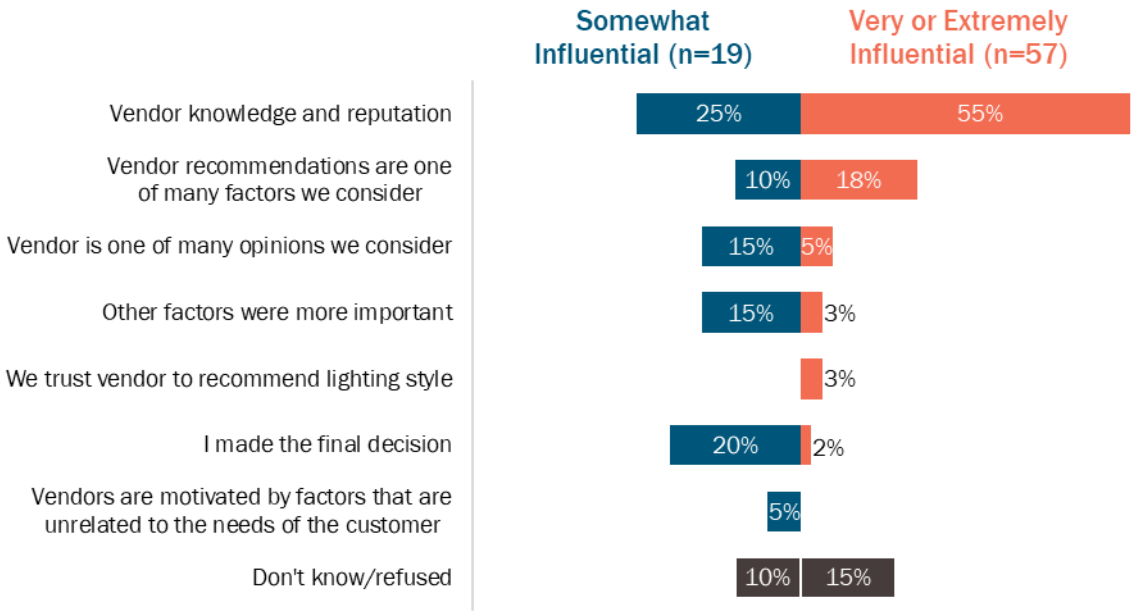
Figure F-75: Influence of Vendor Recommendations (n=76)



Next, these end-users were asked to explain why they gave the rating they did. Figure F-76 displays end-users' reasons by their ratings of vendors' influence, where "somewhat influential" corresponds with a rating of 3, and "very or extremely influential" corresponds with a rating of 4 or 5. End-users who indicated their vendor was very or extremely influential tended to attribute that to vendor knowledge and reputation (55%) or explain that vendor recommendations are one of many factors they consider (18%). In comparison, end-users who indicated their vendor was only somewhat influential had more varied explanations, including vendor knowledge and reputation (25%) and vendor recommendations being one of many factors considered (10%), but also said that they made the final decision (20%), that the vendor is one of many opinions they consider (15%), and other factors were more important (15%).

Figure F-76: Reasons Why Vendor Recommendations Were More or Less Influential

(Open-ended and multiple responses allowed; n=76)*

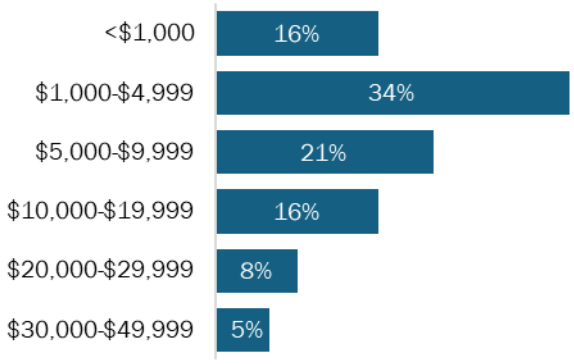


* Does not sum to 100% due to multiple responses.

Pricing Influence

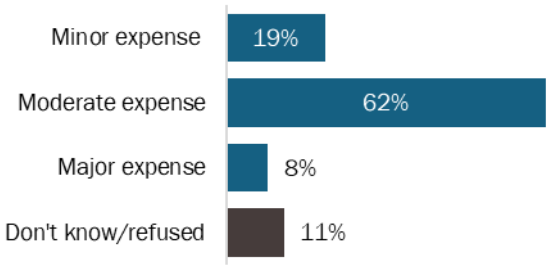
Around one-fourth (27%) of the end-users recalled the cost of the lighting they purchased through the program. Figure F-77 shows that one-half (50%) of these end-users' projects cost less than $5,000, while the other half cost $5,000 or more.

