

XCEL ENERGY

Colorado Business LED Instant Rebate Product Impact & Process Evaluation

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2020 Business LED Instant Rebate Product Evaluation

Introduction

Xcel Energy contracted with EMI Consulting and its partner Apex Analytics to evaluate the 2020 Business LED Instant Rebate Product in Colorado. The product offers instant rebates, through a trained distributor channel, to Xcel Energy commercial customers who purchase qualifying lighting equipment in existing or new buildings. Rebates help lower the upfront costs of energy-efficient lighting, including Design Lights Consortium (DLC), ENERGY STAR, non-DLC and non-ENERGY STAR certified models of LED lamps as well as LED retrofit kits.

As part of the process evaluation, the evaluation team assessed customer and trade partner motivations and barriers to participation in the product, customer and trade partner satisfaction, as well as participation in related programs, and motivations and decision-making when purchasing lighting products. For the impact evaluation, the evaluation team assessed the net-to-gross ratio (NTGR) for the Business LED Instant Rebate product. This summary includes the key findings and recommendations from our evaluation.

Methods

Participating Customer Survey (n=141), Follow up interviews (n=10)

Trade Partner Interviews (n=42)

Peer Benchmarking Interviews (n=5)

Fielding:
Aug. 2020 – Sep. 2020

Summary of Findings



The evaluation team estimated a **retrospective NTGR of 0.692**. With no action taken, the evaluation team also estimates a prospective NTGR based on evaluation data specific to the screw-based lamp sales shares. The evaluation team recommends separately assessing and incorporating NTGR research from the new manufacturer direct channel. These ratios are based on participating customer and trade partner responses.



There are **opportunities to improve the usability of the trade partner portal**. While the trade ally portal benchmarks well compared to peers, distributors still struggle to validate customers and products, increasing support staff needs and reducing likelihood of distributors submitting a rebate for small transactions.



Customers could **benefit from additional education** from Xcel Energy. A small percentage of customers voiced dissatisfaction around lack of energy efficiency education and not seeing a reduction in overall electric bill after installation. Education around seasonal energy usage may mitigate customer frustration when their bill does not decrease.



Customers and trade partners are **satisfied with their experience in the program**. Incentives are high enough for national distributors to prioritize sales in Colorado and customers receive a seamless experience because distributors handle the details.

Product Influence

35%

OVERALL FREE-RIDERSHIP FROM 50% SCREW-BASED LAMP SHARES

4.2%

SPILOVER AND MARKET EFFECTS

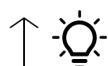
1.8 out of **10**

Product Influence on trade ally's decisions to pursue sales strategies to increase adoption of LEDs, where 0 was Extremely Influential and 10 was Not At All Influential.

5.2 out of **10**

Trade ally reported likelihood to pursue the **exact same sales strategies** if the incentive, information, and support from the product were not available.

43 %



Free ridership from trade allies selling >25% screw-based lamps.

22%



Free ridership from trade allies selling ≤25% screw-based lamps.

2020 Business LED Instant Rebate Product Evaluation

Product Experience, Satisfaction & Participation in Related Programs

PRODUCT EXPERIENCE AND SATISFACTION



Customers and trade partners are satisfied with their experience in the program. Overall business customers provided average satisfaction ratings ranging from 8.6-9.2 out of 10. Trade partners rated their satisfaction as a 9 out of 10.



Improved lighting quality and lighting levels were the top non-energy benefits reported by participating customers.



There are **opportunities to improve the usability of the trade partner portal.** Distributors struggled to validate customers and products, increasing support staff needs and reducing likelihood of distributors submitting a rebate for small transactions.

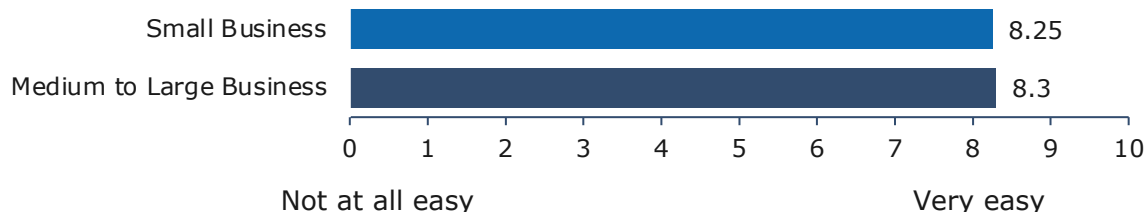


Customers could **benefit from additional education** from Xcel Energy. The largest area of dissatisfaction was around lack of energy efficiency education and not seeing a reduction in overall electric bill after installation.

PARTICIPATION IN RELATED PRODUCTS

40% of participants reported **also participating in another program.** Participants and trade allies were **not confused** about which program to participate in.

Ease of finding correct program for customer needs



Product Awareness

33% Of **small business customers** were **not aware** they received a rebate for their lighting product

23% Of **medium to large business customers** were **not aware** they received a rebate for their lighting product.



Most customers became aware of the program **through their trade ally.**

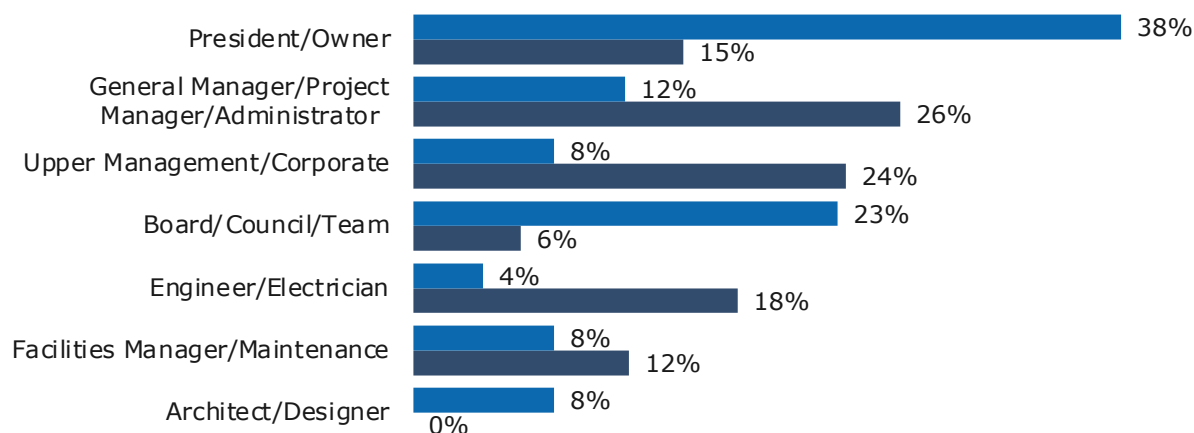
2020 Business LED Instant Rebate Product Evaluation

Decision Making and COVID-19 Impacts

DECISION MAKING

38% Of **small business customers** we talked to were the **president/owner or CEO** of their company compared to 15% of medium to large businesses.

Who is the key decision maker?



■ Small Business (n=26)

■ Medium to Large Business (n=34)

81%

Of **total customers plan projects in advance with a budget.**

Medium to large businesses were more likely (94%) to plan projects in advance with a budget than small business customers (70%).



Trade partners do not like to keep LED stock, and prefer to dropship it—the LED market changes too rapidly, and LED stock quickly becomes outdated.



Customers were motivated by long term energy savings, reduced maintenance cost, better warranties and products, and product longevity.

COVID-19 IMPACTS



30%

Of **small business customers** reported **struggling during the pandemic** (business is slow, business is poor, or business is closed)



13%

Of **medium to large businesses** reported **struggling during the pandemic** (business is slow, business is poor, or business is closed)



Trade partners also experienced **reduced work** due to concerns about virus spread. They noted that the **Xcel Energy LED COVID bonus helped** their business.

2020 Business LED Instant Rebate Product Evaluation

Peer Utility Practices and Lighting Trends

PEER UTILITY PRACTICES

3 out of 5

Peer utilities also used an **online portal** for customer and product verification

1 out of 5

Peer utilities also **separate products by program** in order to avoid 'double-dipping'.

3 out of 5

Peer utilities allow **rebates on** limited numbers of **non-certified products** (DLC and ENERGY STAR)

Peer Utility Changes and Products

	Utility A	Utility B	Utility C	Utility D	Utility E
Number of products incented	58	27	23	41	20
Changes to types of products offered	Removal of screw-based products – planning to move to a controls-only program	None planned – changes are contingent on struggle to prevent overlap with other programs	Adding LED fixtures and kits on a prescriptive basis	Adding products based on feedback from distributors	Potentially adding fixtures

LIGHTING TRENDS



Adjustable Bulbs

Color and lumen adjustable LED bulbs are **becoming more common** and are attractive to manufacturers, contractors, and customers. These bulbs are adjustable, allowing the user to set their wattage, lumens and color.



Integrated Fixtures

Lighting sales are **trending towards integrated fixtures**, and away from screw-based bulbs. Manufacturers felt that the remaining retrofit opportunities were in troffers and high bay lighting.



Increased Power

LED bulbs are getting more powerful and may soon become a large competitor in the **outdoor lighting and sanitation markets**.



Smart Controls

Trade allies and manufacturers predicted an **increase in opportunities** for lighting controls, including smart controls with Bluetooth.

2020 Business LED Instant Rebate Product Evaluation

Conclusions & Recommendations

The product shows influence in the market, with a retrospective NTGR of 0.692.

If the product design remains the same, the evaluation team recommends using a **prospective NTGR of 0.692**. If Xcel Energy shifts product mix away from screw-based lamps the NTGR could increase according to the following equation:

$$\text{Free Ridership} = 0.358 \times \text{Screw-based Units Sales Share} + 0.198$$

The evaluation team recommends additional NTGR research for the additional direct-to-manufacturer channel.

Trade allies struggle with technical issues in the portal, including customer eligibility and entering the correct product codes.

Update the portal to allow for **'fuzzy' matching** in customer eligibility search tool. **Allow DLC, Energy Star, and Short and Long product codes as valid entries**. Conduct a **usability study** of the trade ally portal to find additional technical issue and opportunities for in-portal information.

A small percentage of customers did not feel they saved energy and did not receive information on energy efficiency.

Help customers understand what to expect for their energy bill. Provide print materials, and/or train trade partners to help customers understand what to expect for their next energy bill, particularly when lighting projects are taking place before a heavy heating or cooling season.

Trade allies appreciated and noticed an uptick from the COVID-19 bonus on LED tubes.

Continue to utilize **short-term bonus periods** to promote upticks in project completion.

Trade allies and manufacturers would like to see additional lighting products offered through the Business LED Instant Rebate Product.

Where possible, add more **lighting types to the Business LED Instant Rebate Product, including HIDs, high/low bay lights, troffers, retrofit kits, parking garage, exteriors, controls, and integrated fixtures**.

Conduct an additional C&I baseline study to understand the greatest opportunities for marketing and promotion of the Business LED Instant Rebate Product. Past baseline research has indicated that certain market sectors in terms of business size and type are more transformed than others.

1. INTRODUCTION

Xcel Energy offers a comprehensive array of energy services and products to its customers, including products that focus on demand side management (DSM). For the evaluations of its 2020 products, Xcel Energy sought to understand the role each product plays in changing the marketplace, to analyze the influence of that role on customer choices, and to use the findings to improve customer experience and ensure industry-leading product performance. To accomplish this, Xcel Energy contracted with EMI Consulting and its partner Apex Analytics to evaluate five products offered in Colorado and Minnesota in 2020.¹ This included the evaluation of the Business LED Instant Rebate product in Colorado, which is discussed in this report. This introduction includes an overview of the product and the evaluation approach and describes the organization of the report.

1.1. PRODUCT OVERVIEW

The Colorado Business LED Instant Rebate product offers instant rebates through a trained distributor channel, to Xcel Energy commercial customers who purchase qualifying lighting equipment in existing or new buildings. Equipment includes screw-based lamps, linear and U-Bend tubes, HID-based lamps, and pin-based lamps as well as LED retrofit kits. Rebates are intended to accelerate adoption of high-efficiency lighting products in Xcel Energy's commercial and industrial facilities. Secondary goals include driving market transformation, forming a gateway for additional DSM products, expanding awareness of the Xcel Energy brand, and providing high-quality utility touchpoints for commercial customers.

Lighting products are distributed through a network of 40-50 active distributors² who promote the products and provide instant rebates. Distributors sign a participation agreement and receive training and a login to the partner portal, which Xcel Energy staff use to qualify products and customers as eligible. Distributors are reimbursed for discounts within 45 days, pending approval of uploaded sales and customer information.

In 2019 and through the first quarter of 2020, the Business LED Instant Rebate product channel (combined midstream channel results from Small Business Lighting and Lighting Efficiency Products) claimed over 47 GWh in energy savings from rebates provided in Colorado (Table 1-1).

¹ The products selected for evaluation in 2020 include: Energy Efficient Showerheads (CO & MN), Refrigerator and Freezer Recycling (CO), Small Business Lighting (CO), and Business LED Instant Rebate (CO).

² Distributors is a broad definition and may also include contractors and rebate aggregators.

Table 1-1. CO Business LED Instant Rebate Savings by Measure 2019–First Quarter 2020

Measure	Units		kWh		kW	
	Quantity	% of Total	Quantity	% of Total	Quantity	% of Total
A-lamps	121,100	29.5%	10,776,966	22.6%	2,344	22.5%
Reflectors	49,208	12.0%	9,350,745	19.6%	2,033	19.5%
Decorative	32,706	8.0%	6,549,567	13.7%	1,422	13.7%
Total Screw-based	203,014	50%	26,678	56%	5,799	56%
Linear	179,475	43.8%	16,634,509	34.9%	3,643	35.0%
Pin-lamp	17,285	4.2%	2,032,389	4.3%	445	4.3%
Retrofit Kit	6,898	1.7%	980,703	2.1%	214	2.1%
U-Bend Tube	1,842	0.4%	186,713	0.4%	41	0.4%
HID Base	1,553	0.4%	1,216,709	2.5%	266	2.6%
Total	410,067	100.0%	47,728,301	100.0%	10,408	100.0%

Note: This is the population of participants with opportunity close dates between January 2019 and April 2020. These numbers are based on aggregated data provided to EMI Consulting in April 2020.

1.2. EVALUATION OVERVIEW

The evaluation team designed a comprehensive evaluation of the Business LED Instant Rebate product to provide information on a number key research topics, including:

- Product influence (i.e., the net-to-gross ratio)
- Product perceptions and awareness
- Customer decision-making and barriers
- Product experience and satisfaction
- Participation in related programs
- Best practices

Table 1-2 presents an overview of the research topics and data sources used in this evaluation of the Business LED Instant Rebate product. For more information, please refer to the Evaluation Plan in Appendix A.

Table 1-2. Evaluation Objectives & Methods

Evaluation Objective	Impact or Process Objective	Participant Customer Survey n = 140	Trade Ally Interviews n = 42	Benchmarking Review n=5
Product Influence (NTGR)	Impact	✓	✓	
Perceptions/Awareness	Process	✓	✓	
Customer Decision-Making and Barriers	Process	✓	✓	
Product Experience/Satisfaction	Process	✓	✓	
Participation in Related Programs	Process	✓		
Included Products, Incentives, Best Practices	Process			✓

1.3. REPORT ORGANIZATION

The following chapters organize the evaluation findings into two components: process and impact evaluation results. Chapter **Error! Reference source not found.** reviews the approach and results of the net impact evaluation and the attribution of product impacts using a standard net-to-gross ratio (NTGR) analysis. Chapter **Error! Reference source not found.** discusses the process evaluation components, which address customer and trade ally perceptions and awareness, customer decision-making and barriers, product experience and satisfaction, participation in related programs, and peer utilities' best practices. Conclusions and recommendations are presented in Chapter **Error! Reference source not found.**. Detailed, descriptive methodology information, evaluation plans, and survey instruments can be accessed in this report's appendices.

2. IMPACT FINDINGS

A primary objective of this evaluation was the estimation of the net-to-gross ratio (NTGR) for the Business LED Instant Rebate product in Colorado. For demand-side management (DSM) products, the NTGR is a metric that estimates the influence of the product on the target market. It is used to adjust reported gross energy savings to account for energy efficiency that would occur in the absence of a product, and it is also used as a benchmarking indicator of product effectiveness.

NTGR results can indicate opportunities for Xcel Energy to adjust the design and implementation of its products to increase the influence and/or cost effectiveness of individual products and the entire portfolio. The NTGR includes several factors that create differences between gross and net savings, such as free-ridership and spillover. The research team estimated a retrospective NTGR based on data provided by customers and trade allies, and then recommended a prospective NTGR based on insights and analysis of trade ally responses. Note that while a NTGR of 1.0 is often seen as desirable, it may not be appropriate for all product designs depending on a variety of factors (including the maturity of the product and the technologies it promotes, product intervention strategies, and cross-product coordination strategies). The research team has taken care to present our NTGR results with this context in mind.

The objective of the impact evaluation of the Business LED Instant Rebate product was to develop a NTGR documenting the extent to which product activities influenced customer purchasing decisions. The evaluation team used the active trade ally interviews and participating customer self-report surveys to estimate the Midstream Lighting retrospective NTGR. We incorporated insights from this same research along with manufacturer interviews to inform the prospective NTGR.

Accordingly, the **objectives of the impact evaluation** were to:

- Estimate an overall NTGR, documenting the product's influence on customers' decisions.
- Identify major drivers of free-ridership.
- Assess participating customer spillover.
- Assess market effects of the Business LED Instant Rebate product.

2.1. KEY IMPACT FINDINGS

This section presents key findings from the impact evaluation of the Colorado Business LED Instant Rebate product, including the retrospective NTGR and recommended prospective NTGR. The evaluation team first estimated free-ridership from active trade allies participating in the product and spillover from customer participants. Then, the evaluation team qualitatively assessed market effects through interviews with active, inactive, and manufacturer trade allies in the context of secondary research about market effects. The team then recommended a prospective NTGR based on the lighting and Business LED Instant Rebate product

market status in the context of the COVID-19 pandemic and trade ally forecasts of continued market transformation, and potential changes to the product design.

RETROSPECTIVE NET-TO-GROSS RATIO

The evaluation team estimated a retrospective NTGR of 0.692 for the Business LED Instant Rebate product, based on results from active trade ally interviews and participating customer surveys. To estimate this NTGR, the evaluation team took the following steps:

- The evaluation team estimated a free-ridership ratio of 0.35, based on active trade ally interviews that relied on two components, – a Program Components score that assessed the product importance to trade allies and a No-Program score that assesses the intention of trade allies to pursue LED sales strategies absent the product.
- The evaluation team estimated 0.002 spillover from participating customers.
- The evaluation team identified evidence of non-participant spillover and market effects from interviews with active and inactive trade allies as well as manufacturers, applying 0.04 for market effects as trade allies indicated that the product has significantly increased overall LED sales over the past ten years.
- We took the inverse of free-ridership, and then added spillover and market effects, to estimate the final NTGR of 0.692.

PROSPECTIVE NET-TO-GROSS RATIO

The evaluation team recommends a prospective NTGR based on the mix of products sold in future years. By inputting the average share of screw-based bulb sales to Equation 1, Xcel Energy can calculate free-ridership in future years.

Equation 1. Prospective Free Ridership

$$\text{Free Ridership} = 0.358 \times \text{Screw-based Units Sales Share} + 0.198$$

Because conflicting market conditions are at play, between LED market adoption rates and the economic downturn associated with COVID-19 increase the product's influence on the marketplace, the team does not recommend any adjustment for general market trends.

The evaluation team also recognizes that Xcel Energy recently adjusted its product design to allow customers purchasing directly from manufacturers to participate in the product through Encitiv Energy, a company that represents manufacturers in claiming midstream rebates. While customers that purchase directly from manufacturers will enjoy lower net LED prices by avoiding distributor mark-ups, these larger customers may already be purchasing LEDs absent the product. Therefore, to assess this change on the NTGR, the evaluation team recommends

Xcel Energy consider additional NTGR survey research with customers participating through manufacturers to separately assess free-ridership and spillover and then incorporate the results into the prospective NTGR when that research is complete.

2.2. NET-TO-GROSS APPROACH

The evaluation team developed the NTGR for the Business LED Instant Rebate product using a self-report approach, based on participating trade ally interviews for free-ridership and customer surveys for participating spillover. The methodology used in this evaluation follows the Midstream Protocol in the *2020 Illinois Statewide Technical Reference Manual for Energy Efficiency Version 6.0*, in *Attachment A of Volume 4: Cross-Cutting Measures and Attachments*.³

The data inputs to the NTGR analysis included:⁴

- Trade ally interviews focusing on free ridership and projected market changes.
- Participating customer surveys – focused on participating customer spillover.
- Benchmarking interviews – comparing the NTGR to industry averages.
- Known product changes in upcoming years – accounting for implications of future changes in product design.