Figure F-77: Cost of Lighting Purchased (n=38)



End-users who did not recall the cost of the lighting they purchased through the program (45% of all respondents) were asked to assess the magnitude of the expense. Figure F-78 shows that around three-fifths (62%) of these end-users said it was a moderate expense, while around one-fifth (19%) said it was a minor expense, and under one-tenth (8%) said it was a major expense.

Figure F-78: Magnitude of Cost of Lighting Purchased (n=63)



End-users were asked to rate the likelihood they would still have purchased the same product without the incentive using a scale of 1 to 5, where 1 is "not at all likely" and 5 is "extremely likely." Figure F-79 shows that around one-third (34%) of end-users indicated they were somewhat likely to have purchased the lighting without the incentive with a rating of 3. Slightly more end-users (36%) indicated they were unlikely to have purchased the lighting with a rating of 1 or 2, and somewhat fewer end-users (25%) indicated they were likely to have purchased the lighting with a rating of 4 or 5. The average rating was 2.8.

Figure F-79: Likelihood of Purchasing Lighting Without Incentive (n=140)*

*Does not sum to 100% due to rounding.

Appendix G Job Impacts Methodology

This appendix provides a detailed breakdown of the Jobs Impact Evaluation methodology.

G.1 Developed Specific Research Questions

The first step in modeling the job impacts from the IDP was to determine which specific research questions (RQs) the model would answer. In a scenario without the existence of the IDP, customers receive electricity from the IESO and pay for it via the monthly billing process. Implementing the IDP introduces a set of economic supply and demand shocks to different sectors of the economy. The four research questions below address these shocks:

1. *What are the job impacts from new demand for energy-efficient measures and related program delivery services?*
   Funds collected for the IDP generate demand for efficient equipment and appliances. They also generate demand for services related to program delivery, such as general overhead for program implementation and staffing. This demand creates jobs among firms that supply these products and services. Third-party implementers collect funds from the IESO to cover a portion of the project cost, while the participant covers the remainder of the costs.

2. *What are the job impacts from business reinvestments?*
   Once energy-efficient equipment is installed, the customers realize annual energy savings for the useful life of the measures. Businesses can choose to use this money to pay off debt, disburse it to shareholders as dividends, or reinvest it in the business. This additional money and the decision to save or spend has implications for additional job creation. For instance, additional business spending on goods and services generates demand that can create jobs in other sectors of the economy.

3. *What are the job impacts from funding the energy-efficiency program?*
   The IESO energy-efficiency programs are funded via volumetric bill charges for all customers—both residential and non-residential. This additional charge can reduce the money that households have for savings and for spending on other goods and services, which results in a negative impact on jobs in the Canadian economy.

4. *What are the job impacts from reduced electricity production?*
   The energy-efficient measures will allow businesses to receive the same benefit while using less electricity. The program as a whole will reduce the demand for electricity in the commercial sector. This reduced demand could have upstream

impacts on the utility industry (for example, generation) and related industries, such as companies in the generator fuel supply chain.

G.2 Developed Model Inputs

The second step in modelling job impacts was gathering the data required for the StatCan IO model to answer each research question. Model input data included dollar values of the exogenous shocks from program implementation. Data sources for each research question included the following:

1) Demand for energy-efficient measures and related program delivery services: The StatCan IO Model divides the Canadian economy into 240 industry classifications and 500 SUPCs. Each measure installed as part of the program was classified into one of the SUPCs. The dollar value for each product-related demand shock was calculated using the project cost and measure savings data from the impact evaluation. Services that were part of the implementation process were also classified into SUPCs. These services were comprised of program administrative services and IESO cost recovery credits, the values of which were obtained from program budget actuals.

   Unlike downstream programs, midstream program product categories are made up entirely of equipment purchases; installation costs are not associated with nor factored into the program, as such, there was no need to specify the amount of each demand shock attributed to labour versus non-labour. In the case of the service categories, the IO model contained underlying estimates that defined the portion of labour versus overhead (non-labour).

2) Business energy bill savings: This value was calculated for the model as the net present value (NPV) of the discounted future stream of energy bill savings by participants. It was calculated by multiplying net energy savings (in kWh) in each future year by that future year's retail rate ($/kWh). This calculation was performed for each future year through the end of the measure's expected useful life (EUL). Savings beyond the EUL were assumed to be zero. Project-level net energy savings were obtained using results from the impact evaluation and already accounted for other calculation parameters (i.e., discount rate, measure EULs, and retail rate forecast).
3) Customers' intentions: whether to reinvest, save, or distribute to owners/shareholders the money saved on energy bills were obtained via a short section on the participant surveys, as follows[24]:

[24] This question was not asked in this evaluation. Instead, the analysis uses survey results from the Retrofit program.

J1. *How do you anticipate your company will spend the money it saves on its electricity bill from the energy-efficient equipment upgrades?*

1. *Pay as dividends to shareholders or otherwise distribute to owners*
2. *Retain as savings*
3. *Reinvest in the company (labour/additional hiring, materials, equipment, reduce losses, etc.)*
4. *Split – Reinvest and pay as dividends/retain as savings*
5. *96. Other, please specify:*
6. *98. Don't know*
7. *99. Refused*

J2. Do you anticipate the distribution of these electricity bill savings to be treated differently than any other earnings?

8. *Yes – More distributed to shareholders/owners*
9. *Yes – More to savings*
10. *Yes – More to reinvestment*
11. *No*
12. *98. Don't know*
13. *99. Refused*

J3. Approximately what would be the split between distribution, retention, and reinvestment of money saved on electricity bills? [ALLOW MULTIPLE RESPONSE OPTION]

14. *Percent distribute [NUMERIC RESPONSE BETWEEN 0 AND 100]*
15. *Percent save/retain earnings [NUMERIC RESPONSE BETWEEN 0 AND 100]*
16. *Percent reinvest [NUMERIC RESPONSE BETWEEN 0 AND 100]*

For estimating job impacts, the key input value was the amount of bill savings that businesses would reinvest as opposed to paying down debt or redistributing to shareholders.

4) IDP funding: IESO energy-efficiency programs were funded by a volumetric charge on electricity bills, and residential customers accounted for 35% of consumption, while non-residential customers accounted for 65% in 2024. The overall program budget was distributed between these two customer classes by these percentages and used as input values for the analysis.
5) Reduced electricity production: The NPV of retail savings (estimated as part of RQ2) was also the input for examining the potential impact of producing less electricity.

G.3 Run Model and Interpret Results

Determining total job impacts from the IDP required considering possible impacts from each of the four shocks represented by the research questions. Addressing the four research questions above required three runs of the StatCan IO model, as certain shock components could be consolidated and others could be addressed without full runs of the model. The following three shocks were modelled:

1) Demand shock, as outlined in RQ1, representing the impact of demand for energy-efficient products and services due to the IDP.
2) Business Reinvestment shock, representing the net amount of additional spending that the commercial sector would undertake, as described in RQ2. This was estimated by taking the NPV of energy bill savings and subtracting the amount of project costs covered by participants; in the case of the IDP, this is the total project cost net the passthrough incentive amount.
3) Household Expenditure shock, representing the portion of household funds captured by increased bill charges (thus acting as a negative shock on the economy [RQ3]). This was estimated by taking the portion of program funding paid for by increases to residential electricity bills.

The model output generated three types of job impact estimates.

Direct Impacts

Jobs created during the initial round of spending from the exogenous shocks. For the demand shock for energy-efficient products and services, direct impacts would be derived by first adding employees to install measures and handle administrative duties. For the business reinvestment shock, direct impacts could be internal jobs created by businesses that reinvest savings back into the company, or by jobs that businesses created in buying additional goods and services with energy bill savings.

Indirect Impacts

Job impacts due to inter-industry purchases as firms respond to the new demands of the directly affected industries. These include jobs created up supply chains due to the demand created by the energy-efficiency program, such as the manufacturing of goods or the supply of inputs.

Induced Impacts

Job impacts due to changes in the production of goods and services in response to consumer expenditures induced by households' incomes (i.e., wages) generated by the production of the direct and indirect requirements.

The IO model provides estimates for each type of job impact in the unit of *person-years* or a job for one person for one year. It further distinguishes between two types of job impacts:

1) Total number of jobs: This covers employee jobs and self-employed jobs (including persons working in a family business without pay). The total number of jobs includes full-time, part-time, temporary, and self-employed jobs. It does not consider the number of hours worked per employee.
2) Full-time Equivalent (FTE) number of jobs: This only includes employee jobs that are converted to full-time equivalence, based on overall average full-time hours worked in either the business or government sectors.

Model run results were presented in terms of the job impact types (direct, indirect, and induced) and on the type of job (total jobs vs. FTEs). These results—along with model input shock values—are presented and discussed at a higher level in more detail in Appendix H.

Appendix H Detailed Job Impacts Inputs and Results

This section presents the detailed results of the job impact analysis. Table H-1 presents the total jobs impacts by type. As the fourth and fifth columns indicate, the analysis estimated that the IDP would create 566 total jobs in Canada, with 495 jobs created in Ontario. Of the 566 estimated total jobs, 266 are direct jobs, 174 are indirect jobs, and another 126 are induced. In terms of FTEs, the numbers are slightly lower, with 419 FTEs created in Ontario and 479 FTEs created nationwide. Of these 479 FTEs, direct jobs account for 239 FTEs, 146 FTEs are indirect jobs and 95 FTEs are induced jobs. In total, the IDP created 80.7 jobs per million dollars of investment (i.e. program budget).