The evaluation team used self-reported data from participating trade allies to develop an initial free-ridership estimate. We then aggregated (and weighted according to the proportion of unit sales in the population) those results to create the overall product free-ridership. The evaluation team also segmented responses by the share of respondent sales that were screw-based lighting products, to assess the correlation of free-ridership with screw-based product sales. We used data from the additional sources listed above constructing a logical assessment of product attribution and in finalizing the prospective NTGR for the product.

FREE-RIDERSHIP

Free-ridership is a measure of the amount of a product's claimed savings that would have occurred in the absence of the product. Free-ridership is assessed on a scale from 0 to 10, where 10 indicates that the product had 100% free-ridership and all product savings would have occurred without any of the product's rebates or assistance.

To determine free-ridership, the research team started with the Midstream Protocol from the *2020 Illinois Statewide Technical Reference Manual (TRM) for Energy Efficiency Version 8.0, Volume 4: Cross-Cutting Measures and Attachments*, using two components of free-ridership, a "Program Components" score and a "No

³ https://www.ilsag.info/technical-reference-manual/il_trm_version_8/

⁴ Additional descriptive detail on these research activities appears in Chapter 3 and in the appendices.

Program” score.⁵ The research team customized this methodology to better match the design of the Business LED Instant Rebate product.

The evaluation team adapted the Illinois Midstream Protocol to remove the “Program Influence” free-ridership score as in other Xcel Energy business evaluations. The evaluation team has found that this component collects confounding data from respondents and likely does not improve the accuracy of the algorithm.⁶

Under this approach, the free-ridership score is based on two components:

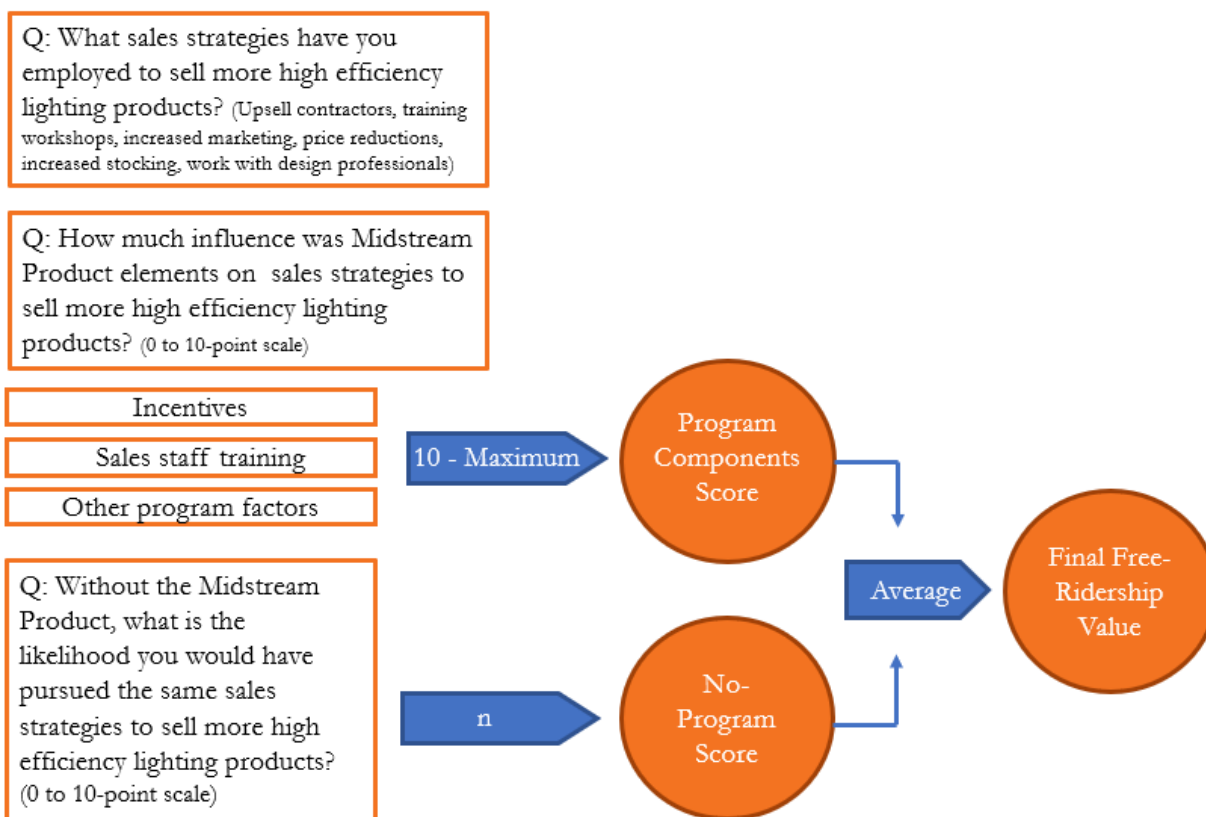
- A **Program Components** score, assessing the trade ally’s perception of the importance of various product components in their decision to pursue a variety of sales strategies to increase sales of Business LED Instant Rebate products.
- A **No-Program** score, based on the participant’s intention to pursue these same sales strategies even without the product.

When combined, these components assess the likelihood of free-ridership on a scale of 0 to 10, with the two scores averaged to create a final free-ridership score. Figure 2-1 illustrates how these components come together to produce the final free-ridership value.

⁵ Throughout the report, when referring to scores factoring into the NTGR, the evaluation team follows the nomenclature of the 2020 Illinois TRM (i.e., using the terms like “Program Score”, even though Xcel Energy practice is to use the term “product.”) In the context of discussing aspects of NTGR, the terms “product” and “program” can be interpreted interchangeably.

⁶ The evaluation team conducted cognitive interviews in 2016 and results are described in Appendix G of the Xcel Energy Lighting Efficiency Product 2018 Evaluation, January 29, 2019.

Figure 2-1. Participating Customer Free-Ridership Algorithm for the Business LED Instant Rebate product



Source: Apex Analytics

PARTICIPANT SPILLOVER

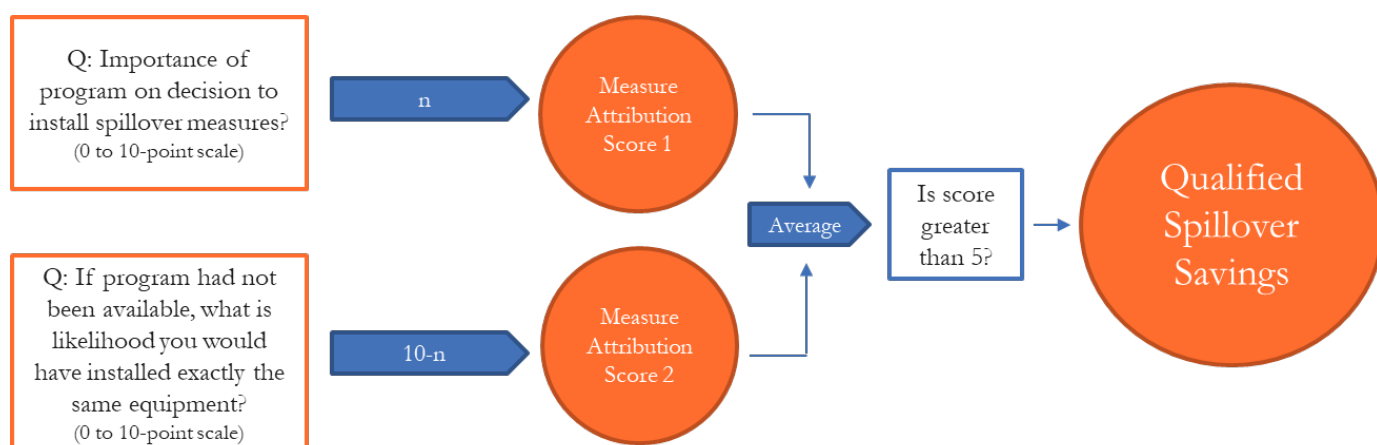
Spillover is a measure of the amount of energy savings that occur due to the product that are *not* captured in the product's claimed energy savings.

To capture participant spillover, the research team asked participating customers for information about any additional energy efficient equipment installed outside of the product (for which they did not receive a rebate).⁷ The surveys also probed for information on the importance of Business LED Instant Rebate product in participant purchase decisions and the likelihood that the measures would have been installed if they had not participated in the product. The evaluation team computed savings estimates for all identified spillover equipment following the flowchart reported in Figure 2-2, which follows the Illinois TRM protocol for

⁷ The evaluation team asked customers rather than trade allies about participant spillover to capture all products installed outside the program regardless of where purchased.

participant spillover.⁸ For all potential participant spillover, the evaluation team conducted follow up interviews with participants to verify products and counts installed, assess the Business LED Instant Rebate product's influence on the installation, and gather specific size and efficiency data to inform savings estimates. The team calculated the product's spillover ratio by dividing the participating customer sample's total spillover savings by the sample's total energy savings.

Figure 2-2. Participant Spillover Protocol



Source: Apex Analytics Analysis

MARKET EFFECTS AND NONPARTICIPANT SPILLOVER

As the product works closely with trade allies, the research team also assessed market effects and nonparticipant spillover resulting from active and inactive trade allies as well as manufacturers. Trade ally nonparticipant spillover and market effects, in this instance, is defined as sales of eligible products that did not receive rebates but were influenced by the product due to long run structural changes in the marketplace or through the influence of participant trade allies. This occurs when the trade ally recommends eligible products because of the education and training from Xcel Energy, but the customer does not receive an incentive for various reasons (e.g., too much paperwork, too busy, unaware). The evaluation team asked non-active trade allies if they were still active in the products or market that compete with the Business LED Instant Rebate product, asked active trade allies about selling eligible Midstream products outside the program, and asked both active trade allies and manufacturers about the long-term impacts of the Business LED Instant Rebate product to gather input for this component.

⁸ https://ilsag.s3.amazonaws.com/IL-TRM_Effective_01-01-20_v8.0_Vol_4_X-Cutting_Measures_and_Attach_10-17-19_Final.pdf

PROJECTED NET-TO-GROSS INDICATORS

Trade ally interviews also offer important insights into what the market for LED products are expected to be going forward. Trade allies indicated that business LED sales slowed considerably in 2020 due to the COVID-19 pandemic. They are beginning to notice improvement, and most are optimistic that 2021 will bounce back and at least be similar if not improved relative to 2019. Absent COVID-19, the evaluation team would predict continuing market transformation (i.e., lowering NTGR) towards LEDs as product availability and prices continue to improve. Customers are recognizing the long-term benefits of LEDs in terms of reduced maintenance and long-term payback. Given the uncertainty of the economy, however, many customers are reluctant to spend money unnecessarily. As it is unknown when the economy will return to 2019 levels, we do not forecast increasing free ridership associated with market transformation. As such, our prospective NTGR is equivalent to the retrospective results, with adjustments made for potential product changes.

DETERMINATION OF NET-TO-GROSS RATIO

The research team calculated the product's initial NTGR using the following formula:

$$\begin{aligned} \text{Retrospective NTGR} \\ &= 1 - (\text{Free - ridership Ratio}) + (\text{Participant Spillover Ratio}) \\ &\quad + (\text{Nonparticipant Spillover and Market Effects}) \end{aligned}$$

The research team used all the information collected about the product (through trade ally interviews, participating customer surveys, and known product changes) to construct a logical, internally consistent, and coherent narrative of product attribution that attempts to identify all possible pathways of Xcel Energy influence. In addition to free-ridership and participating customer spillover, the evaluation team also considered whether any adjustment was warranted due to nonparticipant spillover and market effects. Based on these results, the evaluation team recommended a final summative NTGR value that is consistent with this narrative.

2.3. RETROSPECTIVE NET-TO-GROSS RATIO INPUTS

As described in the approach section, the recommended NTGR is based on three primary data inputs: free-ridership, spillover, and market effects. This section explores each of these results in more detail, including qualitative data that support the results.

FREE-RIDERSHIP RESULTS

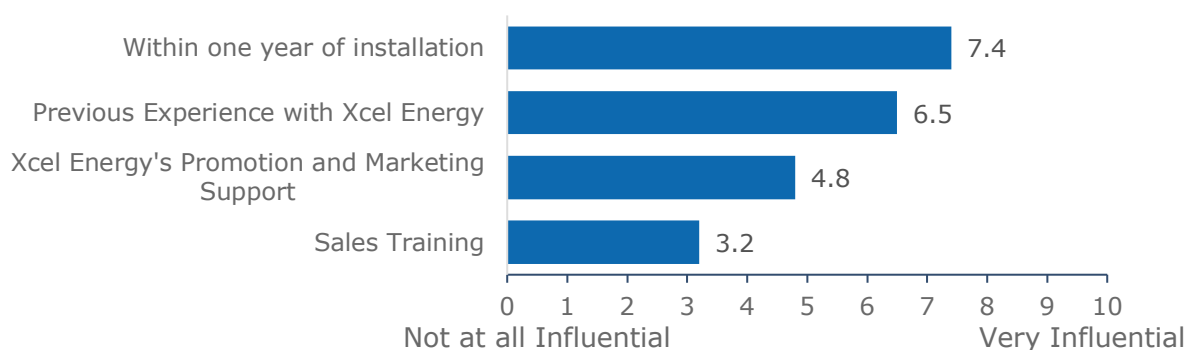
The evaluation team estimated two metrics for free-ridership, a **Program Components Score**, and a **No-Program Score**. For more details on what those scores represent, please refer to Section **Error! Reference source not found..**

PROGRAM COMPONENTS SCORE

The Program Components Score for the Business LED Instant Rebate product was 0.18. This score assesses the influence of multiple factors. Scores closer to 0 indicate the product components have a high level of influence. As customers are not asked about what would have happened in the absence of the product, Program Components scores are assumed to underestimate free-ridership and are balanced by the No-Program Score.

To determine the Program Components Score, the evaluation team asked active trade allies to rate the influence of a variety of product factors upon their decision to pursue sales strategies to promote the product. As seen in Figure 2-3, those factors were: (1) program incentives, (2) previous experience with Xcel Energy, (3) Xcel Energy's promotion and marketing support, and (4) product sales training. We also asked trade allies to identify any other factors that influenced their decisions and score them relative to items on the original list. Of these factors, participating customers rated the program incentives as the most influential factor, at an average of 7.4 out of 10. The next most influential factor, previous experience with Xcel Energy, was almost one point lower on average (score of 6.5 out of 10).

Figure 2-3. Equipment Program Components Score Elements



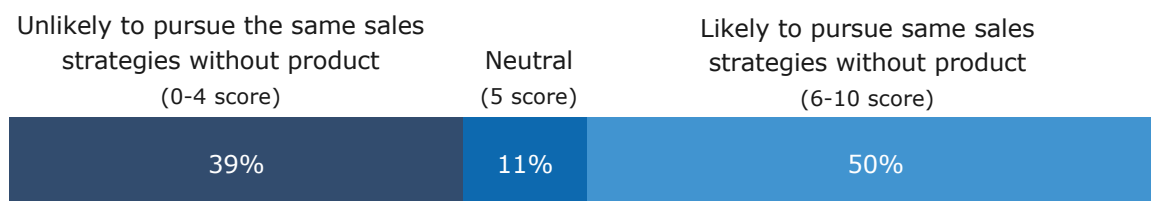
To calculate the Program Components Score, the evaluation team took the product factor attributed with the most influence from each participant, averaged these scores across participants while weighting by product sales, and re-scaled the result to be between 0 and 1, resulting in a score of 0.18.

NO-PROGRAM SCORE

The No-Program Score for the Business LED Instant Rebate product was 0.52. In contrast to the Program Influence Score, which asks how influential the product was on a the trade ally's decision to pursue sales strategies promoting the product, the No-Program Score assess the counter-factual and asks whether the decision to pursue these same sales strategies would have been different absent the product. Scores closer to 1 indicate the participants in the product would have taken the same action without the product.

The evaluation team asked respondents to rate the likelihood that they would have pursued the same sales strategies without the incentive, previous Xcel Energy product experience, promotion and sales support, and sales training from the Business LED Instant Rebate product. The team asked respondents to use a rating scale from 0 to 10, where 0 is Not at All Likely and 10 is Extremely Likely. As shown in Figure 2-4, active trade allies provided a range of responses, with an average sales weighted value of 5.2.

Figure 2-4. No-Program Score Distribution



Next, the evaluation team averaged the Program Components Score and the No-Program Score for each participant, then assessed that score based on open ended responses, as described in the next sub-section.

FREE-RIDERSHIP ADJUSTMENTS

The evaluation team followed the approach of the Illinois NTG Protocols to conduct consistency checks by reviewing open-ended responses where Program Components Score and No-Program Scores were inconsistent. These responses seemed to indicate that the program was influential in their decision to pursue those sales strategies, however absent the program they would have still decided to pursue those same strategies.

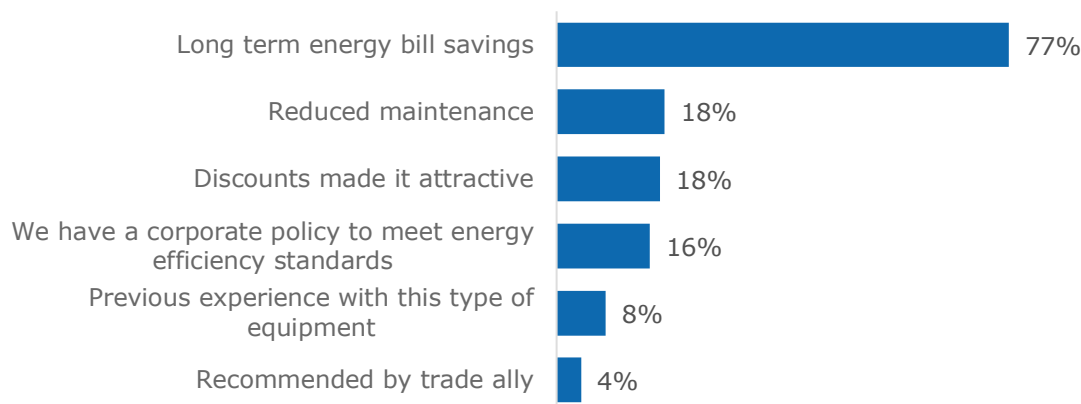
The evaluation team investigated five responses where the respondent said they were likely to have pursued the same sales strategies absent the Business LED Instant Rebate product, but also that the product had a high influence on their decision to promote the equipment. Two of the responses indicated that while they appreciated the program, the incentives offered were not enough to change their actions and the team used only the No-Program Score in the free ridership calculation. We removed three respondents from the analysis as the additional information did not provide explanation enough to interpret the results. The overall adjusted free-ridership score was 0.35.

The evaluation team also qualitatively considered customer survey and manufacturer interview responses to confirm or contrast the results of the NTGR analysis. Below is a discussion of these topics.

Motivations

We asked customers what motivated them to purchase energy efficient lighting equipment when the product is higher priced. As shown in Figure 2-5, most respondents (77%) were motivated by long term energy and bill savings, followed by reduced maintenance (18%) and the lighting discounts (18%). We also asked trade allies why their customers purchased energy efficient lighting, and they mirrored these responses, indicating that return on investment, reduced maintenance, longevity of bulbs, and better warranties motivated their customers to purchase high quality LED bulbs. Trade allies often had the sentiment that they didn't want to be seen as 'pushy' or a 'salesperson' but they genuinely encouraged their customers to consider LED lighting as a sensible choice because of the value propositions noted above. In the instances that trade allies reported that customers did not purchase LED bulbs, it was often a one-to-one replacement of a fluorescent tube. Trade allies noted that LEDs will soon become competitive in price with fluorescents, but for a few customers, they only purchase the lowest cost product in the catalog.

Figure 2-5. Motivations to Purchase LED Lighting



Planning

To understand whether lighting projects need to fit within a business' planning cycle, we asked participants if they plan project budgets in advance. As shown in Figure 2-6, small businesses (70%) were less likely than medium to large businesses (94%) to plan budgets in advance.

Figure 2-6. Planning Projects in Advance by Business Size

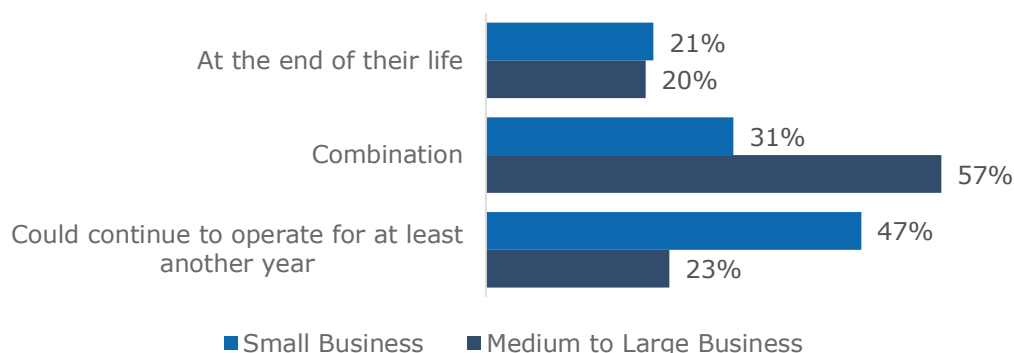


Of those that planned projects, 75% could adjust the planned budgets during the year. This was consistent across business size, with 77% of small businesses reporting being able to change their budget through the year and 72% of medium to large businesses reporting being able to change their budget through the year.