Table H-1: Total Job Impacts by Type

Job Impact Type	Ontario FTE *(in person-years)*	Canada FTE *(in person-years)*	Ontario Total Jobs *(in person-years)*	Canada Total Jobs *(in person-years)*	Total Jobs per $1M Investment *(in person-years)*
Direct	227	239	253	266	37.9
Indirect	117	146	142	174	24.9
Induced	75	95	100	126	17.9
Total[1]	419	479	495	566	80.7

[1] Columns may not add to totals due to rounding. Real values have been rounded to the nearest whole number, and the whole numbers do not sum exactly to the whole number total in every column.

Section H.1details the values of inputs used in the model runs. Section H.2 presents the analysis results, including the details of job impacts and assumptions.

H.1 Model Inputs

The model was used to estimate the impacts of three economic shocks:

- The demand shock, representing demand for energy-efficient products and services from IDP.
- The business reinvestment shock, representing increased business reinvestment due to bill savings (and net of project funding).
- The household expenditure shock, representing decreases in household spending on goods and services due to increases in the residential portion of program funding.

Table H-2 displays input values for the demand shock representing products and services related to IDP. Each measure installed as part of the program was categorized according to the StatCan IO Supply and Use Product Classifications (SUPCs).

The first two rows of Table H-2 contain the categories corresponding to products, which were the measures installed in businesses. The last two rows contain the costs allocated to services and cost recovery measures. Lighting fixtures had the highest total cost of the two product categories and accounted for $16.5 million, or 96% of the overall product cost. Electric light bulbs and tubes accounted for $0.6M of the product costs. The similarities of the two product categories reflect the relatively narrow range of measures typically installed as a part of IDP. Unlike downstream programs such as Retrofit and SBP, IDP product costs are composed entirely of equipment purchases. Labour costs are not factored in nor accounted for in program activities, and as a result there is no need to split the measure costs into respective labour and non-labour portions. However, only a portion of the incentive is actually passed through to customers; to approximate this, the total measure cost was discounted by the passthrough amount retained by distributors (approximately 29%). Similarly, the measure incentive was discounted by the amount passed through to end users (approximately 71%).

The single service category in the table, Office Administrative Services, included general overhead and administrative services associated with program delivery. The labour and non-labour amounts are not specified for this category, as the IO Model has built-in assumptions for this category. In addition to the Office Administrative Services category, there is a second service category that is unique to the IDP. Due to how the program is structured, IESO ends up paying for the entire incentive to distributors: some of that money is passed through as incentives to end users, while the rest is retained by the distributors. The difference between the undiscounted total program incentive ($21.5M) and the discounted equipment costs associated ($17.1M) is the IESO Equipment Cost recovery factor. In PY2024, the Equipment Cost recovery factor for IDP totaled $4.4M.

Table H-2: Summary of Input Values for Demand Shock

Category Description	Non-Labour	Labour	Total Demand Shock
	($ Thousands)		
Lighting Fixtures	16,561	-	16,561
Electric Light Bulbs and Tubes	582	-	582
Subtotal	17,142	-	17,142
IESO Equipment Cost Recovery	-	-	4,402
Office Administrative Services	-	-	2,531
Total			24,076

The second shock modelled by the IO Model was the business reinvestment shock. This shock represented the amount that businesses would reinvest and thus inject back into the economy. The net amount that businesses have available to either reinvest, pay off debt, or distribute to owners/shareholders ($107.2M) was the net of electricity bill savings (NPV = $128.4M), and the portion of project costs not covered by incentives ($21.3M). Unlike downstream programs where the entirety of the incentive is removed from the NPV, only the portion of the incentives that were passed through to the customers were removed. The portion of this $107.2 million that was to be reinvested was estimated using the surveys administered to participants as part of the Retrofit Process Evaluation[25]. The surveys included several questions about what businesses would do with the money they saved on their electricity bills and the type of business. Overall, respondents indicated that 79% of bill savings would be reinvested ($84.4M). The remaining savings would either be used to pay off debt or disbursed to owners/shareholders.

To properly model the effects of the business reinvestment shock, the IO Model required the reinvestment estimates by industry. Each industrial category has a production function in the model, and these functions were adjusted to account for the reinvestment shock. Table H-3. presents the input values for the business reinvestment shock by industry. The total business expenditure shock would be $84.4 million over 23 industries.