Replacements

We asked participating customers if they replaced lights that could have lasted another year. Small businesses were more likely to say that the lights they replaced could have continued to operate for at least another year (Figure 2-7).

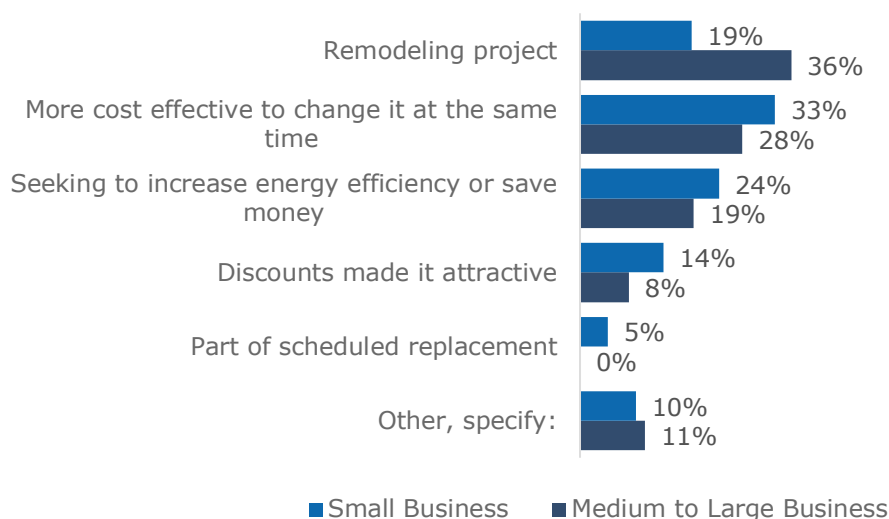
Figure 2-7. Failed Bulb Replacement by Business Size



For participants who reported that at least some lighting products could operate another year, we asked participants what percent of lighting products replaced could have lasted at least another year. On average, 45% of lighting products replaced by small businesses could have lasted another year, and 40% of lighting products replaced by medium to large businesses could have lasted another year.

We asked participants why they chose to replace lights that could have lasted another year. As shown in Figure 2-8, most common answers were that it was cost-effective to change all lights at the same time, followed by increasing energy efficiency. The Business LED Instant Rebate product discounts were what made it attractive for 14% small and 8% medium to large businesses.

Figure 2-8. Reasons for Early Replacement by Business Size



Manufacturers Product Mix

Manufacturers and trade allies noted a general trend away from screw-based bulbs and towards integrated fixtures and thought the focus of Xcel Energy on screw-based bulbs was limiting compared to other national programs. "In a commercial market, screw-based bulbs are a small percentage of C&I lighting needs". Another manufacturer said that Xcel Energy may not need screw-based bulb incentives any longer as they are declining in sales due to saturation.

Sales Changes

The evaluation team also asked active, inactive and manufacturer trade allies to quantify LED sales changes due to their participation in the program. Most active trade ally respondents declined to provide this information with only 6 of 34 answering. Responses for these trade allies ranged from 0% to 100% increase in LED sales due to the program. Two of four manufacturers responded with a range of 15% to 40% sales increase. None of the inactive trade allies provided a response.

Confirmation of NTGR Results

The evaluation team found that the research responses on the above topics were consistent and did not conflict with the free-ridership estimated using the Midstream NTGR protocol.

SPILLOVER AND MARKET EFFECTS RESULTS

The research team assessed two types of spillover: participant spillover, resulting from participating customers installing additional measures due to their participation in the Business LED Instant Rebate product and nonparticipant spillover (combined with market effects) that result from trade ally promotions and sales of qualified products that did not go through the Product.

PARTICIPANT SPILLOVER

Spillover is a measure of the amount of energy savings that occur due to the product that are *not* captured in the product's claimed energy savings. To be eligible for spillover, customers must have:

1. Installed additional efficient equipment after participating in the product⁹;
2. Not received rebates for this equipment; and
3. Been influenced to install this equipment by the Colorado Business LED Instant Rebate product.

Of ten customer participants indicating possible spillover, the evaluation team completed follow-up interviews with seven, resulting in five customers with attributable like-spillover and two that were not attributable to the product. Through this analysis the five customers identified a small amount of additional efficient lighting sales – 12 linear tubes, 25 interior fixtures, 6 screw-based lamps, 6 pole lights, and 4 LED fixtures. The evaluation team extrapolated the savings from the seven customers we were able to reach to all ten customers with potential spillover which resulted in spillover of 0.002.

NONPARTICIPANT SPILLOVER AND MARKET EFFECTS

The evaluation team was able to collect qualitative information from trade allies indicating that when quantities are too small to be worth the extra steps to qualify and receive rebates through the Business LED Instant Rebate product, active trade allies will sell efficient products without claiming incentives. This contrasts with the 2015 Business LED Instant Rebate product evaluation which estimated spillover as 31% when trade allies indicated they would sell an additional 9% to 100% of their LED sales outside the program. This change in spillover over time is expected as the program gets larger and more and more sales are influenced by and as a result, captured by the program. For example, the Massachusetts TRM in 2015 recommended¹⁰ prospectively decreasing the spillover rate by 5 percent each year from a similarly high value estimated in 2015, as more LEDs move through the program.

Non-active trade allies indicated they no longer offer products available in the Colorado Business LED Instant Rebate product and therefore the evaluation team

⁹ Efficient equipment was defined as equipment that would qualify for rebates from any Xcel Energy product.

¹⁰ Massachusetts Technical Reference Manual. 2016-2018 Program Years. October 2015.

did not include spillover from that potential source. In considering market effects, feedback from active trade allies and manufacturers credit the historic rebates and program activity as long-run drivers for market adoption of LED lighting. As one active trade ally noted “Rebates are amongst the top of the reasons” for the current levels of LED market adoption. With this information, we applied a 4% value for market effects and nonparticipant spillover.

RETROSPECTIVE NTGR

Overall, the evaluation team found that the product impacted participating trade ally and customers’ decisions. We determined a NTGR of 0.692 using the generalized formula below (Equation 2).

Equation 2. Generalized Net-to-Gross Ratio

$$NTGR = 1 - (\text{Free-Ridership Ratio}) + (\text{Participant Spillover Ratio}) + (\text{Market Effects/Non Participant Spillover Adder})$$

Using this formula, the NTGR is shown in Equation 3.

Equation 3. Equipment Net-to-Gross Ratio

$$NTGR = 1 - (0.35) + (0.002) + (0.04) = 0.692$$

PEER UTILITY NTGR

As shown in Table 2-1, the peer utilities interviewed for this evaluation had NTGRs both higher and lower than calculated by this evaluation. The NTGR can vary significantly by types of products incented, program design and by how transformed the local market is towards LED lighting. Only two of the five peer utility’s researched conducted program-specific free ridership and spillover for a similar timeframe as this study. Utility A conducted retrospective research on 2016 participants and then through a consensus approach, forecasted a NTGR to decrease over time as market adoption increases (Table 2-1 includes both the retrospective and two prospective year values for Utility A). Utility B conducted retrospective research and then applied those exact values prospectively for the upcoming program year (Table 2-1 includes two research years results for Utility B). The other peer utilities use a deemed approach, or combined the NTGR of both downstream and midstream, so were less applicable to this evaluation. The evaluation team’s recommendation falls between the 2021 prospective values for Utility A and Utility B.

Table 2-1. Peer Utility Net-to-Gross Ratios for Business LED Instant Rebate product

Utility	NTGR	Method	Participant Year Data	Year Data Applied
Xcel Energy	0.692	Trade Ally Surveys (FR) Customer Surveys (SO)	2019-2020	2019 and 2021+
Utility A – Retrospective 2016	Screw-based: 0.97 Linear Tubes: 0.91	Customer Surveys and Site Visits – Direct research	2016	2016
Utility A – Prospective 2019	Screw-based: 0.73 Linear Tubes: 0.78	Customer Surveys and Site Visits – Stipulated from past research	2016	2019
Utility A – Prospective 2021	Screw-based: 0.53 Linear Tubes: 0.66	Customer Surveys and Site Visits – Stipulated from past research	2016	2021
Utility B - Prospective 2019	Lamps and fixtures: 0.83 Linear tubes: 0.80	Customer Surveys – Direct application of retrospective research	2018	2020
Utility B – Prospective 2021	Screw-based: 0.72 Linear Tubes: 0.76	Customer Surveys – Direct application of retrospective research	2019	2021
Utility C	0.86	Deemed Value	N/A	2020
Utility D	0.90	Deemed Value, Savings based on verified gross savings only	2018	2018
Utility E	0.97	Customer Surveys, combined midstream and downstream program	2016-2017	2016-2017

2.4. PROSPECTIVE NET-TO-GROSS CONSIDERATIONS

The evaluation team also examined market conditions and expected program changes to recommend a prospective NTGR. Findings indicate that absent product mix changes, Xcel Energy could continue to use the retrospective NTGR of 0.692 prospectively. The evaluation team calculated free-ridership from two sub-groups of active trade allies—those with screw-based product sales greater than 25% of the trade ally's total product sales and those with screw-based sales less than or equal to 25%:

- Responding trade-allies with screw-based sales shares less than or equal to 25% of their incented sales had free ridership of 21.6%
- Responding trade-allies with screw-based sales shares greater than 25% of their incented sales had free ridership of 43.1%

The evaluation team used these two data points to estimate a linear regression equation that can be used prospectively by Xcel Energy to apply these results. By inputting the average share of screw-based bulb sales to Equation 1, Xcel Energy can calculate free-ridership in future years.

Equation 4. Prospective Free Ridership

$$\text{Free Ridership} = 0.358 \times \text{Screw-based Units Sales Share} + 0.198$$

To increase the product's influence on the marketplace, the evaluation team recommends increasing the share of linear and other non-screw-based LED products to be greater than product shares of screw-based products. Linear technologies make up the highest shares of lighting in Colorado businesses and have lower LED saturation than screw-based lamps.¹¹ This may be achieved by:

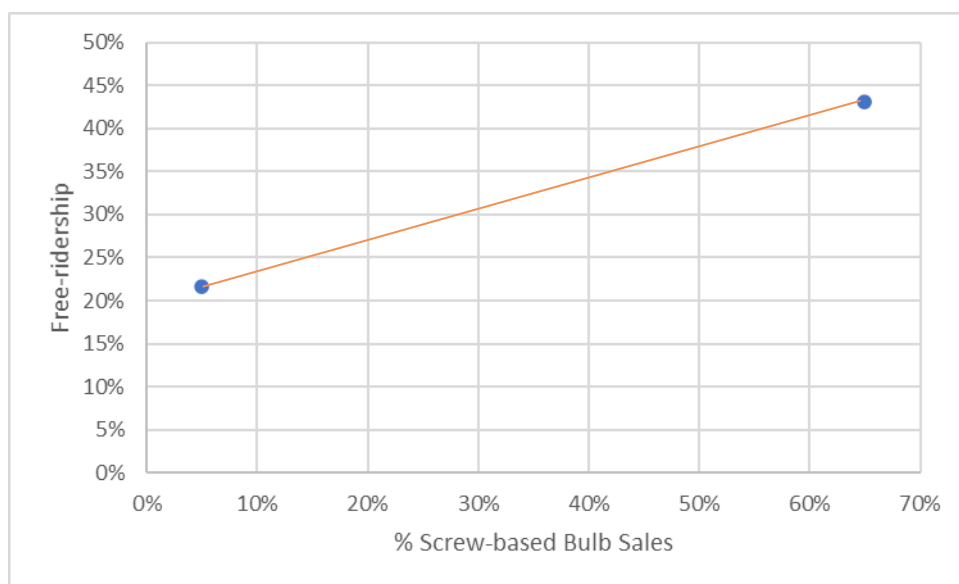
- Increasing rebates and marketing of non-screw-based products.
- Targeting business segments with the largest remaining potential. Because the lighting market is transforming rapidly, the evaluation team recommends updating the 2018 Business Lighting Saturation Study¹² to inform this effort.

Figure 2-9 illustrates the equation. By following vertically along the % screw-based bulbs point on the x-axis, Xcel Energy can identify free-ridership at the point it crosses the line on the chart.

¹¹ Xcel Energy 2018 Business Lighting Saturation Study, Final Report, December 6, 2018.

¹² Xcel Energy 2018 Business Lighting Saturation Study, Final Report, December 6, 2018.

Figure 2-9. Screw-Based Sales Shares and Free Ridership



The evaluation team also recognizes that Xcel Energy recently adjusted its product design to allow customers purchasing directly from manufacturers to participate in the product through Encentiv Energy, a company that represents manufacturers in claiming midstream rebates. While customers that purchase directly from manufacturers will enjoy lower net LED prices by avoiding distributor mark-ups, these larger customers may already be purchasing LEDs absent the product. Therefore, to assess this change on the NTGR, the evaluation team recommends Xcel Energy consider additional NTGR survey research with customers participating through manufacturers to separately assess free-ridership and spillover and then incorporate the results into the prospective NTGR. This research should be conducted at a time when the share of customers participating in this channel and the experience with this delivery mechanism is sufficient to garner reliable results.

3. PROCESS FINDINGS

The evaluation team conducted a process evaluation to determine how Xcel Energy can optimize the design and delivery of the Colorado Business LED Instant Rebate product to its customers. Specific research objectives of the process evaluation are listed in the bullets below:

- Understand if business customers vary in their decision-making process to install efficient lighting equipment, and whether the product influence varies by these differences.
- Assess product experience and satisfaction, among both customers and trade allies.
- Understand customer awareness, participation in, and perception of related programs and products.
- Understand how peer utilities operate their Business LED Instant Rebate programs.

To accomplish these objectives, the evaluation team elicited feedback from program staff, participating customers, trade allies (participating trade allies, non-participating trade allies, and manufacturers), and other utilities with similar midstream lighting programs. This chapter first presents key findings from the process evaluation, then follows with the evaluation team's approach to conducting the process evaluation, and the specific findings relating to each process evaluation objective. These findings, along with findings from the impact evaluation, inform the conclusions and recommendations presented in the final chapter.

3.1. KEY FINDINGS

The evaluation team found that, overall, customers and trade allies had positive experiences in the product and were satisfied with current program operations, indicating that they will continue to participate with both this product and other products offered by Xcel Energy. Key findings from the research include:

- **Overall, participating customers and trade allies were satisfied with the product.** Participating business customers provided average satisfaction ratings for the different product elements ranging from 8.6 to 9.2 out of 10. Small businesses marginally lagged behind medium to large businesses in most satisfaction scores. Trade allies were also highly satisfied with the product, with the average rating a 9 out of 10.
- **Customers and trade allies successfully navigated multiple lighting programs without challenge.** About 40% of respondents participated in multiple programs. Those respondents reported that discerning which program suited their needs was easy (reporting a score of 8.3 where 0 is not at all easy and 10 is very easy). Trade allies also did not have a problem navigating programs, although would like to see more lighting equipment types be offered in the Business LED Instant Rebate product.
- **The program is well positioned to compete nationally and bring in Colorado projects.** Trade allies who worked nationally said that the Xcel

Energy Colorado Instant Rebate Lighting Program compares well in the national market due to their relatively high incentives and simplified processes.

- **Customer decision making processes are formal, even among small businesses.** 81% of customer respondents planned projects in advance with an approved budget. The number was lower for small businesses (70%) than medium to large (94%) businesses but was still the predominate project planning method across all respondents. This indicates that convincing both small and larger business decision makers to plan for lighting upgrades in their budgeting processes may be effective in getting projects approved.
- **Opportunities exist to improve the usability of the trade ally portal.** Trade allies expressed difficulty in customer validation and discrepancies in product codes. While they reported high quality service from CLEAResult representatives, opportunities exist to help trade allies operate more independently by increasing usability of the portal, particularly in searching for customer addresses and product identification numbers.
- **Opportunities exist to increase rebate attribution.** One-third of customers were not aware that they received a rebate with their lighting purchase, with small business customers being the most likely to be unaware.
- **COVID-19 has impacted customers, trade allies, and projects.** Delays in manufacturing due to coronavirus cases in China in late winter, and then delays in projects due to American coronavirus cases in spring and summer caused large decreases in trade ally business operations. Business impacts were decreasing in late summer, but it is unclear what will happen come winter. When asked, 32% of small business respondents and 21% of medium to large businesses said their 2019 project would have been delayed or reduced if it had occurred during the 2020 pandemic.
- **Xcel Energy's program is comparable to peer utilities although individual elements may differ between utilities.** Some peer utilities offer a wider array of products than Xcel Energy, and at least one is eliminating screw-based lamps from its future offerings. Some peer utilities use approaches other than separating product types to ensure customers do not claim product incentives more than once.
- **Customizable lights are a trend that trade allies see as potential opportunities for utility programs.** Trade allies and manufacturers noted the market is seeing an increase in color, lumen, and wattage adjustable LEDs, and recommended adding these new products to the program.

3.2. APPROACH

To accomplish the evaluation objectives for the Colorado Business LED Instant Rebate product, the evaluation team completed a suite of intersecting and complementary research activities in 2020. Detailed information on the sampling approach used for the research can be accessed in Appendix A. The following discussion highlights the research topics addressed by each research activity: staff

interviews, participating customer surveys, trade ally interviews, and peer utility benchmarking interviews.

STAFF INTERVIEWS

The evaluation team conducted four in-depth group interviews with six Xcel Energy personnel to inform the evaluation plan. The interviews included the Colorado and Minnesota Product Managers, the Implementation Program Manager, two Lighting Engineers, and a Key Account Manager. The staff interviews covered the following topics:

- Provide an overview of the program design and implementation
- Collect staff feedback on implementation successes and challenges
- Identify themes and issues to incorporate into the evaluation plan

Appendix **B.1** presents the interview guide used for these discussions.

PARTICIPATING CUSTOMER SURVEYS

The evaluation team conducted telephone surveys with participating customers between August and September 2020. The research addressed the following process objectives:

- Assess customer perception and awareness of the Business LED Instant Rebate product and rebates
- Explore customer motivations and barriers when purchasing energy efficiency lighting products and if they differ by business size
- Understand customer decision making approach and COVID-19 impacts on energy project decisions
- Assess product experience and satisfaction and determine perceived non-energy benefits of high efficiency equipment
- Understand customer participation in related programs and if lighting products offered in multiple programs is confusing to customers
- Assess NTGR impacts, specifically spillover

The evaluation team stratified the sample by business size (small and medium to large businesses). The team originally stratified the sample by the available metric of <>400 kW, but then asked respondents to self-identify as a small business based on their decision-making structure. Table 3-1 summarizes the survey sample by strata.

Table 3-1. Customer Survey Sample by Strata

Strata	Starting Sample (based on kW)	Completes based on kW	Completes based on self- identification
Small Business <=400 kW	1454	106	74
Medium to Large Business >400	298	35	66

We present detailed raw findings in Appendix C.

Appendix B.2 presents the survey guide used for these discussions.

TRADE ALLY INTERVIEWS

In addition to the surveys with participating customers, the evaluation team conducted 42 in-depth interviews with participating trade allies (34), non-participating trade allies (4) and manufacturers (4). The evaluation team stratified the participating trade allies by “highly active” (9200 or more product sales) and “less active” (less than 9200 product sales). The research addressed the following process objectives:

- Assess perceptions and awareness of efficient lighting equipment.
- Understand motivations and barriers to participation.
- Understand customer decision-making for installing efficient lighting.
- Assess product experience and satisfaction, among both customers and trade allies.
- Assess NTG impact

We provide sample and stratification in Table 3-2.

Table 3-2. Trade Ally Sample by Strata

Trade Ally Interview Strata	Sample Population	Completed Interviews	Percent of population
Participating Trade Allies	66*	34	52%
Highly active	12	8	75%
Less active	54	26	48%
Non-Participating Trade Allies	10	4	40%
Manufacturers	8	4	50%
Total	84	42	50%

*Note: The evaluation team found 2 duplicates in the population, reducing original population size from 68 to 66.

Appendix B.3 through B.5 presents the interview guides used for these discussions and Appendix D summarizes results from each of these interview types.

BENCHMARKING INTERVIEWS

The evaluation team benchmarked the Xcel Energy Business LED Instant Rebate product against five peer utilities in the industry, assessing peer utility programs' design, delivery, and processes. The evaluation team conducted in-depth interviews with program or implementation managers to address the following topics:

- Products included
- Product incentives
- Customer verification approach
- Net-to-gross ratios (NTGRs)
- Planned program changes

The evaluation team also obtained each utility's qualified product list to provide important contextual information on current eligible products and their associated incentive levels. These measures and their incentive levels can be seen in Table 3-8 through Table 3-13 below.

The evaluation team selected utilities operating Business LED Instant Rebate programs with similar designs to Xcel Energy's program. Table 3-3 identifies the selected utilities, region and number of products offered.

Table 3-3. Background Information by Utility

Utility	Energy Type	Location	Number of Products Discounted
Xcel Energy	Electric & Gas	Colorado	29
Utility A	Electric	Northeast	58
Utility B	Electric	Midwest	27
Utility C	Electric	Northeast	23
Utility D	Electric & Gas	Midwest	20
Utility E	Electric & Gas	Southwest	41

The peer interviews focused on the following research topics specific to peer benchmarking:

- Midstream products offered and recent or planned changes
- How they allow for cross over with other programs
- How incentives are determined
- How customers are verified

-
- NTG values and methods for calculating
 - Forward looking changes and reasoning

Appendix B.6 contains the interview guide used for the benchmarking interviews.

3.3. DETAILED FINDINGS

Data on all process evaluation topics are presented below. Results are divided into four topics: (1) program experience; (2) program and product awareness; (3) decision making and COVID impacts; and (4) peer utility practices, and lighting trends. All the topics include data from participating customer surveys, as well as trade ally interviews to highlight points of view between the groups. The synthesis of findings places an emphasis on helping Xcel Energy interpret customer and trade ally perspectives and identifying actionable opportunities for improving product operations and marketing.

PROGRAM EXPERIENCE

Results related to program experience are divided into two topics: (1) product experience and satisfaction, and (2) participation in related programs.

PRODUCT EXPERIENCE & SATISFACTION

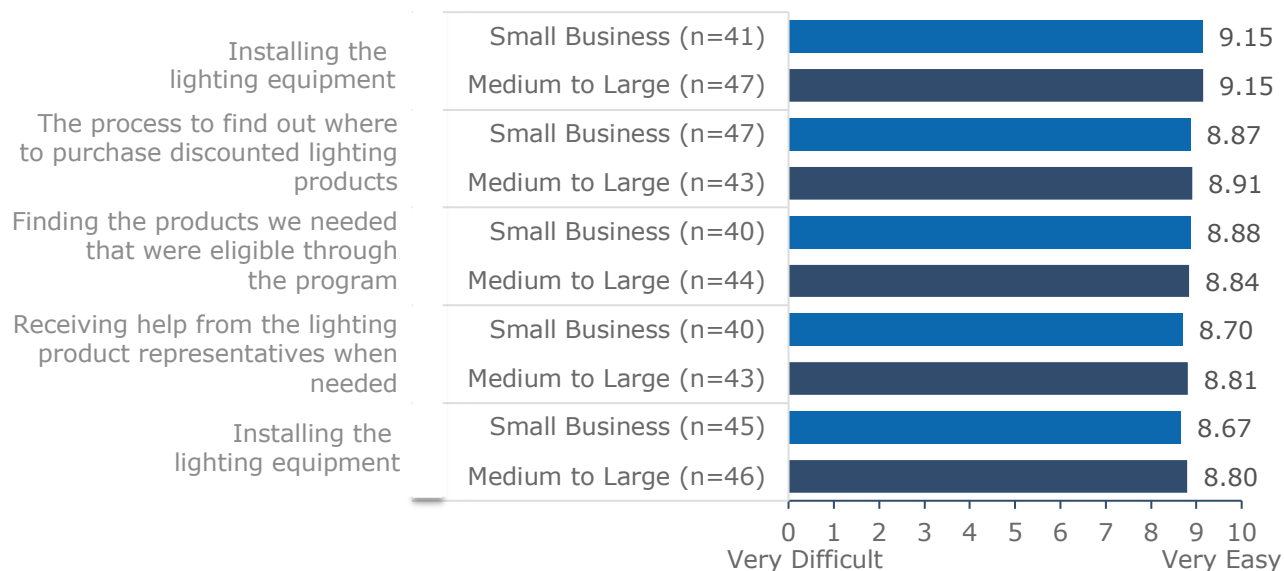
The first process evaluation research objectives relate to customer experiences and satisfaction with the product. Specific objectives included (1) assessing customer experience and satisfaction with the product, and (2) documenting benefits (energy and non-energy) customers have experienced. This section discusses the evaluation results from the surveys and interviews to highlight experiences holistically rather than limiting results to a single research method.

Overall, customers and trade allies were satisfied with the product and its components. Opportunities for improvement included educating customers on energy efficiency and energy bills and making the trade ally portal more user friendly.

Customers

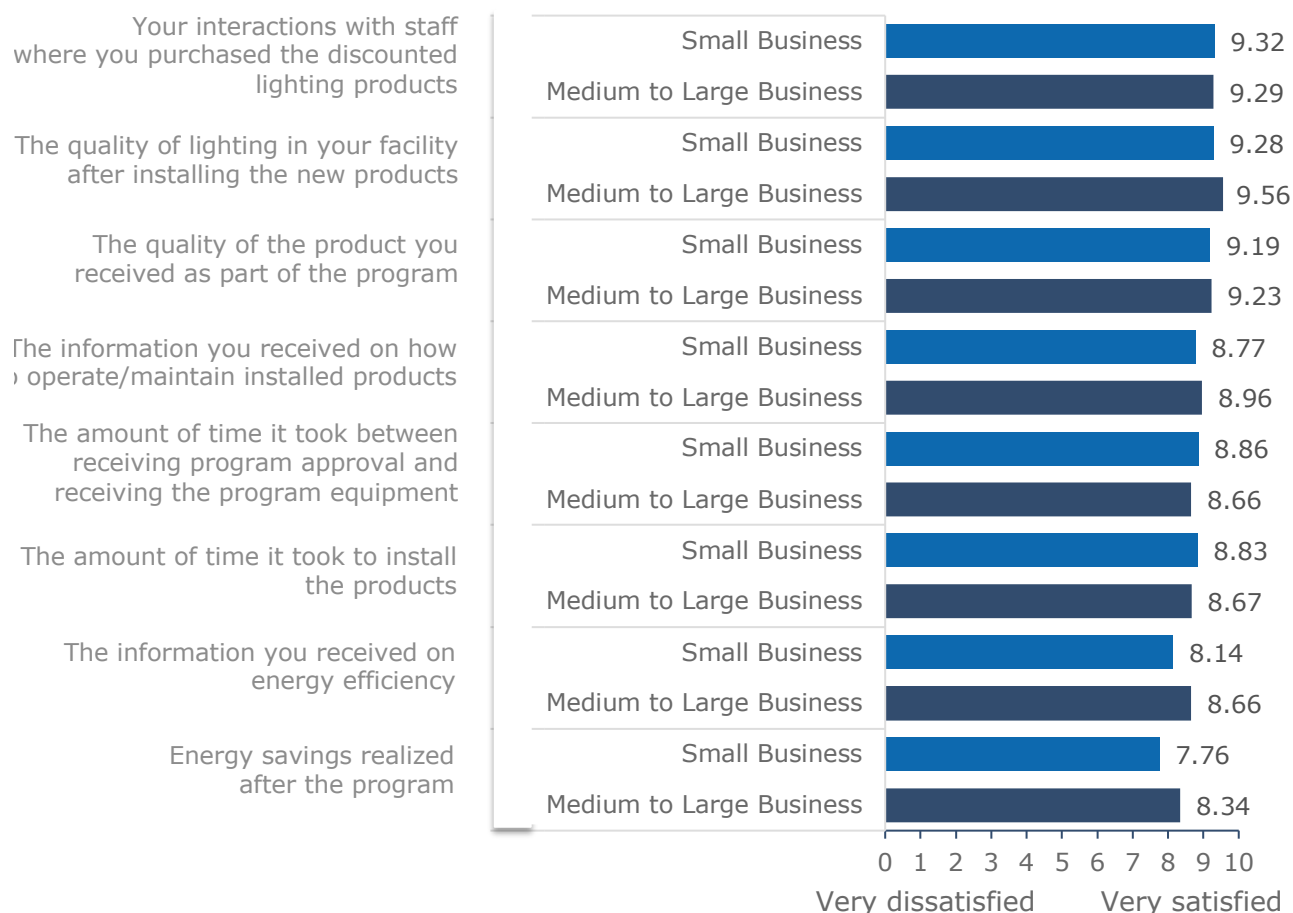
Participating customer respondents felt that the program was easy to use. We asked respondents to rate how easy or difficult various parts of the program were, where 0 is very difficult, and 10 is very easy. As shown in Figure 3-1, all scores were eight or above for both small and medium to large businesses.

Figure 3-1. Reported Ease of Program Components by Business Size



We also asked participants how satisfied they were with parts of the program. Overall satisfaction was high, with scores ranging from 7.76 (for energy savings realized) to 9.32 (for interactions with staff). Overall, small businesses were slightly less satisfied than medium to large businesses and were least satisfied with their energy savings. However, the differences between small and medium to large businesses were minor (Figure).

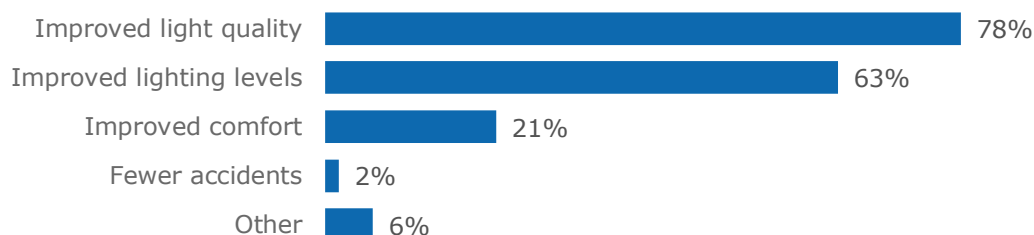
Figure 3-2. Satisfaction with Program by Business Size



Of the respondents who reported a lower score for satisfaction, we asked participants why they were not satisfied. Most comments pertained to high bills and not learning about energy efficiency. One respondent said “we didn’t receive anything [on energy efficiency]. We saw the next power bill and it was awful, the bill was outrageous”. Responses indicated that opportunities exist to include energy efficiency education during lighting sales and inform them about the impact of variables like weather on their energy bill.

We asked customers about which non-energy benefits they noticed as a result of their LED lighting purchase. Light quality and level of light were the most noticed non-energy benefit for LED bulbs (Figure 3-3).

Figure 3-3. Reported Non-Energy Benefits for LED Bulbs (n=119)



Trade Allies

Trade allies were also generally satisfied with the program and felt that the program compared well amongst national utilities. Non-participating trade allies did not indicate that dissatisfaction was a reason for their non-participation.

We asked trade allies to rate their satisfaction with the program, where 0 is not at all satisfied, and 10 is very satisfied. We explored if trade ally satisfaction was higher for trade allies who performed more projects than for the general population of trade allies. Satisfaction was not significantly different between groups, with top performing trade allies reporting a satisfaction score of 8.72 and the remaining trade allies reporting a satisfaction score of 8.84 out of 10.

We spoke to four non-participating trade allies to understand and learn from their experience. However, none of the four non-participating trade allies left the program due to low satisfaction; rather, they moved onto different territories or different product offerings.

We talked to trade allies that worked nationally, across many utilities. These trade allies indicated that Xcel Energy Colorado was competitive in the national landscape due to their high rebates and simple process. One trade ally reported "Colorado is favorable in the national market; relatively simple rebate process, and relatively good incentives compared to other markets". When considering national rollouts for chain remodels, national trade allies indicated that this market favorability caused them to prioritize Colorado stores early. They noted that keeping incentives high was critical for Xcel Energy Colorado's long-term market favorability. Trade allies were very happy with CLEAResult representatives and often praised them by name. They indicated staff were helpful, reliable, and timely whenever they were needed.

Part of the reason CLEAResult representatives were so well-known was that they were contacted frequently due to issues in the trade ally portal. Some trade allies even bypassed the portal completely, opting to send materials directly to the representatives. While this highlights excellent customer service, it also highlights an opportunity for improvements to the usability of the trade ally portal.

Trade allies expressed the most frustration when talking about the trade ally portal, which included several key issues:

-
1. Difficulty validating addresses
 2. Difficulty with product codes
 3. General bugs and usability issues in the system.

Trade allies explained that address validation does not always work in the portal because the address matching is specific and doesn't allow flexibility for multiple meters. One trade ally remarked "the validator was tricky to use. You had to put in the address and if you spelled it out 'south', it couldn't find it, and [the direction] had to be at the end of the street, and then if you had suites it was very difficult to validate these customers". Another noted "Sometimes they want HWY 6 and sometimes they want HWY 6 and 50, and sometimes they want US HWY 6 and 50". Another trade ally noted that homeowner's associations (HOAs) with multiple sites can also cause issues.

Trade allies also struggled with errors from faulty product codes and believed that the system was not consistent in which code it was referencing. Sometimes they said it was a short code, sometimes a long code. One trade ally explained "sometimes they want part number S29914 then if you put that on a spreadsheet, it will get kicked back because they want the long part number LTD-14-LED-450-850. Sometimes you do full part number and times it is the 4 numbers. Similarly, sometimes it is the same family of lights, just different kelvin temp, and it won't pull" Trade allies also indicated that it was unclear when the system wanted the DLC number or the Energy Star number.

Trade allies described general bugs in the system as well. One trade ally said they couldn't delete applications. "Is there no way to delete?" they asked, "it's not obvious how to delete". Another remarked "The program sometimes has glitches; you ask to validate a product and it sits there and spins and never gives a validation". One trade ally had issues with the dropdowns: "some of the dropdowns don't offer the product we are selling and some of the ballast numbers are off, so I have to type a comment saying this is actually ballast factor of so and so instead of what this says".

Often trade allies were self-deprecating when describing issues and had to be coaxed, saying 'it was my own fault' or it was an 'operational error', yet still clearly struggled to understand how to successfully upload needed spreadsheets which felt frustrating. One joked "[Our admin] curses much less now than at the beginning, there is a learning curve. She had trouble in the past, but she can always get ahold of someone at the office". The trade allies downplayed the issues because the CLEARstaff staff were so reliable, "You can deal with a lot if you have someone to help you" one remarked. However, this self-deprecation and outside support may be reducing complaints of a system that trade allies find frustrating or difficult to use.

A few smaller trade allies admitted it was not worth uploading rebates for the system when the transaction was a "onsie-twosie" transaction of only a couple of lights.

Manufacturers

Manufacturers were also happy with the Business LED Instant Rebate product and the program's simplicity; however, they offered a more critical review than trade allies, saying that Xcel could do more to be as competitive as other programs.

Manufactures appreciated the simplicity of the Business LED Instant Rebate product and saw it as a key benefit. "Overall, I would say they are one of the best to work with as far as response time and ease of application and finding the information you are looking for; some utilities really bury it in the fine print" one manufacturer praised. However, they also noted that the Xcel Energy Colorado program covers less products in their midstream program than other jurisdictions which can make it "more difficult for the end-user to participate since they must track which products are eligible for midstream, versus prescriptive or custom".

Manufacturers all agreed of the importance of incentive levels. "It's much easier to move products in a territory where the utility has high incentives and supports a range of customer bases" one remarked. Manufacturers said that the recent bonus on LED tubes was 'aggressive' enough that they tried to 'hone in' and 'capitalize' on it. However, manufacturers were also more critical of Xcel Energy than the trade allies. One noted that Xcel Energy's focus on screw-based bulbs was limiting for C&I customers and another said "rebates in the Northeast are twice or more what Xcel offers for LED flat panels or troffers. In those areas, sales are 25% higher than Xcel territory".

PARTICIPATION IN RELATED PROGRAMS

One evaluation goal was to understand participation in related programs, specifically the Lighting Efficiency program and the Small Business program. The evaluation team found that 40% of respondent customers and all active trade allies participate in multiple Xcel Energy programs. Neither customers nor trade allies reported difficulty or confusion in discerning which program to use.

We asked customer participants if they had participated in other programs, and, if so, what programs they participated in. Overall, 40% of customer respondents reported participating in another program. The most common programs customer respondents participated in were Lighting Efficiency (18%) and Motor, Drive and Pump Efficiency (12%), as shown in Table 3-4.

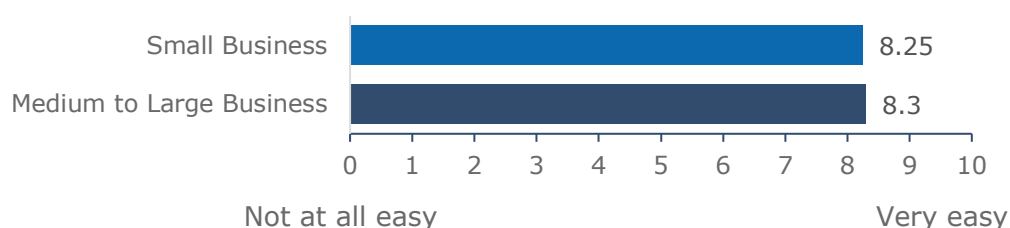
Table 3-4. Respondent Participation in Related Programs(n=50)

Program	Count	Percent Total Population
Lighting Efficiency	26	18%
Motor, Drive & Pump Efficiency	17	12%
Heating Efficiency	9	6%
Cooling	5	4%
Energy Management System	4	3%
Compressed Air Efficiency	2	1.4%
Small Business Lighting	2	1.4%
Self-Direct Efficiency	1	1%
Strategic Energy Management	1	1%
Custom Efficiency	3	0
Computer Equipment	0	0
Commercial Refrigeration Efficiency	0	0
Multifamily Building Efficiency	0	0
Data Center Programs	0	0
Other, specify:	8	6%

**Note, participants could select all that apply, so the sum of counts will be higher than the total participants who answered the question at the bottom. Percents are recorded from total population of n=141*

Although multiple programs exist within Xcel Energy where customers can purchase lighting products, respondents did not report difficulty in determining which program was best suited to their lighting needs. Respondents who participated in multiple programs rated “how easy was it to determine the Xcel Energy efficiency program best suited to your needs” as an 8.29, where 0 is not at all easy, and 10 is very easy. Results did not differ significantly by business size (Figure 3-4).

Figure 3-4. Ease of Finding Correct Program by Company Size



We asked customers to explain their answers. Respondents commonly said that it was easy because their vendor took care of the details for them. “My vendor provided the information” said one participant, and “We had a lot of guidance from our salesperson and the rebates which were available” said another. This indicates that continued partnership with vendors so they are knowledgeable of rebates and products will help with end-use customer success.

Trade allies also often participated in other programs with Xcel Energy and did not have difficulty determining which program to use. However, they found the

Business LED Instant Rebate product easier to use and would like to see more lighting products offered including troffers, exterior lighting, wall packs, and parking lot lighting.

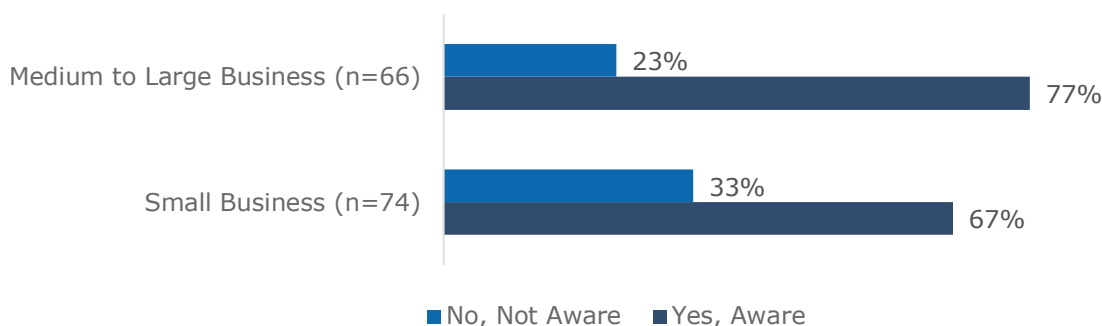
PROGRAM AND PRODUCT AWARENESS

The evaluation team used the participating customer survey and trade ally interviews to assess awareness of the Business LED Instant Rebate product.

Overall, about one-third of participant customers were aware that they received a rebate on their lighting from Xcel Energy, with small businesses being less aware, on average, than larger businesses. Trade allies became aware of the program through past participation in the prescriptive program. Trade allies use their manufactures as a key tool for learning about new lighting products, and manufactures are motivated to promote rebated products to their distributor customers.

Twenty nine percent of participating customer respondents were not aware that the lighting products they purchased were rebated by the Xcel Energy. As shown in Figure 3-5., respondents who identified as a small business were more likely to report that they were not aware that the product was rebated (33%) compared to medium to large businesses (23%). In previous research we have found that medium and large businesses are more likely to have staff dedicated to finding rebates, and it is possible that this discrepancy exists because medium to large businesses were more likely to be actively pursuing rebate programs.

Figure 3-5. Awareness of Rebate by Business Size



For those customer participants who reported that they were aware of the rebate (n=100), we asked how they became aware of the rebate. As shown in Table 3-5, respondents most commonly reported that they became aware of the rebate through their trade ally. However, awareness through trade ally was higher for small businesses (67%) than medium to large businesses (39%).