[25] IDP end users were not asked what they planned to do with savings resulting from program activities in the PY2024 survey; in order to approximate the amount that will be reinvested, PY2024 results from the Retrofit program were substituted.

Table H-3: Summary of Input Values for Business Reinvestment Shock

Category Description	Business Reinvestment Shock *($ Thousands)*
Accommodation and food services	4,386
Arts, entertainment and recreation	755
Chemical, soap, plastic, rubber, and non-metallic minerals	1,509
Crop and animal production	12,546
Educational services	2,264
Finance, insurance, real estate, rental and leasing and holding companies	6,038
Forestry and logging	1,367
Health care and social assistance	2,264
Machinery	1,367
Non-profit institutions serving households	5,611
Non-residential building construction	1,509
Other	24,488
Other municipal government services	755
Other services (except public administration)	2,264
Professional, scientific and technical services	2,264
Repair construction	2,264
Repair, maintenance and operating and office supplies	2,445
Residential building construction	1,509
Retail trade	1,509
Transportation and warehousing	2,877
Transportation margins	755
Utilities	2,122
Wholesale trade	1,509
Total	84,379

The third model input is the household expenditure shock.[26] This shock represents the incremental increase in electricity bills to the residential sector from funding the program. The assumption is that the IESO programs are funded by all customers in proportion to the overall consumption of electricity. Thus, the residential funding portion was 35% of the $17.8M program budget or $6.2M.

H.2 Results

The StatCan IO Model generated results based on the input values detailed in Section H.1. Table H-4 shows the results of the model run for the demand shock for products and services. As the two right columns show, the model estimated that the demand shock will result in the creation of 118 total jobs (measured in person-years) in Canada, of which 101 will be in Ontario. Of the 118 jobs, 38 were direct, 44 indirect and 19 induced. In terms of FTEs the numbers are slightly lower; 84 FTEs were estimated to be created in Ontario and 99 in total across Canada. Of those 99 FTEs, 33 were direct, 47 indirect and 18 induced. Direct jobs impacts were realized exclusively in Ontario, as shown in the table. As we move to indirect and induced jobs, impacts are dispersed outside of the province.

Table H-4: Job Impacts from Demand Shock

Job Impact Type	Ontario FTE *(in person-years)*	Canada FTE *(in person-years)*	Ontario Total Jobs *(in person-years)*	Canada Total Jobs *(in person-years)*
Direct	33	33	38	38
Indirect	37	47	44	56
Induced	14	18	19	24
Total	84	99	101	118

Table H-5 shows the results of the model run for the business reinvestment shock. This shock accounted for approximately 85% of all job impacts realized by the IDP. Job impacts generated by business investment were equal to 356 direct total FTEs and 421 direct total jobs. Overall, business investments were responsible for 406 FTEs and 480 total jobs across Canada.

[26] The model ran with a normalized value of $1 million in extra household expenditures, and job results can be scaled by actual demand shock.

Table H-5: Job Impacts from Reinvestment Shock

Job Impact Type	Ontario FTE *(in person-years)*	Canada FTE *(in person-years)*	Ontario Total Jobs *(in person-years)*	Canada Total Jobs *(in person-years)*
Direct	205	218	230	244
Indirect	86	106	105	129
Induced	64	81	85	107
Total	356	406	421	480

The third shock was the reduction in household spending from the increase in electricity bills to fund the program. Table H-6presents the job impacts from the model run. It represents the number of jobs attributed to reduced household spending; this amount could have been spent in other sectors of the economy but was instead spent on funding the IDP. The model estimated a reduction of 25 FTEs and 33 total jobs across Canada due to the decreased household spending.

Table H-6: Job Impacts from Residential Funding Shock1

Job Impact Type	Ontario FTE *(in person-years)*	Canada FTE *(in person-years)*	Ontario Total Jobs *(in person-years)*	Canada Total Jobs *(in person-years)*
Direct	11	12	15	17
Indirect	6	8	8	10
Induced	3	4	4	6
Total	21	25	27	33

[1] The job impacts associated with the residential funding shock are presented as absolute values, but they represent an overall decrease in job impacts and will be subtracted from the total.

The non-residential sector also contributes to program funding. The StatCan IO Model does not adjust production functions for all industries experiencing marginally higher electricity price changes, so this portion of the shock would be modeled by assuming that surplus would be reduced by the extra amount spent on electricity. The model captures energy bill increases from program funding as an impact on direct GDP (value-added) and not as a reduction in employment. The GDP impact is equivalent to the profit loss resulting from the increase in electricity bills from program funding.