The biggest difference between small and medium to large business was that large businesses found out about the rebate through their Xcel Energy representative (14%), an avenue that no small businesses reported (0%). This may be because unlike small businesses, larger corporations have dedicated account representatives at Xcel Energy.

Table 3-5. How Respondent Became Aware of Rebate by Business Size

Respondent became aware of rebate through...	Small Business (%)	Medium to Large Business (%)
Trade ally	67%	39%
Personal connection	8%	12%
Xcel Representative	0%	14%
Xcel Energy program email	6%	8%
Advertising from another industry representative	6%	4%
Internal staff	6%	4%
Xcel Energy website	0%	6%
Xcel Energy direct mail	0%	0%
An event	0%	0%
Don't know	4%	10%
Other	2%	4%

We asked customers their preferred communication mediums to learn about similar opportunities through Xcel. The majority of small (63%) and medium to large businesses (74%) responded that email was most preferred, followed by bill inserts (14% and 5% respectively).

Trade allies became aware of the program by participating in the prescriptive program. Some noted that they became aware once they realized they could no longer process LED tubes through the prescriptive program.

Trade allies reported that they become aware of new lighting products predominately through their manufacturers, followed by lighting events and conferences. Trade allies have regular meetings with manufacturers: "We have manufacturers come in here for a weekly sales meeting and they present their new products.". They also periodically look at the manufacturer websites for new products: "Looking at [the Manufacturer's] website, I know what they offer and if there is a new product, that is where I get my knowledge." This indicates that manufacturers may be a target audience for Xcel Energy to push lighting efficiency downstream.

The manufacturers we spoke with reported being motivated to help their distributor customers become aware of rebate incentives. One manufacturer said “When you guys increased T8 incentives earlier in the year, we actively engaged sales people to make sure they were aware Xcel was offering higher incentives on T8 projects, so they could have conversations with distributor-customers, agents, and end-customers, to let them know T8s were at a lower price.” Manufacturers were motivated to sell more product, reduce their product pricing, and to make the end-user happy. Updating manufacturers about increased rebates and program opportunities allows manufacturers, in turn, to be able to communicate that information downstream to distributors and end-customers.

DECISION MAKING AND COVID-19 IMPACTS

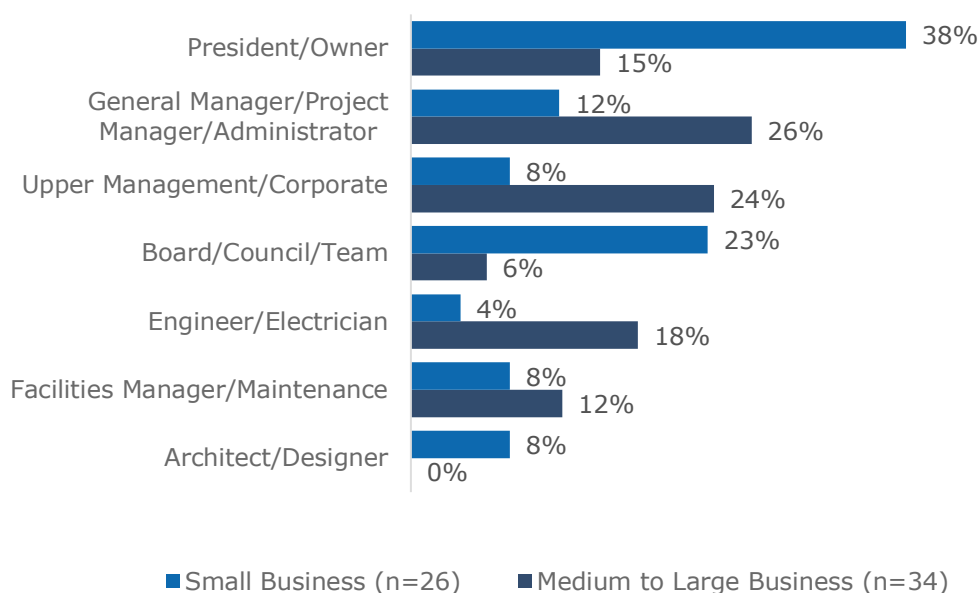
The evaluation team used customer surveys and participating and non-participating trade ally interviews to understand how business customers decide on lighting products, what motivates them, and how that decision making process may differ in a small business versus a medium to large business. We also asked customers and trade allies how the COVID-19 pandemic has affected their business and their future decisions.

CUSTOMER DECISION-MAKING

Overall, participant customers were predominately motivated by energy savings and had a more formal decision-making process. Small businesses had slightly less formal processes but still planned project budgets in advance.

To understand the decision-making process at businesses, the evaluation team also asked customers for the title of the person deciding on the lighting purchase. Figure 3-6 shows the distribution of “decision maker” by company title and business size. Small businesses are more likely to have a president or board as the decision maker while larger businesses were more likely to have a manager as the decision making.

Figure 3-6. Decision Maker Title by Business Size



We also asked trade allies and manufacturers about their decision-making processes. We asked how they decided on which stock to keep and which products to promote.

Trade allies noted that they try to avoid purchasing stock that will remain on the shelf for a long period of time. They noted that with the LED market rapidly changing, purchasing excess LED stock is a liability and almost all preferred to dropship their LED products whenever possible. Those trade allies that do have stock, most often have fluorescent bulbs which styles or models did not change often. Trade allies did not hold their own sales promotions, but when a manufacturer offers a discount on a bulb, they will pass the discount onto their customers.

Manufacturers decided which products to promote based on local promotions (including rebates) and to reduce inventory of undersold products.

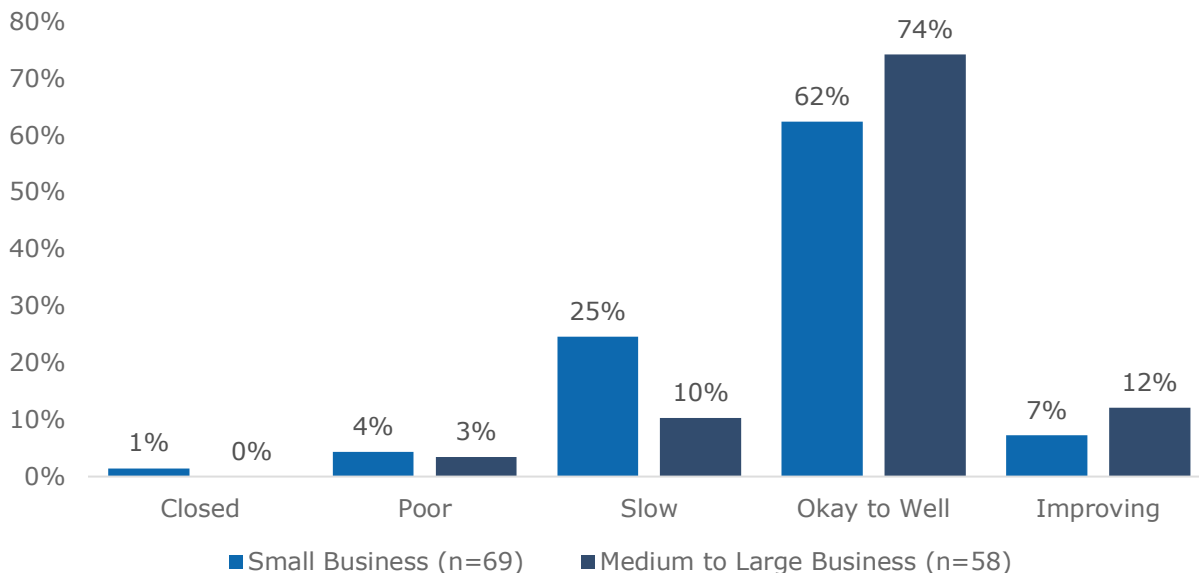
COVID-19 IMPACTS

The year 2020 was an unprecedented year as the globe experienced the worst pandemic in modern history. Because of this, the evaluation team asked customers and trade allies about how the coronavirus pandemic has affected their business.

Respondents overall were slow or doing “okay”, but small customers seemed be hit a little bit harder than larger customers (Figure). It is also possible that customers that were hit the hardest by COVID-19 or had closed did not respond to the survey.

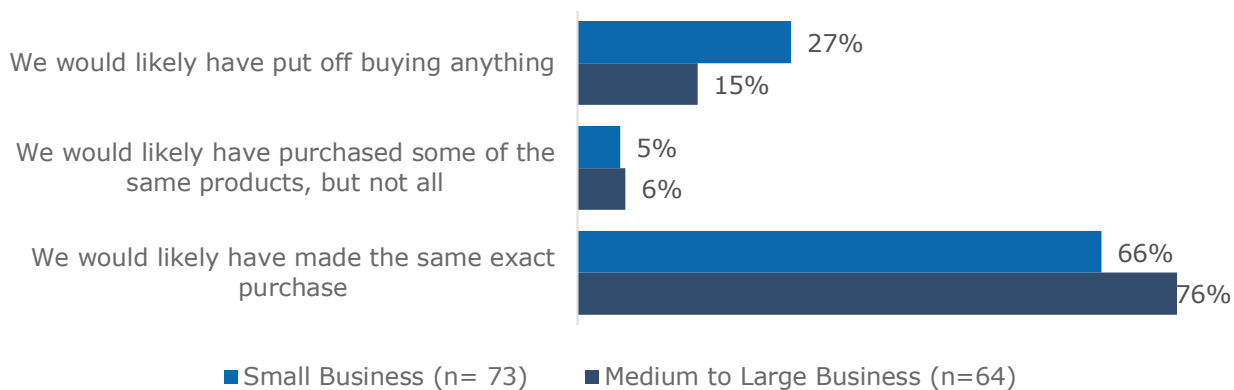
Based on the survey disposition, approximately 8.2% of the contact list had disconnected numbers which may indicate they were closed.

Figure 3-7. Business Health during COVID-19 Pandemic by Business Size



We also asked participant customers if they would have completed the same project (from 2019 or early in 2020) during the pandemic. As shown in Figure , while the majority said they would have done the same project, 32% of small business respondents and 21% of medium to large businesses said their project would have been delayed or reduced their project if it were during the pandemic.

Figure 3-8. Customer Likelihood to Complete Same Project During COVID-19



Trade allies and manufacturers also experienced difficulty because of the pandemic. Recent tariffs made LED bulb shipments from China more expensive. When the Coronavirus hit China in late winter, manufacturing stalled, leaving some lines of product completely unavailable. Then, as the pandemic became more threatening in the United States in late spring and summer, contract jobs slowed significantly due to fears of spreading the disease. One trade ally remarked “our sales are down 80%...this isn’t worth dying over”. Business began picking up again in late summer and early fall, and trade allies felt optimistic about 2021, but it is unclear what may happen as temperatures lower and peaks increase through the winter.

Trade allies were grateful for Xcel Energy’s additional COVID-19 bonus on LED tubes. The limited time nature of the promotion helped them push their customers to continue with projects in 2020, rather than delay.

PEER UTILITY PRACTICES AND LIGHTING TRENDS

The evaluation team used peer benchmarking and manufacturer and trade ally interviews to understand peer utility practices and upcoming lighting trends.

PEER UTILITY PRACTICES

Table 3-6 summarizes key program design features for each of the peer utility programs.

Table 3-6. Key Program Features

Utility	Implementer	DLC/ENERGY STAR Requirements	Preventing Double Dipping	Customer Verification
Xcel Energy	Yes	Yes with exceptions	Separate products	Portal
Utility A	Yes	Yes	Soft blocks on portal	Portal
Utility B	Yes	Yes with exceptions	Separate products	Portal
Utility C	Yes	Yes	Coordination among program managers	Portal
Utility D	Yes	Yes	Not addressed	Address verification
Utility E	No	Yes with exceptions	Not addressed	Zip code only

Four of the five interviewed utilities rely on a third-party implementer to run their Business LED Instant Rebate program, while one utility implements the program with internal staff. All programs work by recruiting distributors as trade allies to sell

the products using incentives offered by the utility. All utilities incentivize primarily DLC and ENERGY STAR products, although two utilities allow for exceptions to this requirement.

All programs require some type of customer verification, however only three of the five use a portal so that trade allies may instantly verify products and customers. Utility C's portal allows for "fuzzy" inputs – such that the address entered will pick up those most similar and offer a drop-down menu of options. One utility only requires that customers identify the zip code in which they operate and the other verifies addresses through site visits after products are installed.

A common frustration experienced by most utilities interviewed is preventing "double-dipping" or ensuring that measures sold are not incentivized by more than one program. To address the issue of double-dipping, Utility A vets measure requirements and inspects at least 85% of installations to prevent measures from being incentivized twice. Utility C has internal weekly discussions among program managers with lighting products and programs the on-line verification portal to block sales to customers participating through another program, while Utility B separates products offered between different programs.

PRICING

Peer utilities largely share a common goal towards incentive price setting: to set the Business LED Instant Rebate program incentives low, while also covering much of the additional incremental cost of purchasing a high efficiency product. Table 3-7 summarizes peer utility pricing strategies with example prices and quantity limits, if any.

Table 3-7. Pricing Strategies and Quantity Limits

Utility	Minimum Customer Price	Price Determination Approach	Example 2' Linear Type A Price	Example 100 W A Lamp Price	Quantity Limits
Xcel Energy	Yes	Cover incremental costs	\$2	\$4	None
Utility A	Yes, but customized for specific product	Cover incremental costs	\$3	\$7	None
Utility B	25% of Cost	Cover incremental cost	\$5	Not offered	None
Utility C	None, but try to keep incentives low	Cover incremental costs	\$2	Not offered	None
Utility D	\$1/Lamp	5 cents/kWh	\$3	\$2	25 high bay lights per customer; 25 flat panels/customer
Utility E	70% of cost	Cost-effectiveness analysis to determine maximum per message	\$2	Not offered	None

Table 3-8 through Table 3-13 detail prices for each product offered through each peer utility.

Table 3-8. Linear Fluorescent Incentives by Utility

Product	Xcel Energy		Utility A	Utility B		Utility C	Utility D	Utility E
	DLC/ESTAR Rated	Non- Rated	DLC/ESTAR Rated	DLC/ESTAR	Non- Rated	DLC/ESTAR Rated	DLC/ESTAR Rated	All
Linear Type A, 2 ft	\$2	\$1.50	\$3	\$5	\$4	\$2	\$3	\$3
Linear Type A, 4ft or U- bend	\$3	\$2.25	\$3 (T8), \$8 (T5)	\$4	N/A	\$3	\$3	\$3
Linear Type A, 8ft	\$6	\$4.50	\$6	N/A	\$4	\$5	\$8	\$3
Linear Type B, 2ft	\$6	\$2.25	N/A	\$5	\$4	\$2	\$3	\$3
Linear Type B, 4ft or U- Bend	\$4	\$3	N/A	\$4	N/A	\$3	\$3	\$3
Linear Type B 8ft	\$8	\$6	N/A	N/A	N/A	\$5	\$8	\$3
Linear Type C 2ft	\$5	\$3.75	N/A	\$4	\$4	\$2	\$3, (\$2 T8)	\$3
Linear Type C 4ft or U-Bend	\$4	\$3	N/A	\$5	N/A	\$3	\$3	\$3
Linear Type C 8ft	\$12	\$9	N/A	\$4	\$4	\$5	\$8	\$3

Table 3-9. PL and Mogul Incentives by Utility

Product	Xcel Energy		Utility A	Utility B		Utility C	Utility D	Utility E
	DLC/ESTAR Rated	Non- Rated	DLC/ESTAR Rated	DLC/ESTAR	Non- Rated	DLC/ESTAR Rated	DLC/ESTAR Rated	All
PLs Type A, A/B 2 or 4 pin	\$7	\$5.25	N/A	\$5	\$5	\$4	\$2 (<=9W), \$3 (>9W)	\$4
PLs Type B 2 or 4 pin	\$7	\$5.25	N/A	\$5	\$5	\$4	\$2 (<=9W), \$4 (>9W)	\$4
Mogul Base Type B 30-39W	\$30	\$22.50	\$70 highbay, \$50 lowbay	\$25	N/A	N/A	N/A	N/A
Mogul Base Type B 40-49W	\$40	\$39	\$70 highbay, \$50 lowbay	\$25	N/A	N/A	N/A	N/A
Mogul Base Type B 50-79W	\$50	\$37.50	\$70 highbay, \$50 lowbay	\$25	N/A	N/A	N/A	N/A
Mogul Base Type B 80-119W	\$60	\$45	\$70 highbay, \$50 lowbay	\$25	N/A	N/A	N/A	N/A
Mogul Base Type B 120-230W	\$85	\$63.75	\$70 highbay, \$50 lowbay	\$55	N/A	N/A	N/A	N/A

Table 3-10. Screw-Based LED Incentives by Utility

Product	Xcel Energy		Utility A	Utility B		Utility C	Utility D	Utility E
	DLC/ESTAR Rated	Non- Rated	DLC/ESTAR Rated	DLC/ESTAR	Non-Rated	DLC/ESTAR Rated	DLC/ESTAR Rated	All
A Lamp 40W, 0-749 lumen	\$1	\$0.75	\$3	N/A	N/A	N/A	\$2	\$2
A Lamp 60W, 750-1049 lumen	\$3	\$2.25	\$3	N/A	N/A	N/A	\$2	\$2
A lamp 75W, 1050-1489 lumen	\$4	\$3	\$7	N/A	N/A	N/A	\$2	\$2
A Lamp 100W, 1490+ lumen	\$6	\$4.50	\$7	N/A	N/A	N/A	\$2	\$2
Decorative	\$4	\$3	\$4	\$3	N/A	\$5	\$4	\$2.50
BR30, R30, ER30	\$5	\$3.75	\$14	\$4	N/A	\$8	\$7	\$3
BR40, R40, ER40	\$6	\$4.50	\$18	\$4	N/A	\$10	\$7	\$3
MR16	\$5	\$3.75	\$9	\$3	N/A	\$12	\$4	\$4
PAR16	\$3	\$2.25	\$9	\$6	N/A	\$8	N/A	\$3
PAR20, R20	\$4	\$3	\$8	\$6	N/A	\$6	\$7	\$3
PAR30, PAR30L	\$5	\$3.75	414	\$8	N/A	\$7	\$7	\$3
PAR38	\$10	\$7.50	\$18	\$10	N/A	\$15	\$7	\$3
Interior Downlight Retrofit Kit	\$9	\$6.75	N/A	N/A	N/A	N/A	N/A	\$10

Table 3-11. Other Products not Offered by Xcel Energy: Utility C and E

Product	Utility C	Utility E
HID Interior/Exterior LT 250W	\$30	\$50
HID Interior/Exterior 250W to 399W	\$65	\$50
HID Interior/Exterior 400W to 999W	\$95	\$50
HID Interior/Exterior GTE1000W	\$130	\$50
2G11-base Replacement Lamp	\$4	
R20	\$5	
A Line LT/GTE 11 W	\$6	
HID Replacement Lamp <40W		\$10
HID Replacement Lamp ≥40W and < 80W		\$25
HID Replacement Lamp ≥80W and <150W		\$35
Linear Ambient Retrofit Kit		\$9.50
Troffer Retrofit Kit		\$18

Table 3-12. Other Products Not Offered by Xcel Energy: Utility A

Product	Utility A
LED Strip/Wrap	\$25
Exterior LED 20-99W	\$50
Exterior LED 100-199W	\$80
Exterior LED >200W	\$110
Parking Garage & Canopy, 20-99W – Standard	\$50
Parking Garage & Canopy, 100-199W – Standard	\$100
Parking Garage & Canopy, >-200W-Standard	\$150
Parking Garage & Canopy, 20-99W – Premium	\$75
Parking Garage & Canopy, 100-199W – Premium	\$135
Parking Garage & Canopy, >=200W-Premium	\$190
Low Output LED Stairwell Fixture w/ Internal Occupancy Sensors 55W	\$75

Mid Output LED Stairwell Fixture w/ Internal Occupancy Sensors >55W	\$100
Down-light kit greater than 25W	\$30
High/Low Bay LED 20-99W	\$100
High/Low Bay LED 100-199W	\$125
High/Low Bay LED >200W	\$160
High/Low Bay LED 20-99W w/ Controls	\$175
High/Low Bay LED 100-199W w/ Controls	\$200
High/Low Bay LED >200W w/ Controls	\$235
1x4, 2x2, 2x4 LED Troffer - Standard	\$30
1x4, 2x2, 2x4 LED Troffer - Premium	\$35
1x4, 2x2, 2x4 LED Troffer w/ Controls DLC - Standard	\$75
1x4, 2x2, 2x4 LED Troffer w/ Controls DLC - Premium	\$85
1x4, 2x2, 2x4 LED Troffer Retrofit Kit - Standard	\$25

1x4, 2x2, 2x4 LED Troffer Retrofit Kit - Premium	\$30
G24 LED	\$10
G23 LED	\$9

Table 3-13. Other Products Not Offered by Xcel Energy: Utility B

Product	Utility B Incentive
T5H0	\$5
ENERGY STAR Fixtures <=40W	\$10
ENERGY STAR Fixtures >40W	\$25
Wall pack <50W	\$12
Wall pack 50-99W	\$20
Wall pack ≥100W	\$50

FUTURE PLANS

This section describes future plans by peer utilities as well as upcoming trends suggested by trade allies and manufacturers.

While some peer utilities were able to describe specific future changes to their midstream programs, most utilities indicated that program changes are made on an as-needed basis to ensure that program offerings are aligning with market demands. Each utility's specific expected program changes are outlined in Table 3-14 below. Of note is Utility A, that plans to drop screw-based bulbs completely from their program and move towards a program focused on lighting controls starting in 2022.

Table 3-14. Expected Program Changes

	Utility A	Utility B	Utility C	Utility D	Utility E
Changes to types of products offered	Removal of screw-based products – planning to move to a controls-only program	None planned – changes are contingent on struggle to prevent overlap with other programs	Adding LED fixtures and kits on a prescriptive basis	Adding products based on feedback from distributors	Potentially adding fixtures
Changes to incentives	None planned	None planned	Yes - Incentive changes made quarterly	None planned	None planned
Changes in requirements for trade allies	None planned	None planned	None planned – constantly adjusting rules to make sure participation and results are as desired	None planned	Potentially removing customer verification to capture more of the market

TRADE ALLY LIGHTING TRENDS

We conducted interviews with trade allies and manufacturers to understand how the LED market is shifting, and if there are lighting trends that would be helpful for Xcel Energy to be aware of for the Business LED Instant Rebate product. Trade allies and manufacturers indicated an increase in power of LED bulbs, an increase in customizable bulbs, an increase in controls, and a decline in screw-based bulbs in favor of integrated fixtures.

LED bulbs are getting more powerful and may soon become a big player in the outdoor lighting and sanitation markets. To date, LED bulbs cannot create the power to provide the intensity of light needed for outdoor spaces and UV disinfectants. However, this may change quickly. One trade ally explained “there

are a lot of studies on LEDs right now. We can produce up to 100 watts for one chip, but in the future, in the next maybe 5-19 years, we will be over 350-watt lumen per chip". He predicted that, once LEDs reach this power level, they will quickly replace HID's because of their longevity. "HID's work at 1,800 degrees Fahrenheit, the heat they produce kills the light, even in UVC mercury, and the other similar lamps only last 3 months. In comparison, LEDs have 50 times more life than those".

Color and lumen adjustable LED bulbs are becoming more common and are attractive to manufacturers, contractors, and customers. These bulbs are adjustable, allowing the user to set their wattage, lumens and color. These are convenient for trade allies because they do not need to stock as much product and can consolidate to one SKU. However, with wattage that is adjustable, trade allies were concerned how they would report them for rebate programs, and if they would have to report the maximum wattage even if the bulb were set to a lower setting.

Trade allies and manufacturers predicted an increase in opportunities for lighting controls. One manufacturer noted "Another trend will be integrated controls...smart controls, network controls, integrated occupancy sensors and motion sensors" and noted "and I'm not sure what that will mean for utility rebates". Another trade ally noted an increase in smart controls "controls are getting more advanced, Bluetooth, instead of having all wires--it is all wireless".

The final trend was towards integrated fixtures, and away from screw-based bulbs. Manufacturers felt that the remaining retrofit opportunities were in troffers and high bay lighting.

4. CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the research team's key findings and associated recommendations regarding the Xcel Energy Business LED Instant Rebate product in Colorado. All recommendations are based on key findings from our evaluation research and are designed to reflect the context of future product years, acknowledging expected changes in the market and planned product changes.

Overall, the evaluation team found that participating customers and trade allies in the Business LED Instant Rebate product were generally satisfied with the program. There are opportunities to increase independence of trade allies by increasing usability of the trade ally portal, opportunities to increase NTGR by promoting LED products beyond screw-based bulbs, and target promotions towards customers with the greatest opportunities. Specific findings and recommendations follow.

- **Key Finding 1: The product shows influence in the market, with a retrospective NTGR of 0.692.** The evaluation team also recommends using a prospective NTGR of 0.692 if the current mix of sales by lighting product type stays consistent. The evaluation team expects to see Xcel Energy have less influence on LEDs due to market adoption, but this is tempered by impacts from COVID-19. The addition of the direct-to manufacturer channel could impact free-ridership. However, it is not clear whether it will increase or decrease. The NTGR could increase if those buying through this channel are not already converting to LED. Trade allies selling a high share of screw-based bulbs report higher free ridership. Manufactures noted that Xcel Energy may not need screw-based bulb incentives any longer as they are declining in sales due to saturation.
 - **Recommendation 1a: If the product design remains the same, the evaluation team recommends using a prospective NTGR of 0.692. If Xcel Energy shifts product mix away from screw-based lamps the NTGR could increase according to the following equation:**
$$\text{Free Ridership} = 0.358 \times \text{Screw-based Units Sales Share} + 0.198$$
 - **Recommendation 1b: The evaluation team recommends additional NTGR research for the additional direct-to-manufacturer channel.** Further research could include conducting a NTGR battery with participating end-use customers to assess free-ridership and spillover for these customers.
- **Key Finding 2: Trade allies struggle with technical issues in the portal, including customer eligibility and entering the correct product codes.** Trade allies report frustration in determining customer eligibility because the system to validate an address is very specific and does not work well with multiple meters. They also reported confusion in which product code to enter, and whether it was the short code, long code,

DLC code, or Energy Star code. This often resulted in errors when they attempted to upload documentation. Trade allies are currently resolving these using high levels of customer support.

- **Recommendation 2a. Update the portal to allow for 'fuzzy' matching in customer eligibility search tool.** Some utilities allow for non-exact matches for customer eligibility, which allow the trade ally to select the correct address from a dropdown. By enabling 'fuzzy' matching, trade allies will be better able to find the correct customer on their own.
 - **Recommendation 2b. Allow DLC, Energy Star, and Short and Long product codes as valid entries.** By allowing all forms of product code, trade allies will be able to enter and process their product codes without guessing which file or code type they should input.
 - **Recommendation 2c. Conduct a usability study of the trade ally portal to find additional technical issue and opportunities for in-portal information.** Trade allies noted additional minor issues with the portal in this process evaluation. We recommend conducting a usability study of the trade ally portal to identify small bugs, and to find common areas of confusion where customers can receive in-portal support (e.g., an ? icon next to a field to clarify needed information) and reduce reliance on customer support.
-
- **Key Finding 3: A small percentage of customers did not feel they saved energy and did not receive information on energy efficiency.** Customers were highly motivated by cost savings and when some did not see an impact on their bill, they became unsatisfied with their participation in the product. Unfortunately, many customers do not understand the impact that weather can have on their bills, so they may not realize what has caused their energy bill to increase, even if a recent lighting project has taken place. Customers were also motivated by reduced maintenance and better warranties.
 - **Recommendation 3. Help customers understand what to expect for their energy bill.** Provide print materials, and/or train trade allies to help customers understand what to expect for their next energy bill, particularly when lighting projects are taking place before a heavy heating or cooling season.
-
- **Key Finding 4: Trade allies appreciated and noticed an uptick from the COVID-19 bonus on LED tubes.** Trade allies reported that the COVID-19 bonus on T8 tubes helped them nudge their commercial customers to continue with a project instead of delaying.
 - **Recommendation 4. Continue to utilize short-term bonus periods to promote upticks in project completion.** Short term bonus periods can be useful to promote specific products when sales

are below goals. However, if this strategy is used, we recommend only using it annually. Trade allies use these promotions to push customers to do projects sooner than they would have; if it is overused, customers may not believe the limited time nature of the promotion and become untrusting.

- **Key Finding 5: Trade allies and manufacturers would like to see additional lighting products offered through the Business LED Instant Rebate product.** Manufacturers noted that Xcel Energy has a heavy emphasis on screw-based bulbs, but that they may not need incentives any longer as they are declining in sales due to saturation. Trade allies and manufactures also noted that having more products in the Business LED Instant Rebate product allowed for a more streamlined process that could increase quantity of projects completed. In our benchmarking, Xcel Energy's Business LED Instant Rebate product had 29 different products, which was slightly lower than the average of peer utilities (34).
 - **Recommendation 5a: Where possible, add more lighting types to the Business LED Instant Rebate product, including HIDs, high/low bay lights, troffers, retrofit kits, parking garage, exteriors, controls, and integrated fixtures.** Trade allies noted that the Business LED Instant Rebate product was easy to use and wanted to see more products available through the Business LED Instant Rebate product. Manufactures also noted that other national programs offered more products in midstream, which helped increase overall sales in those territories.
 - **Recommendation 5b: Conduct an additional C&I baseline study to understand the greatest opportunities for marketing and promotion of the Business LED Instant Rebate product.** Past baseline research has indicated that certain market sectors in terms of business size and type are more transformed than others. The evaluation team recommends updating this study so that Xcel Energy can continue to target customers that have not already converted to LED.

XCEL ENERGY

CO Business Instant Rebate Product Impact & Process Evaluation

APPENDICES

December 18, 2020



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APPENDIX A: EVALUATION PLAN

TO: Nick Minderman, Xcel Energy
Jackie Ducharme, Xcel Energy

FROM: Jane Colby, Katie Parkinson, and Scott Dimetrosky, Apex Analytics
Nicole Thomas, EMI Consulting

CC: Jeremy Kraft, EMI Consulting
Matthew Rose, EMI Consulting

DATE: May 22, 2020

RE: Xcel Energy CO Business LED Instant Rebate Product – Evaluation Plan

INTRODUCTION

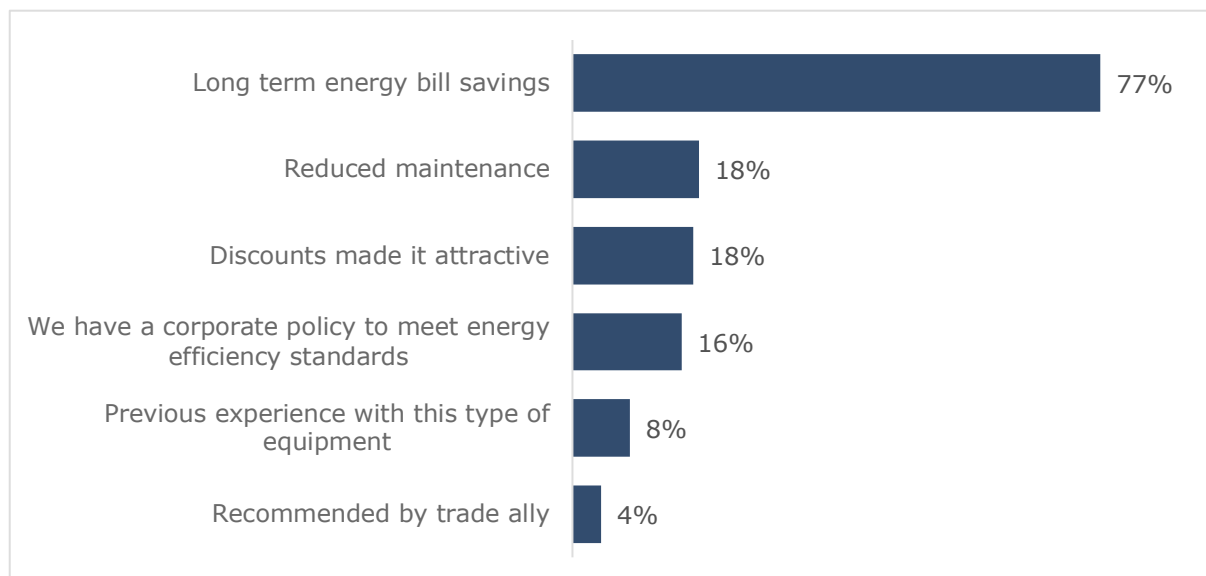
To support the 2020 process and impact evaluation of Xcel Energy efficiency products, the EMI Consulting evaluation team will be conducting a process and impact evaluation of the Xcel Energy CO Business LED Instant Rebate Product products. This memo provides a plan for the 2020 Xcel Energy CO Business LED Instant Rebate Product evaluation based on staff feedback during the evaluation kick-off meeting, staff interview findings, and review of program documentation. This evaluation plan includes the following sections:

- Product Overview
- Evaluation Overview
- Data Collection Activities and Sampling Plans
- Net-to-Gross Approach

A.1 PRODUCT OVERVIEW

The CO Business LED Instant Rebate Product program offers instant rebates, through a trained distributor channel, to Xcel Energy commercial customers who purchase qualifying lighting equipment in existing or new buildings. Equipment includes Design Lights Consortium (DLC), ENERGY STAR, non-DLC, and non-ENERGY STAR-certified models of LED lamps as well as LED retrofit kits. Rebates are intended to encourage Xcel Energy electric commercial customers to purchase high-efficiency lighting products in their commercial and industrial facilities. Secondary goals include driving market transformation, forming a gateway for

additional DSM products, expanding awareness of the Xcel Energy brand, and providing high-quality touchpoints for commercial customers.



Products are distributed through a network of 40-50 active distributors and rebate aggregators who promote the lighting products and provide instant rebates. Distributors sign a participation agreement and receive training and a login to the partner portal, which Xcel Energy staff use to qualify products and customers as eligible. Distributors are reimbursed for discounts within 45 days, pending approval of uploaded sales and customer information.

In 2019 and through the first quarter of 2020, the Business LED Instant Rebate Product Channel (combined results from Small Business Lighting and Lighting Efficiency Products) claimed over 47 GWh in energy savings from rebates provided in Colorado (Table 1).

Table 1. CO Business LED Instant Rebate Product Savings by Measure, 2019– First Quarter 2020

Measure	Units		kWh		kW	
	Quantity	% of Total	Quantity	% of Total	Quantity	% of Total
A-lamps	121,100	29.5%	10,776,966	22.6%	2,344	22.5%
Decorative	32,706	8.0%	6,549,567	13.7%	1,422	13.7%
HID Base	1,553	0.4%	1,216,709	2.5%	266	2.6%
Linear	179,475	43.8%	16,634,509	34.9%	3,643	35.0%

Pin-lamp	17,285	4.2%	2,032,389	4.3%	445	4.3%
Reflectors	49,208	12.0%	9,350,745	19.6%	2,033	19.5%
Retrofit Kit	6,898	1.7%	980,703	2.1%	214	2.1%
U-Bend Tube	1,842	0.4%	186,713	0.4%	41	0.4%
Grand Total	410,067	100.0%	47,728,301	100.0%	10,408	100.0%

Note: This is the population of participants receiving rebates between January and December 2019. These numbers are based on aggregated data provided to EMI Consulting in April 2020.

Xcel Business LED Instant Rebate Product program staff are continuing to assess additional energy efficiency lighting items to rebate.

A.2 EVALUATION OVERVIEW

The 2020 evaluation will consist of a process evaluation and an impact evaluation. The process evaluation will focus on customer and trade partner experiences with the products, while the impact evaluation will focus on estimating a net-to-gross (NTG) ratio. This section presents the objectives of the two components of the evaluation. It is followed by a more detailed description of the evaluation activities.

PROCESS EVALUATION

The evaluation team discussed process evaluation priorities during the kickoff meeting¹ and staff interviews.² During those conversations, several process-related themes emerged.

- The first theme centered around positive and negative **program crossover**. Xcel Energy staff expressed concern that customers may become confused by having to participate in multiple product channels if they wish to purchase products available in different channels (e.g. downstream rebates and midstream). However, if duplicate products were offered so customers could complete the project through only one channel, staff are worried that customers could receive multiple incentives for the same purchase. Xcel program staff want to understand if customers, particularly small business customers, are confused by midstream and small business products and assess if customers understand how to use these products in tandem. Xcel Energy staff also want to understand the risks and benefits of moving more products to midstream, which could duplicate products between midstream and other programs. Finally, Xcel Energy staff are interested in knowing if participation in one channel encourages customers to pursue additional

¹ Held on February 13, 2020.

² Staff interviews took place in April of 2020.

products in other channels (e.g. does the midstream program push customers to the small business program, or vice-versa?).

- The second theme was about **decision making for all customers, as well as differences between small and large businesses**. Xcel Energy staff wants to understand customer's motivation for purchasing efficient lighting, decision timing, and how the program influences those decisions. In addition, Xcel Energy staff wish to explore how, if at all, decision making differs in their commercial customer sector by size (small versus large). While Xcel Energy tracks customer participation by size in terms of their kW load, staff would like to understand what percentage of participating customers have a small business decision-making process (owner/operator makes decisions and purchases) versus a larger business process (one or more layers of management, approval processes, and different staff to implement projects). And further, staff are interested how the program influences these different types of businesses as defined by their decision-making process.
- The third theme was around **distributor satisfaction, both in terms of satisfaction of tools, but also distributor satisfaction over time**. Xcel Energy staff are concerned about the potential burden of the customer verification process, noting that sometimes they must enter the customer address into the system many ways (e.g., capitalization and abbreviations) before the system can properly find a customer's eligibility. Xcel staff want to explore this issue further, understanding the severity of the burden to distributors. Xcel staff are also interested in understanding satisfaction among distributors, particularly if there are differences in distributor satisfaction based on time (years) in the Business LED Instant Rebate Product program. That is, are new distributors more, just as, or less satisfied as distributors who have participated for a longer period of time in the program, and with respect to the quantity of rebates processed each year.
- The fourth theme was around **rebate levels** and whether adjustments should be made to current rebates to maximize cost effectiveness. Xcel staff want to make efficient lighting attractive to customers, while keeping cost-effectiveness for the program.

These topics are mapped to the following **objectives of the process evaluation**:

- Understand business customer variations in their decision-making process to install efficient lighting equipment, and whether the product influence varies by these differences.
- Assess product experience and satisfaction, among both customers and trade partners.
- Understand customer awareness, participation in, and perception of, related programs and products.
- Understand how peer utilities operate their Business LED Instant Rebate Product programs.

IMPACT EVALUATION

The objective of the impact evaluation of the Business LED Instant Rebate Product products is to develop a net-to-gross (NTG) ratio documenting the extent to which program activities influenced customer purchasing decisions. Understanding that the many customers may not know they are participating in the Product, the evaluation team proposes to use trade partner phone interviews and participant self-report phone surveys to estimate the Business LED Instant Rebate Product NTG ratio (both retrospective and prospective). Accordingly, the **objectives of the impact evaluation** include:

- Estimate an overall NTG ratio documenting the product's influence on customers' decisions.
- Identify major drivers of free ridership.
- Assess participant spillover.
- Assess market effects of the Business LED Instant Rebate Product products.

The full NTG approach is detailed in a later section of this document.

A.3 DATA COLLECTION ACTIVITIES AND SAMPLING PLANS

To meet the above objectives, we will conduct a variety of data collection activities. These are listed in Table 2 and explored more in this section. The evaluation team has already conducted interviews with Xcel Energy staff members (task reference 1) to help understand specific needs for this evaluation.

For customer research, the evaluation team will conduct phone surveys with participating customers (Table 3, task ref. 2). These surveys will inform prospective and retrospective NTG estimates, as well as research questions around perceptions/awareness, customer decision making, and general product experiences.

For trade partner research, the evaluation team will conduct phone interviews with trade partners (Table 4, task ref. 3) to understand how these market actors participate in and are impacted by the Business LED Instant Rebate Product, as well as how the product can increase this engagement. Table 2 outlines each research task and the associated research objectives; details on each data collection activity are provided in the sections that follow.

Finally, peer utility benchmarking interviews (task ref. 4) will help Xcel Energy understand how other organizations operate their Business LED Instant Rebate Product programs to determine best practices and identify innovative approaches to program design.

Table 2. Business LED Instant Rebate Product Research Summary

Task Ref.	Research Task	Sample Size	Research Objective(s)	Added/Changed Scope
1	Staff Interviews	4	Inform evaluation plan	N/A
2	Participant Surveys (phone) – assess for small vs. large decision-making processes	140	Perceptions/awareness, customer decision making & barriers, timing (early replacement or replace on burnout) product experience/satisfaction, participation in related programs and drivers, NTG	Doubled sample size (no increase in design/analysis budget)
3	Trade Partner Interviews	44	Perceptions, decision making & barriers, product experience/satisfaction, use of new product features, NTG	Recommend double sample size segmented into three different interview types targeting participants (most active and less active), inactive participants, and manufacturer influencers/Additional budget required
4	Peer Utility Benchmarking Interviews	4-6 utilities	Included products, incentives, best practices	N/A

STAFF INTERVIEWS

In April 2020, the evaluation team conducted four interviews with six Xcel Energy staff to inform this evaluation plan, discuss product goals, and review product processes, challenges, and successes. Those interviewed included the Colorado and Minnesota Product Managers, the Implementation Program Manager, two Lighting Engineers, and a Key Account Manager. These interviews were conducted over the telephone and took between 30 minutes and one hour to complete. These meetings, combined with the kickoff meeting, allowed the evaluation team to create a focused evaluation plan with defined data collection activities.

PARTICIPANT SURVEYS

The evaluation team will utilize participant telephone surveys to meet both process and impact objectives. These surveys will focus on the following five topics:

perceptions/awareness, customer decision-making and barriers, product experience/satisfaction, participation in related programs, and NTG impacts.