The economic impact of the reduction of electricity production because of the increase in energy efficiency was another potential economic shock. Technically speaking, it can be estimated using StatCan Input-Output multipliers without running the model. However, the IO model is linear, and not well suited to model small decreases in electricity production. Total electricity demand has been increasing over time and is projected to continue

increasing[27]. The relatively small decrease in overall consumption attributed to IDP savings may work to slow the rate of consumption growth over time but would likely not result in actual job losses in the utility industry or upstream suppliers. The linearity of the IO model means that it will provide estimates regardless of the size of the impact. Given the nature of electricity production, it is reasonable to conclude that the linear IO multiplier is not appropriate for estimating job impacts. This analysis assumes that job losses from decreased electricity production are negligible.

Table H-7 shows the total estimated job impacts by type, calculated by combining the jobs estimated in Table H-4, Table H-5, and Table H-6. Overall, the program was estimated to create 566 total jobs across Canada, 495 of which were added in Ontario. Of the 266 estimated total direct jobs, 253 were in Ontario. Slightly smaller amounts of the indirect and induced jobs were also in Ontario; 142 of 174 indirect jobs and 100 of 126 induced jobs were estimated to be created within the province. The FTE estimates were slightly lower overall than the total jobs, with a total of 419 FTEs (of all types) created in Ontario and 479 FTEs added nationwide. Most direct FTEs (1227 of 239) were added in Ontario, with this number representing approximately 54% of the total FTEs added in Ontario and 47% of all FTEs created across Canada. In 2024, each $1M of program spend resulted in the creation of 80.7 total jobs. As this is the first year of evaluation, year over year comparisons could not be made for IDP. In future evaluations, these comparisons will be available.

Table H-7: Total Job Impacts by Type

Job Impact Type	Ontario FTE *(in person-years)*	Canada FTE *(in person-years)*	Ontario Total Jobs *(in person-years)*	Canada Total Jobs *(in person-years)*	Total Jobs per $1M Investment *(in person-years)*
Direct	227	239	253	266	37.9
Indirect	117	146	142	174	24.9
Induced	75	95	100	126	17.9
Total[1]	419	479	495	566	80.7

[1] Columns may not add to totals due to rounding. Real values have been rounded to the nearest whole number, and the whole numbers do not sum exactly to the whole number total in every column.

The model does not provide year-by-year results for job impacts, but we are able to make some estimates about the temporal nature of the impacts. Table H-8 shows the total jobs created due to program activities and energy savings in the first year versus from after the first year. The table assumes that "first year activities" are the initial demand shock for EE products and services, the program funding shock, and the first year energy savings

[27] Annual Planning Outlook–A View of Ontario's Electricity System Needs; 2024. IESO.

(resulting in bill savings and reinvestment). Job impacts after the first year are due to energy savings over the course of the measures' EULs. Job impacts from first year activities make up roughly 26% of the total, with 146 out of the total of 566 person-years. 30 of these person-years come from first year energy savings, while the demand for equipment and services are responsible for the other 116 person-years. The remaining 419 total job-years are due to energy savings after the first year—and the reinvestment generated by the bill savings.

Table H-8: Job Impacts from First Year Shocks

Job Impact Type	Total Jobs *(in person-years)*		
	From First Year Activities	From Bill Savings After First Year	Total
Direct	52	214	266
Indirect	64	111	174
Induced	31	95	126
Total[1]	146	419	566

[1] Columns may not add to totals due to rounding. Real values have been rounded to the nearest whole number, and the whole numbers do not sum exactly to the whole number total in every column

Table H-9 shows the job impacts in more detail, with jobs added by type and industry category. Industries are sorted from top to bottom by those with the most impacts to the least, with industries that showed no impacts not included in the table. The table shows that the industry with the largest job impacts was Non-residential building construction, which added 72.9 jobs. This is reflective of the makeup of IDP; most program funding goes to purchasing equipment for commercial properties, which would be installed by workers belonging to the non-residential construction category. Administrative and support, waste management and remediation services and professional, technical and scientific services were the industries with the next most added jobs, gaining 61.4 and 60.3 jobs respectively. The top six industries all created more than 50 total jobs per industry, accounting for 65% of all the jobs created by IDP in 2024.