- **Perceptions/Awareness:** The evaluation team will assess customer perceptions and awareness of the Business LED Instant Rebate Product products and rebates to better understand how this may hinder greater product participation.
- **Customer Decision-Making and Barriers:** The evaluation team will explore customer motivation for purchasing energy efficient lighting products as well as barriers to pursuing efficient upgrades or new equipment. We will also ask about perceived value associated with other non-energy benefits of high efficiency lighting equipment. We will look for differences in decision making and define small business versus large business decision-making processes. We will determine the proportion customers defined as small and large by their kW load that meet the definition of small and large according to their decision-making process.
- **Product Experience/Satisfaction:** The evaluation team will discuss customers' experience with and satisfaction with the Business LED Instant Rebate Product program and products, including ease of finding a vendor, understanding rebate lighting options Xcel Energy offers through various programs, and installing equipment in their facility. We will examine customers' satisfaction with their equipment and what benefits (energy and non-energy) customers have experienced, and the relative value placed on these benefits.
- **Participation in Related Programs:** The evaluation team will determine customer participation in other programs/installation of other efficient equipment, specifically, 1) if customers have participated in other Xcel Energy lighting rebate products and 2) if there is any confusion about lighting product offerings and 3) what other programs customers participate in and which products they install.
- **NTG Impacts:** The team will ask questions on product attribution, or the impact the product had on their decision to purchase highly efficient lighting equipment to be used as a qualitative check against the trade partner free ridership protocol (described in the NTG section). We will also ask about potential efficient measures installed without a rebate because of the Xcel Energy Business LED Instant Rebate Product (spillover).

For the participant survey, the evaluation team will focus on those participants completing projects in 2019. The evaluation team will stratify companies by size (small versus medium/large) with the goal of understanding if decision making differs between companies of different size. However, the team will sample these customers proportionally the population and will not oversample large business customers. The goal for completed surveys for each population is 70 so that results can be reported at the 90% confidence +/- 10% precision level. (NTG calculations will not be separated by small and large businesses). Within strata by business size, we will also stratify by three business categories of retail, service, or other, based on mapping customers by NAICS code. We will cross check our planned sample against the Small Business Lighting customer sample to ensure we are not surveying the same customer twice.

Table 3. Stratification of Sample for Participant Survey

Strata	Population Size	Strata	Population %	n Goal	n %
Lighting (Medium and Large Businesses)	TBD	Stratify into three business categories (Retail, Service, Other)	TBD	70	TBD
Lighting – Small Business (under 400)	TBD	Stratify into three business categories (Retail, Service, Other)	TBD	70	TBD
Total	9313		100%	140	2%

TRADE PARTNER INTERVIEWS

The evaluation team will utilize trade partner interviews to meet both process and impact objectives. These interviews are integral for the following four evaluation objectives: perceptions/awareness, customer decision-making and barriers, product experience/satisfaction, and NTG impacts.

- **Perceptions/Awareness:** The evaluation team will assess trade partner perceptions and awareness of efficient lighting equipment to understand how this may hinder greater product participation from trade partners and their customers. We will also identify the barriers to participation from the trade partner perspective (e.g., certification requirements, administrative demands, program portal). We will determine if trade partners ever sell products but do not include the rebate (spillover).
- **Customer Decision-Making and Barriers:** The evaluation team will discuss how trade partners are promoting efficient lighting measures, and how they are educating customers about the equipment and instant rebate, as well as what barriers midstream vendors perceive to adoption of efficient lighting measures by customers. We will also explore how trade allies work with customers with maintenance contracts and how, if at all, they influence lighting purchases for these customers.
- **Product Experience/Satisfaction:** The evaluation team will discuss trade partners' product experience and satisfaction with the product, including satisfaction with range of efficient measures, satisfaction with the trade

partner portal, and satisfaction of trade partner training and outreach. We will assess what current activities are working well to motivate trade partners, and how trade partners can be motivated to sell more energy efficient lighting.

- **NTG Impacts:** Finally, the team will ask questions on product attribution, or how distributors are influenced by the midstream offering.

The evaluation team recommends interviewing up to 44 trade partners as part of this effort, an increase from the budgeted amount of 20, as shown in Table 4. We recommend this increase because trade partner interviews are used for calculating free ridership. With an estimated sample size of 68 participating trade allies, to achieve 90% confidence with +/-10% precision 34 samples are needed. We will split the participating trade ally sample into two groups: Top performers and remaining group, ensuring we sample the top performers at a higher rate (10 of top 15) than remaining partners (24 of other 53). The risk of too small of sample is less than adequate precision for an important impact metric. We plan to separately interview two other sets of trade partners, those that were previously active in the program but were not active in 2019; and manufacturers that help to influence the program with distributors and customers with 4 to 5 interviews in each group to provide qualitative feedback on their program experience.

Table 4. Business LED Instant Rebate Product Trade Partner Target Interviews, by Interview Strata

Trade Partner Type	Strata	Population	Budgeted Interviews	Recommended Interviews
Active Trade Partners	Top Performers	13	10	10
	Remaining Partners	55	10	24
Non-active Trade Partners	All	10	N/A	4-5
Manufacturers	Participating	TBD	N/A	4-5
Total			20	42-44

PEER UTILITY BENCHMARKING INTERVIEWS

The objective of the peer utility benchmarking task is to understand how peer utilities are approaching key issues related to implementing Business LED Instant Rebate Product programs. Our team focused on utility's with operating business Midstream programs such as:

- DTE Energy
- PacifiCorp
- Massachusetts utilities
- Entergy Arkansas
- ConEd
- ComEd

- Alternates – Duke Energy, Oklahoma Gas & Electric

The evaluation team will work to recruit staff in key management roles related to Business midstream programs at peer utilities with a target sample size of four to six interviews. If necessary, to deviate from this list of peer utilities to achieve an adequate sample size, the evaluation team will select utilities with comparable Business LED Instant Rebate Product products to Xcel Energy's so that Xcel Energy has an "apples-to-apples" comparison. These interviews will generally focus on the same discussion topics being explored in the interviews with Xcel Energy customers and market actors, but will also emphasize the following research objectives specific to peer benchmarking interviews:

- Identify what products peer utilities include in their Business LED Instant Rebate Product Programs.
- Identify how peer utilities incentivize products in Business LED Instant Rebate Product Programs and how it compares to Xcel Energy.
- Identify what, customer verification and administration is required from trade partners.

The evaluation team will develop a peer utility interview guide that is customized to the desired benchmarking components, to be provided to Xcel Energy for approval prior to beginning any data collection. Finally, the evaluation team will summarize the results of the benchmarking analysis in a summary within the final evaluation report.

A.4 NET-TO-GROSS APPROACH

The NTG assessment aims to estimate the percent of savings achieved that can be attributed to program actions, or a NTG ratio. The NTG value includes multiple metrics, which are described in sections below. To do so, the evaluation team will primarily use trade partner interviews and self-report surveys to assess program attribution, including free ridership, spillover and market effects metrics. The evaluation team will apply an adaptation of the Illinois Technical Reference Manual protocol for Midstream programs as it was used for the 2017 Midstream Cooling Efficiency project.

The evaluation team will estimate a retrospective and prospective NTG value. Using multiple sources of information, including surveys with participating customers and trade partners, and will synthesize available data to develop recommended NTG ratios to ensure that we provide the most accurate and reliable estimate of NTG.

This section presents the evaluation teams method to estimate retrospective and prospective NTG ratio and concludes by describing how the evaluation team will synthesize data to estimate the NTG ratio for this product.

RETROSPECTIVE NTG

The evaluation team will estimate a retrospective NTG by examining free ridership, spillover, and market effects. The evaluation team will rely primarily on data collected from trade partners, along with additional qualitative input from participating customers. The evaluation team will then synthesize these results to estimate a NTG ratio at the program level. This section describes how the evaluation team will estimate these components of the retrospective NTG ratios.

Free ridership. Free-ridership is a measure of the amount of a product's claimed savings that would have occurred in the absence of the product. Free-ridership is assessed on a scale from 0 to 1, where 1 indicates that the product had 100% free-ridership and all product savings would have occurred without any of the product's rebates or assistance.

To determine free ridership, the evaluation team will assess whether the distributor changed their practices in a way that ultimately influenced the customer's buying decision. Assessing the influence of the program involves asking the distributors how they would have behaved absent the program, specifically whether they choose to increase stocking of high efficiency units, whether they upsell high efficiency products to contractors and end-users, the price reductions offered, and whether they offer training sessions or marketing campaigns to increase awareness of the high efficiency products.

Once it is established whether or not the trade partner has undertaken strategies to promote energy efficient equipment, the evaluation team will ask questions to obtain the trade partner's rating of the importance of different factors on their decision to participate in the program to compute the **Program Influence Score**. Options will include both program factors and non-program factors that could impact their decision. Program factors are those aspects of the Midstream product designed to convince the distributor to increase their stock of equipment and change their sales strategies to sell more energy efficient products. These might include factors such as the incentives, information about cost-effectiveness of the more efficient products, promotional materials, and sales staff training. We will also include other reasons that might explain their participation, or non-program factors. These might include their own policies to support sustainability, concerns about global warming, increasing their own sales and profits, or a desire to help customer reduce energy bills. We will obtain a rating for each program and non-program factor and will calculate the "Program Components FR Score" for each trade partner using the following equation:

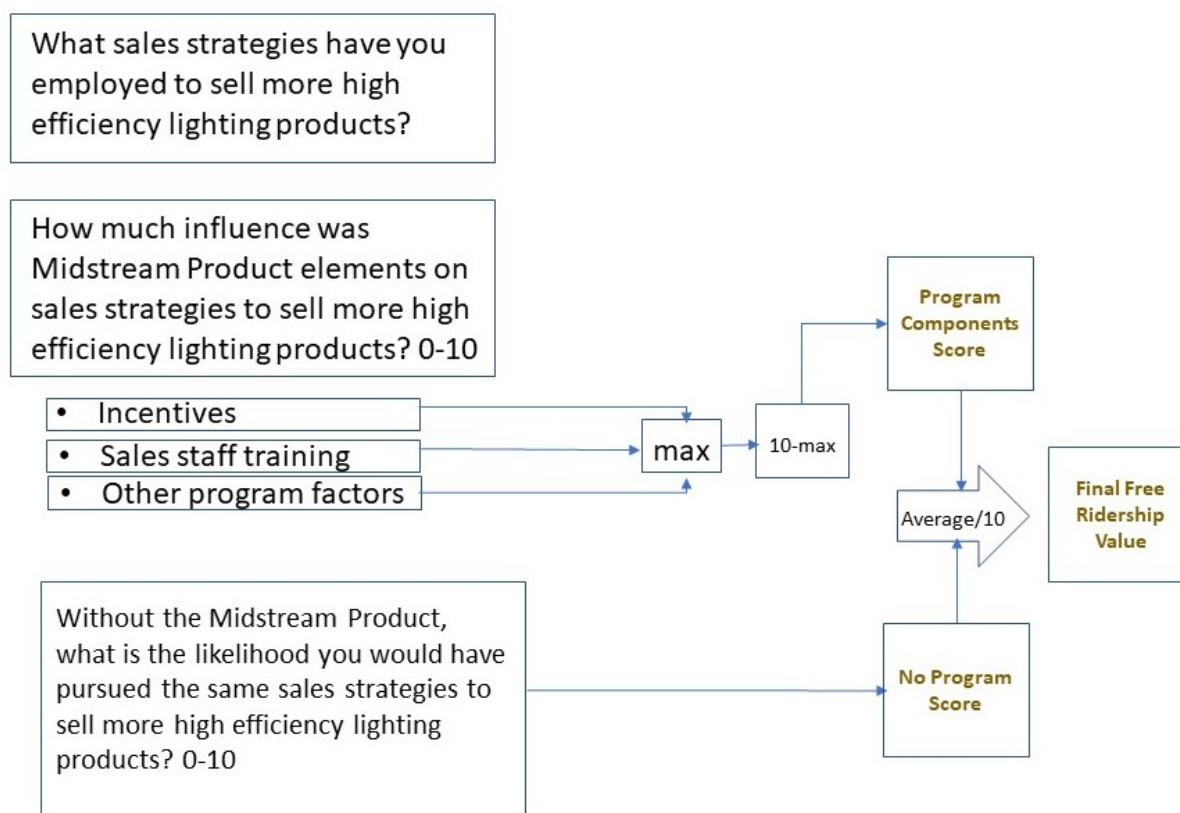
$$\text{Program Components FR Score} = 1 - ([\text{Maximum Program Factor Rating}] / 10)$$

To calculate the **No-Program Score**, we will ask trade partners to rate the likelihood that they would have used the same strategies to sell program-qualified equipment absent the program. The "No-Program FR Score" is calculated as likelihood rating on a scale of 0 to 10, divided by 10.

When scored, these components assess the likelihood of free-ridership on a scale of 0 to 1, with the two scores averaged to create a final free-ridership score.

Figure 1 describes the logic used for calculating free ridership.

Figure 1. Free Ridership Calculation Methodology³



For the Program Components score, the evaluation team envisions will include a minimum of following items as Program Factors and Non-Program Factors:

Program Factors:

- Incentives
- Sales Training
- Promotion Assistance
- Previous participation in an Xcel Energy program
- Other offered by trade partner

Non-Program Factors:

- Company sustainability goals
- Increasing profit or sales opportunity

³ As depicted in the IL TRM Version 7, Volume 4, Figure 4-6, page 64.

- Helping customers reduce energy bills

We will include follow-up questions to determine whether identified non-program factors actually are program factors. For example, a company may have an objective to help customers reduce energy bills, but that objective was influenced by education and marketing from the program. In drafting the survey guide we will also consider other factors that may be appropriate to include as potential other factors.

Through customer participant surveys we will ask customers about their decision-making process including the following questions:

- How do they budget for energy using equipment such as lighting products?
- Who makes the decisions on what products to purchase?
- Who makes the purchases and installs the products?

Participant Spillover. The spillover metric will be assessed through customer surveys representing additional savings achieved as a result of program activities, outside of rebated measure savings, by program participants. The evaluation team will incorporate two measure attribution scores; the first incorporates the influence the program had on the purchase of this additional measure (measure attribution score #1), and the second incorporates likely actions taken in absence of program participation (measure attribution score #2). The spillover score, as calculated below,⁴ must be greater than five in order for the additional measure to qualify for spillover. When this criterion is met, the savings are added to program attributable savings.

$$\text{Spillover Score} = \frac{\text{Measure Attribution Score}_1 + (10 - \text{Measure Attribution Score}_2)}{2}$$

Market Effects. The trade partner interviews will offer important insights into market effects of the Business LED Instant Rebate Product. Such “market effects” signify a transformation in the underlying structure and functioning of the market. Market effects can take many forms and may result from product impacts in a market over time. Examples of market effects include trade partners permanently changing their business models based on the influence of the product—for instance, a distributor trade partner may be more likely to promote efficient lamps to take advantage of the customer incentives. Over time, the contractor builds this into their general approach to marketing and selling efficient lighting. The interviews will include qualitative questions to assess any long-lasting changes to trade partner practices.

Estimating NTG Ratio. By design, our final NTG estimate recommendation includes data from mixed methods research – both quantitative data and qualitative

⁴ IL TRM Version 7, Volume 4, page 35-36.

data. The initial NTG estimates for efficient lighting equipment will be estimated trade partner reported free-ridership interview responses and participant survey spillover responses. After the initial NTG estimates are calculated, we will then utilize the quantitative and qualitative data to construct a logical, internally consistent, and coherent narrative of program attribution that attempts to identify all possible pathways of Xcel Energy influence. We will rely on the following data sources to construct the NTG:

- Participant surveys
- Trade partner interviews

Based on these results, we then may adjust the NTG to create a final recommended NTG ratio that is consistent with this narrative and is informed by product theory. The final NTG recommendation is based on the professional judgment of our team after considering all available quantitative and qualitative data.

PROSPECTIVE NTG

The team will recommend a prospective NTG ratio that will be forward-looking and reflect upcoming changes to the market and known changes to the product. The NTG ratio will reflect any recommended adjustments to the retrospective NTG ratio based on evidence from the evaluation findings, including results from participants, trade partners, staff interviews, and peer utilities.

APPENDIX B: DATA COLLECTION DOCUMENTS

B.1 BUSINESS LED INSTANT REBATE PRODUCT STAFF INTERVIEW GUIDE

INTRODUCTION

This guide is to be used to interview staff associated with Xcel Energy's DSM programs as part of the EMI Consulting 2020 evaluation of the Xcel Energy DSM programs. The interviews will be semi-structured, with these questions serving as a basic guide for experienced EMI Consulting staff during one-on-one phone interviews.⁵ As a guide for semi-structured interviews, these questions will not necessarily be asked verbatim, but will serve as a roadmap during the conversation.

STAFF INTERVIEW RESEARCH QUESTIONS OR OBJECTIVES

- Assess the extent to which the program design supports program objectives and customer service/satisfaction objectives.
- Assess the degree to which program resources are sufficient to conduct program activities with fidelity to the implementation plan
- Collect staff feedback on implementation successes and challenges
- Identify themes and issues to incorporate into the evaluation plan

INTERVIEW

SECTION A: INTRODUCTION

[If staff was not included in kick-off meetings:] First we would like to give you some background about who we are and why we want to talk with you today. EMI Consulting is an independent consulting firm that works with electric and gas utilities to review and improve program operations and delivery. EMI Consulting is sub-contracting with Apex Analytics to perform this evaluation. Xcel Energy contracted with us to perform an evaluation of their portfolio of energy efficiency

⁵ Some interviews may be conducted jointly. This would most likely occur if someone's role recently changed or if more than one person performs the role.

programs and we're currently in the process of conducting interviews with product managers and key staff involved in designing and delivering the portfolio to improve our understanding of Xcel Energy's DSM programs and its influence on customers. We also want to understand what will be useful for you as Xcel Energy program staff because of our research. We want to incorporate your priorities into our study so that the results are as useful as possible.

[ALL] Thank you for taking the time to speak with me today. My objective for this meeting today is to gain a deeper understanding of this program, what Xcel hopes to achieve through implementing this program how it operates, and a bit about your experiences with the Business LED Instant Rebate Product program. We are interested in asking you some questions about the Business LED Instant Rebate Product program so we can benefit from your knowledge and experience to improve our understanding of the program. I have a set of questions that should take approximately 45 - 60 minutes, depending upon your experiences and involvement with the program. All the information provided is anonymous, we will be weaving it together with information gleaned from other interviews.

Before I begin, is it alright if I record the conversation for note taking purposes?
[RECORD IF ALLOWED]

A1. [If needed] First, can you take a moment and explain your role and scope of responsibilities with respect to the Business LED Instant Rebate Product program?

Probes:

- Approximately how long have you held this position? National key accts for a year, before was acct manager for 5 years
- What previous positions did you hold?
- Whom do you report to in the overall org structure?
- Report to Bill Conrad and then Jerome Davis,
- Do you have any direct reports?

SECTION B: PROGRAM GOALS

I'd like to be sure I understand the goals of this program, both overall and specific.

[TAILOR BASED ON WHAT IS ALREADY KNOWN]

B1. Can you take me through the key goals for the Midstream program?

B1a. Can you describe any savings goals? Do you have specific goals for individual components of the program (measure type/retail channels)? These can be internal goals, as well.

B1b. Any other, non-energy goals?

B1b1. Any more immediate goals? For example, participation goals, customer engagement goals, improving customer satisfaction?

Changing customer awareness of or attitudes about energy efficiency measures?

B1b2. Any longer-term goals? For example, reducing greenhouse gas emissions? Altering market behaviors?

B2. What are “indicators of success”?

B2a. What are interim indicators that the program is or is not meeting its objectives or goals?

B3. Have any of these goals changed in the last couple years?

B3a. What was the rationale for changing them?

B3b. In your opinion, how have these changes affected the program’s operations or its outcomes?

B4. What influences do you think this program has had on the market?

SECTION C: PROGRAM ACTIVITIES

I would like to make sure I have a solid understanding of how this program operates. If there is any formal documentation that you can refer me to as we walk through these next questions, I’d appreciate getting copies.

[TAILOR BASED ON WHAT IS ALREADY KNOWN]

C1. What are the different components of the program?

C1a. What incentives and/or tools does the program use to achieve its goals? What are the incentive levels for different products?

C1b. What activities do program and implementer staff engage in to achieve program goals?

- Marketing?
- Financial assistance?
- Distributor staff training?
- Applications?
- Education?
- Contractor support?

C1c. What tools are used to reach out to customers and/or market partners?

C1d. What are the participation steps from a distributor perspective? How about a customer perspective?