Table H-9: Job Impacts by Industry

Output Industry Category	FTE *(in person-years)* Ontario	FTE *(in person-years)* Total	Total Jobs *(in person-years)* Ontario	Total Jobs *(in person-years)* Total
Non-residential building construction	64.9	64.9	72.9	72.9
Administrative and support, waste management and remediation services	47.8	50.6	57.6	61.4
Professional, scientific and technical services	41.5	49.4	50.7	60.3
Retail trade	41.0	45.1	54.5	60.0
Manufacturing	39.2	56.5	40.7	58.6
Wholesale trade	46.4	54.3	48.6	57.0
Finance, insurance, real estate, rental and leasing and holding companies	23.7	27.6	29.7	34.4
Government education services	25.0	25.2	29.0	29.3
Transportation and warehousing	17.2	21.4	20.8	25.7
Accommodation and food services	7.7	10.3	12.3	16.3
Information and cultural industries	9.5	12.1	10.6	13.5
Engineering construction	12.4	12.4	12.1	12.1
Other services (except public administration)	5.4	6.9	7.4	9.5
Residential building construction	7.0	7.0	9.1	9.1
Repair construction	6.3	7.1	7.3	8.2
Health care and social assistance	4.2	4.7	6.5	7.5
Other federal government services	5.8	5.9	6.2	6.3
Arts, entertainment and recreation	1.5	1.9	2.8	3.7
Educational services	1.3	1.5	3.2	3.6
Non-profit institutions serving households	2.4	2.8	3.1	3.5
Other municipal government services	2.7	3.1	3.0	3.3
Crop and animal production	0.8	1.3	1.3	2.3
Utilities	1.8	2.1	1.9	2.2
Government health services	1.5	1.8	1.6	1.9
Mining, quarrying, and oil and gas extraction	0.7	1.7	0.6	1.5
Other provincial and territorial government services	0.7	0.9	0.7	0.9
Other activities of the construction industry	0.1	0.2	0.3	0.3
Support activities for agriculture and forestry	0.1	0.3	0.2	0.3
Forestry and logging	0.1	0.2	0.1	0.2
Total[1]	419	479	495	566

[1]Columns may not add to totals due to rounding. Real values are rounded to the nearest whole number and the whole numbers do not sum exactly to the whole number total in every column. Values presented in this table are rounded to the nearest 0.1 to better show the distribution of small jobs impacts.

The IDP Assessors and Installer survey responses support the model results showing positive job impacts. The survey instrument contained questions for contractors and applicant representatives related to IDP impacts on their firms and employment levels. Answers to two specific questions proved to be informative in understanding the nature of the impacts on respondents, which would be considered direct impacts. These two questions are listed below, including relevant illustrative verbatim responses.

1. Did the 2024 program help or hinder the growth of your business in any way? If so, please explain how:

The program helped the growth of my business in the following ways:

"Got many clients to consider our products as the program gave our group credibility."

"It increased our ability to encourage companies whom otherwise could not afford to improve energy consumption as break given upfront."

"Customers/end-users who were on the fence about upgrading their lighting saw the discounts and could then afford to do the upgrade"

"We created awareness in the market in the initial months of 2024 and that helped us win some projects in the second half of 2024."

"Increased Customer Demand: More affordable energy-efficient products led to higher sales and installations.

Enhanced Competitive Edge: Better pricing and incentives attracted more customers.

Boosted Client Acquisition: Easier deal closures brought in new clients.

Higher Project Volume: Increased demand led to more projects and revenue.

Strengthened Utility Partnerships: Improved relationships with local utilities.

Improved Cash Flow: Faster project execution and payment turnaround."

The program hindered the growth of my business in the following ways:

"Portal issues did not make the staff want to recommend the program. Too much to worry about for use on day to day sales. Project Sales only."

"Training. The focus needs to be shared on all distributors or allow the vendors in the program as well so they can handle it for distributors."

2. Did the 2024 program have an impact on the number of people you hired in the last year? Yes, the program impacted the number of people hired in the last year in the following ways:

Positive Impacts:

"Needed to hire one new administrator."

"We increased our team by 3 people last year (2 fulltime roles)."

"Hired a part-time lighting specialist."

Negative Impacts:

No negative employment impacts reported in PY2024

Respondents indicated that the program generally resulted in slight increases in staffing overall and stated that between 1 and 3 new employees were hired. Participants additionally stated that the program afforded increased revenue streams and profit margins for installers and allowed for the hiring of more employees for the sole purpose of supporting the program. One respondent also indicated that the program allowed for more collaboration and better relationships with local utilities, in addition to increases in sales and revenue. Two respondents indicated that IDP had a negative effect on business opportunities. One respondent indicated that portal issues served to dissuade use in day-to-day sales. The other respondent stated that excluding vendors from being able to participate in the program to the same level as distributors was potentially causing a negative impact on their business. In general, responses reveal the potential for beneficial impacts the program can have on firms. Should there be a desire to increase program effectiveness, opportunities exist to examine whether adjustments can be made to address the concerns brought up by respondents this year. In particular, a focus on a standardized training curriculum for all distributors might be considered, if one is not already in place.

Input-Output models are informative for understanding the potential magnitudes and dynamics of economic shocks created by policies and programs. While useful, the StatCan IO Model is a simplified representation of the Canadian economy and thus has limitations. The model assumes fixed technological coefficients. It does not consider economies of scale, constraint capabilities, technological change, externalities, or price changes.

This makes analyses less accurate for long-term and large impacts, where firms would adjust their production technology and the IO technological coefficients would become outdated. If firms adjust their production technology over time to become more efficient implies that the impact of a change in the final demand will tend to be overestimated. For household consumption, the model is based on the assumptions of constant consumption behaviour and fixed expenditure shares relative to incomes.

Appendix I Detailed Non-Energy Benefit Methodology and Additional Results

This appendix provides additional details about the NEB methodology as well as additional NEB results. Section 3.3.1 summarizes the methodology.

I.1 Methodology

End-User Survey

The NEBs methodology for the PY2024 Instant Discount Program followed the same methodology as that from the *Non-Energy Benefits Study: Phase II,* which assessed NEBs from energy-efficiency projects funded by the IESO over the 2017-2019 period.[28] The PY2024 evaluation used two different question types to determine the NEBs' value that program participants realized by installing program measures:

- **Relative scaling:** Relative scaling questions asked participants to state the value of an item of interest relative to some base. For this survey, participants were asked to state the value of the NEB relative to annual electricity bill savings that they estimated, or, if they could not estimate savings, their annual electricity bill.
- **Willingness-to-pay:** Willingness-to-pay questions asked participants to assign the dollar value that they would be willing to pay for an item of interest. In this case, participants were asked what they would be willing to pay for the NEB.

All survey respondents were asked to value all NEBs using both techniques. Data collected from these questions were then used to quantify the NEBs.

NEBs Quantification

To quantify the NEB, the total value across all participants was divided by total gross savings values across all participants. This was completed using both relative scaling and willingness-to-pay NEB values. Two hybrid approaches were calculated to better represent the sample:

- **Hybrid, relative scaling priority,** in which the team gave priority to the relative-scaling response value. Through this approach, the team only considered willingness-to-pay if the participant did not answer the relative scaling question.

[28] Dunsky. (July 2021). *Non-Energy Benefits: Phase II; Quantified Benefits and Qualitative Insights*. https://www.ieso.ca/-/media/Files/IESO/Document-Library/conservation-reports/Non-Energy-Benefits-Study-Phase-II.ashx

- **Hybrid, minimum approach,** in which the team considered the lowest non-null response between relative scaling and the willingness-to-pay questions.

As a final step, the evaluation team calculated the average value ($/kWh) for the NEB, weighted by energy savings across all participants.

Table I-1 presents average NEB values, based on two different calculation approaches:

- **Average (per participant).** A $/kWh value calculated for each individual participant, with all values then averaged.
- **Average (overall).** An overall average value, where total NEB benefits ($s) were summed across all participants and then divided by total energy savings (kWh) across all participants.

All recommended values in the Phase II study were based on the hybrid minimum approach. Additional details on the methodology and NEBs quantification can be found in the Phase II study.

Table I-1: Quantified NEBs by Participant and by Savings, PY2024

NEB Test	PY2024	PY2024
Hybrid (min approach) ($/kWh)	Per participant	Overall
Reduced building & equipment O&M	$0.17	$0.04
Hybrid (RS-priority) ($/kWh)	Per participant	Overall
Reduced building & equipment O&M	$0.51	$0.04

Appendix J IDP Building Types and Delivery Regions

Table J-1: 2024 IDP Program Reported Building Types

Facility Type Reported in IESO Database (IDP)	Resource Innovations Designation
FOOD RETAIL	Lighting - Food Retail
HOSPITAL	Lighting - Hospital
LARGE HOTEL (CORRIDOR/LOBBY)	Lighting - Large Hotel (Corridor/Lobby)
LARGE NON-FOOD RETAIL	Lighting - Large Non-Food Retail
LARGE OFFICE	Lighting - Large Office
NURSING HOME	Lighting - Nursing Home
OTHER COMMERCIAL BUILDINGS	Lighting - Other Commercial Buildings
OTHER NON-FOOD RETAIL	Lighting - Other Non-Food Retail
REFRIGERATION	Lighting - Refrigeration
RESTAURANT	Lighting - Restaurant
SCHOOLS	Lighting - Schools
UNIVERSITY COLLEGES	Lighting - University Colleges
WAREHOUSE WHOLESALE	Lighting - Warehouse Wholesale

Table J-2: 2024 IDP Program Geographic Regions

Postal Code First Character	Resource Innovations Geographic Region	Project Count
L	Central	3,632
K	Eastern	839
N	Southwestern	1,607
P	Northern	704
M	Toronto	1,166