- C2.** Is the documentation process online or by paper?
 - C2a.** Who completes the documentation?
 - C2b.** Have you received any feedback on it? What was the feedback?
- C3.** Are these program activities modeled on another program or set of programs?
- C4.** How have incentives changed in the last few years? Any new product offerings? What was the rationale for changing them?
- C5.** Have any of these activities changed in the last few years?
 - C5a.** What was the rationale for changing them?
 - C5b.** In your opinion, how have these changes affected the program's operations or its outcomes?
 - C5c.** Have you measured how these changes impacted savings or participation?
- C6.** Do you have any per customer quantity or transaction limits for this program? How are these enforced?

SECTION D: RESOURCES

- D1.** What resources do you rely on to implement the program? How many staff are in each role? How are the resources distributed/shared between different states?
 - D1a.** Program, implementer, sales staff?
 - D1b.** Management and program direction?
 - D1c.** IT tools and data tracking tools?
 - D1d.** Other resources?
- D2.** Are these resources sufficient to implement the program as designed?
 - D2a.** [IF NO] How could the program design/implementation change to be more efficient? What additional resources would help you implement the program as designed?
- D3.** Have any of these program resources changed in the last few years?
 - D3a.** What was the rationale for changing them?

D3B. IN YOUR OPINION, HOW HAVE THESE CHANGES AFFECTED THE PROGRAM'S OPERATIONS OR ITS OUTCOMES?

SECTION E: PROGRAM TRACKING AND REPORTING

I'd like to understand how program activities are tracked to understand what data might be available to us in our evaluation.

[TAILOR BASED ON WHAT IS ALREADY KNOWN]

- E1.** What kind of documentation is available for the program? Implementation plans? Program manuals? Process maps?
- E2.** What kinds of data are collected for the Business LED Instant Rebate Product program?
- E3.** Are there any data that you would like to collect for the Business LED Instant Rebate Product program, but haven't been able to?
- E4.** Are there any data/documentation currently not tracked that might be helpful for the evaluation?
- E5.** As part of our evaluation, we will likely want to speak to "near-participants," distributors that showed some interest in program participation, but didn't participate for whatever reason. Would these market actors all be tracked?

SECTION F: STRENGTHS AND CHALLENGES

Next, I'd like to get your feedback on how the program is running.

[TAILOR BASED ON WHAT IS ALREADY KNOWN]

- F1.** In your opinion, what are the strengths of the Business LED Instant Rebate Product program as it is currently being run?
 - F1a.** What would you say is working well in terms of program design or implementation?
- F2.** What are the most significant challenges for this program at this point?
- F3.** What feedback, if any, do you receive from customers and/or market partners on the program? (PROBE FOR CUSTOMER ENGAGEMENT/CUSTOMER SATISFACTION)
- F4.** What do you believe are the biggest barriers to getting customers and/or market partners to participate in this program?

- F5.** Are there any specific opportunities for improvement in the design or implementation of the program? Please describe.
- F6.** What would you like to see changed in how the program is designed or run, if anything?
- F6a.** Do you think there are any roadblocks preventing these changes from happening?

SECTION G: CLOSING

- G1.** Xcel staff expressed a number of evaluation priorities during kickoff meeting, which we need to whittle down. What do you think are the highest and lowest priority research objectives for this program? Do you have anything you would like to add to these priorities, remove from this set of priorities, or change about these priorities?
- Does the SB program drive participation in this program?
 - Is requiring documentation that participants are Xcel customers a serious burden for the program?
 - Prospective NTG: If/how the NTG changes for different customer sizes
 - Do customers/distributors understand how midstream and SBL fit together?
 - How do distributor perspectives differ by when they joined the program?
- G2.** [FOR Jackie/Kim] I'd like to learn a bit about your experience with previous evaluations of the Business LED Instant Rebate Product program. What were the successes and challenges? What worked well (or didn't)?
- G3.** Do you have particular questions that you would like to see answered by the evaluation? Why are these questions important?
- G4.** Do you have any other comments, concerns or suggestions about the program that we didn't discuss that you would like to make sure I know about?

Thank you very much for taking the time in assisting us with this evaluation. If I come up with any additional questions that come from this interview, do you mind if I send you an email or give you a quick call? I will also follow up with you shortly to identify peer utilities and performance indicators to kick-off the benchmarking task.

B.2 BUSINESS LED INSTANT REBATE PRODUCT: PARTICIPATING CUSTOMER SURVEY GUIDE

INTRODUCTION

To support the 2020 process and impact evaluation of Xcel Energy efficiency products, the EMI Consulting evaluation team will conduct telephone surveys with participating customers. For the purposes of this survey, the evaluation team defined a participating customer as any customer that purchased products through the Business LED Instant Rebate Product channel between January 2019 and April 2020. The research will be conducted to assess key process and impact evaluation objectives, including customer satisfaction, decision-making approach and motivations for participating, barriers to installation, and spillover.

The remainder of the introduction provides the research questions which the participating customer survey is designed to address, a description of the sample population and the target number of completes, a description of the sample variables to support programming the survey, and fielding instructions for the survey house.

EVALUATION OBJECTIVES

The objectives for the CO Business LED Instant Rebate Product Channel evaluation are to:

- Estimate an overall NTG ratio documenting the product's influence on customers' decisions, major drivers of free ridership, and participant and non-participant spillover.
- Assess market effects of the Business LED Instant Rebate Product products.
- Understand business customer variations in their decision-making process to install efficient lighting equipment, and whether the product influence varies by these differences.
- Assess product experience and satisfaction, among both customers and trade partners.
- Understand customer awareness, participation in, and perception of, related programs and products.
- Understand how peer utilities operate their Business LED Instant Rebate Product programs.

The participating customer survey does not address every evaluation objective. For reference, the following table provides the evaluation efforts used for each objective.

Table 1: CO Business LED Instant Rebate Product Evaluation Objectives

Evaluation Objective	Impact or Process Objective	Research Activity	Participant Survey Objective
Estimate an overall NTG ratio documenting the product's influence on customers' decisions, identifying major drivers of free ridership and assessing participant and nonparticipant spillover	Impact and Process	Participating Trade Ally Interviews; Participant Survey	✓
Assess market effects of the Business LED Instant Rebate Product products	Process	Trade Ally Interviews	
Understand business customer variations in their decision-making process to install efficient lighting equipment, and whether the product influence varies by these differences	Process	Participant Survey	✓
Assess product experience and satisfaction, among both customers and trade partners	Process	Participant Survey; Participating and Nonparticipating Trade Ally Interviews; Manufacturer Interviews	✓
Understand customer awareness, participation in, and perception of, related programs and products	Process	Participant Survey	✓
Understand how peer utilities operate their Business LED Instant Rebate Product programs	Process	Peer Utility Interviews	

The following table presents the link between each evaluation objective, research question, and survey question.

Table 2: Evaluation Objective, Research Question, and Survey Question Crosswalk

Evaluation Objective	Research Question	Survey Question(s)
Estimate an overall NTG ratio documenting the product's influence on customers' decisions, identifying major drivers of free ridership and assessing participant and nonparticipant spillover	<ul style="list-style-type: none"> Does the program influence additional energy savings outside of what is captured through the program (spillover)? Would decision making be the same this year or next year? 	S1-S11, B5-B6
Understand business customer variations in their decision-making process to install efficient lighting equipment, and whether the product influence varies by these differences	<ul style="list-style-type: none"> How did customer hear about the program? Why did they purchase program-discounted products? What is the company process for deciding and implementing the purchase? Did the products replace equipment at end of life, or was working equipment replaced? 	B1- B10, G1-G7
Assess product experience and satisfaction, among both customers and trade partners	<ul style="list-style-type: none"> How satisfied are customers with the products they purchased? 	E1-E9
Understand customer awareness, participation in, and perception of, related programs and products	<ul style="list-style-type: none"> Has the customer participated in any other programs? How easy was it to navigate the different product offerings from Xcel Energy? What are participants' perceptions and awareness of this Product and others? 	A0-A9

SAMPLE POPULATION AND TARGET COMPLETES

The following table summarizes the total sample that will be targeted for the survey, based on data provided to the evaluation team in April 2020. The population was established from the unique set of respondents in the Salesforce opportunity data, based on unique accounts in the sample period (January 2019 to April 2020). The sample is broken out business size and type. The number of target completes is designed to achieve results at the 90% confidence level with +/- 10% precision for small and medium/large business stratum. We will set targets by business type groupings to ensure the sample represents the population.

Table 3: Sample Population and Target Completes by Strata

Strata	Total Sample	Target Completes	Response Rate
Medium/Large Businesses	298	70	24%
Retail	45	10	
Service	148	35	
Other	105	25	
Small (under 400 kW) Businesses	1454	70	5%
Retail	291	14	
Service	742	36	
Other	421	20	
Overall	1,752	140	140 (8%)

SAMPLE VARIABLES

The following table include the sample variables that will be used to conduct this survey, as well as descriptions of these variables and potential codes.

Table 4: Sample Variables

Sample Variable	Variable Description	Potential Codes
Interviewer Name	Name of interviewer from Ewald and Wasserman	e.g. Katrin Ewald
Contact	Customer Name	e.g. Robert Saul
Account Name	Name of Customer Account	e.g. Remax LLC
Participation_Description	Short description of customers' participation in program	e.g. "10 LED Lamps, 10 Tubes, and 20 Retrofit Kits"
Size	Size Stratum	e.g. "Small" or "Large"
Business Type	Business Type	e.g. "Retail", "Service", "Other"
Phone	Phone number for customer	e.g. 555-555-5555
Site	The site number associated with a specific Account Name – if 0, there is only one site, if > 0, the sites are numbered.	e.g. "0" or "1"
Site Count	If only one, Site Count=0, else Site = total sites with same contact phone number	e.g. up to 59
Trade Ally	Distributor Partner Name	e.g. "AAA Trading Post"
Location	Premise address	e.g. "4923 Thompson Parkway"

FIELDING INSTRUCTIONS

- Release half the sample and attempt each record six times on different days of the week and at different times. If targets not met, release additional sample until targets are met by size and business type.
- Leave messages on the first and fourth attempt.
- Experienced interviewers should attempt to convert "soft" refusals (e.g., "I'm not interested", immediate hang-ups) at least once.
- After the survey fielding subcontractor (Ewald and Wasserman) completes 5 telephone surveys, hold calling and output a preliminary SPSS dataset and recordings of the pretest surveys. Resume calling after EMI Consulting checks the data (usually with 1-2 working days).
- EMI to check the 5 surveys to ensure proper research protocols are being followed (e.g., reading questions verbatim, proper probing, accurate data entry).

- Calling hours are 9 AM to 5 PM MDT.

SURVEY SECTIONS

- **Intro:** Introduction and Screening
- **C:** Covid Impacts
- **A:** Awareness and Participation
- **B:** Decision-Making and Barriers
- **S:** Spillover
- **E:** Experience and Satisfaction
- **G:** Firm Characteristics
- **CLOSE:** Closing

SURVEY

SECTION INTRO: INTRODUCTION AND SCREENING

Intro1. Hello, this is **<INTERVIEWER NAME>** calling from Ewald and Wasserman, a national research firm working with Xcel Energy. We are working to help Xcel Energy improve their LED Instant Rebate program. **[IF SITE=0]** Our records show that your firm purchased discounted **<Participation_Description >** from **<TRADE ALLY>** for in **<MONTH>** **<YEAR>** for **<LOCATION>**. May I speak with the person at **<ACCOUNT NAME>** who is most likely to be familiar with the purchase from **<TRADE ALLY>**? **[IF SITE COUNT<5 or >0]** Our records show that your firm purchased discounted lighting for the following locations during 2019 or 2020: **[INSERT LOCATION FOR UP TO 4 SITES]**. May I speak with the person who is most likely to be familiar with these lighting purchases? **[IF SITE COUNT>4]** Our records show that your firm purchased discounted lighting at **<SITE COUNT>** locations during 2019 or 2020. May I speak with the person who is most likely to be familiar with these lighting purchases?

1. Yes, that would be me. **[Skip to Intro6]**
 2. No, they are not available right now. **[Skip to Intro3]**
 3. Yes, I will transfer you. **[Skip to Intro5]**
 4. No, that person no longer works here. **[Skip to Intro2]**
 5. Not applicable – this organization did not participate in any such program. **[TERMINATE]**
- DK **[TERMINATE]**
REF **[TERMINATE]**

Intro2. Is there someone else that would be familiar with these purchases of lighting products??

1. Yes.
 2. No **[TERMINATE]**
- DK **[TERMINATE]**
REF **[TERMINATE]**

Intro3. What is this person's name?

1. [RECORD CORRECT PERSON'S NAME AS **<CONTACT>**]

DK [TERMINATE]

REF [TERMINATE]

Intro4. Would I reach that person by dialing the same number I used to connect with you: **<PHONE>**?

1. Yes

2. No, use a different number (RECORD HERE AS **<PHONE>**) [THANK AND TERMINATE; REDIAL NEW SAMPLE CASE]

DK [TERMINATE]

REF [TERMINATE]

Intro5. Hello, this is **<INTERVIEWER NAME>** calling from Ewald and Wasserman, a national research firm working with Xcel Energy. We are working to help Xcel Energy improve their LED Instant Rebate program. [If SITE=0] Our records show that your firm purchased **<Participation_Description >** that were discounted from **<TRADE ALLY>** for **<LOCATION>** in **<MONTH>** **<YEAR>**. Are you the person at **<ACCOUNT NAME>** familiar with the purchase from **<TRADE ALLY>**? [IF SITE COUNT<5 and >0] Our records show that your firm purchased discounted lighting for the following locations during 2019 or 2020: [INSERT LOCATION FOR UP TO 4 SITES]. Are you familiar the purchase for any of these locations? [IF SITE COUNT>4] Our records show that your firm purchased discounted lighting for **<SITE COUNT>** locations during 2019 or 2020. May I speak with the person who is most likely to be familiar with these lighting purchases?

1. Yes, that would be me. [Skip to Intro6]

2. No, they are not available right now. [Skip to Intro3]

4. No, that person no longer works here. [Skip to Intro 2]

5. Not applicable – this organization did not participate in any such program. [TERMINATE]

DK [TERMINATE]

REF [TERMINATE]

PROGRAMMER NOTE: Only those for whom Intro1=1 or Intro1=1 should get to this screen; the rest would end at Intro4 as they will need to be made into new sample cases and called back at a later time.

Intro6. Great! (IF NEEDED: Again, we're Ewald and Wasserman, a national research firm calling on behalf of Xcel Energy). I would like to invite you to participate in a short survey that will help Xcel Energy improve the Lighting Efficiency program to best suit the needs of businesses like yours. The survey takes about 15 minutes on average, and as a small token of appreciation, we are offering a \$25 Amazon gift card that you will receive after completing the survey. Your responses will remain confidential, meaning that your name and company name will not be attributed to your answers.

Is now a good time or should we call you back?

1. No objection – fine to continue
2. Objection [**RESOLVE, RESCHEDULE A MORE CONVENIENT TIME, AND RESCREEN AS NECESSARY**]
REF [**TERMINATE**]
[If Site>0, AASK Intro7, ELSE SKIP TO C1]

Intro7. I am going to ask you questions about your lighting purchases at [**IF SITE=0, AT <LOCATION>, OR IF SITECOUNT >0**, one of your locations. Which of the following locations would you say you are most familiar with?
<INSERT LOCATIONS FOR ALL SITES UP TO 4, FOR THIS PHONE >.

1. Document Site Associated with Chosen Location _____
2. DK or No preference

Intro8. Okay, for the rest of these questions, please think about [**IF Intro7=1, <INSERT CHOSEN LOCATION, IF Intro7=2, SITE 1 LOCATION>.**

SECTION C: COVID IMPACTS

C1. First, we'd like to ask you generally about how your business is doing given the COVID pandemic.

[OPEN END]

C2. Is there anything Xcel Energy could be doing to help your business through this time?

[OPEN END]

C3. Would you describe your company as a small business? [If needed: we categorize small business as having 1 to 3 key decision makers, typically with no formal approval process]

1. Yes
2. No
98. DK

SECTION A: AWARENESS AND PARTICIPATION

A0. Prior to today, were you aware that the "lighting products" you purchased were discounted by Xcel Energy through the LED Instant Rebate program at local lighting distributors?

1. Yes
2. No
98. DK

A1. [ASK IF A0=2 or 98] How could Xcel Energy have better communicated with you? [do not read, select all that apply]

1. More general advertising
2. Direct mail
3. Through the distributor
4. Email notices
5. No improvement needed
6. Other [Specify]
98. DK

A2. [ASK IF A0=1] How did you first hear about the Xcel Energy LED Instant Rebate Program? (Select one)

1. When I went to purchase lighting at **<TRADE ALLY>**
2. Xcel Energy program email
3. Xcel Energy program direct mail
4. Xcel Energy website
5. Advertising from **<TRADE ALLY>**
6. Advertising from another industry representative
7. Personal connection (friends, family, neighbors)
8. Event [SPECIFY]
9. Other [SPECIFY]

- 98. DK
- 99. REF

A3. What is your most preferred method for hearing about similar opportunities from Xcel Energy?

- 1. By email
- 2. By direct mail
- 3. With utility bill (online or mail insert)
- 4. Social media
- 5. Xcel Energy website
- 6. Advertise at the point of purchase
- 7. Other [SPECIFY]

- 98. DK
- 99. REF

A4. Have you participated in any other Xcel Energy energy-efficiency programs?

- 1. Yes
- 2. No
- 98. DK
- 99. REF

A5. [IF A4=YES] In which programs have you participated? **[READ IF NECESSARY]**

- 1. Multifamily Building Efficiency
- 2. Motor, Drive & Pump Efficiency
- 3. Lighting Efficiency
- 4. Commercial Refrigeration Efficiency
- 5. Compressed Air Efficiency
- 6. Small Business Lighting
- 7. Computer Equipment
- 8. Cooling
- 9. Custom Efficiency
- 10. Data Center Programs
- 11. Strategic Energy Management
- 12. Self-Direct Efficiency
- 13. Heating Efficiency
- 14. Energy Management System
- 15. Other [SPECIFY]

- 98. DK
- 99. REF

A6. [IF A4=YES] On a scale of 0 to 10, where 0 is "Not at all easy" and 10 is "Very easy", how easy was it to determine the Xcel Energy energy-efficiency program best suited for your needs?

- 1. Rating ____
- 98. DK
- 99. REF

**A7. [IF A5=3 or 6] What products did you install through the [IF A4=3, Lighting Efficiency or IF A4=6, Small Business Lighting program]?
[Open End]**

A8. [IF A5=3 or 6] On a scale of 0 to 10, where 0 is "Not at all easy" and 10 is "Very easy", how easy was it to navigate the multiple rebate options for purchasing your lighting products?
1. Rating ____
98. DK
99. REF

**A9. [IF A8=0-10] Why do you say that?
[Open End]**

SECTION B: DECISION MAKING AND BARRIERS

Now I'd like to gather some information about your decision to purchase these discounted lighting products.

B1. Did the [IF SITE=0, <Participation_Description >, IF SITE>0, "discounted lighting products"] you purchased replace lamps that could continue to operate for at least another year, were close to or at the end of their life, or a combination?
1. Could continue to operate for at least another year
2. At the end of their life
3. Combination
98. DK
99. REF

B2. [IF B1=3] Approximately what percent of the lighting products replaced could have operated for at least another year?
1. ____ %
998. DK
999. REF

B3. [IF B2>0% or 998] Why did you decide to replace those products that could have continued operating? [Do not read, multiple responses allowed]
1. Remodeling project
2. More cost effective to change it at the same time
3. Part of scheduled replacement
4. Discounts made it attractive
5. Capital funds became available
6. Seeking to increase energy efficiency or save money
7. Other [Specify]
98. DK
99. REF

B4. What motivated your company to purchase energy efficient lighting when the product is higher priced? **[Do not read, multiple responses allowed]**

1. Discounts made it attractive
2. Long term energy bill savings
3. Reduced maintenance
4. Replacing products with the same new products
5. We have a corporate policy to meet energy efficiency standards
6. Previous experience with this type of equipment
7. Information from Xcel Energy marketing or informational materials
8. Recommended by **<TRADE ALLY>**
9. Other [Specify]
98. DK
99. REF

B5. How, if at all, do you think that decision would have been different if your company were deciding today given the COVID-19 pandemic?

1. We would likely have made the same exact purchase
2. We would likely have purchased some of the same products, but not all
3. We would likely have put off buying anything
4. We would likely have chosen less expensive products
5. Other [Specify]
98. DK
99. REF

B6. How, has the COVID-19 changed your decisions, if at all, on other capital projects planned for the next year?

1. No change
2. We are delaying projects, if possible
3. We are accelerating projects, if possible
4. We are looking for less expensive ways to implement projects
5. Other [Specify]
98. DK
99. REF

B7. What was your role in the decision to purchase the discounted lighting products? **[Do not read, multiple responses allowed]**

1. Initiated the need for a purchase
2. Recommended this purchase
3. Implemented the decision to purchase
4. Made the decision to purchase
5. Other [Specify]
98. DK
99. REF

B8. **[IF B7 does not = 4]**, who, in terms of their job title or position in your company, made the decision to purchase energy efficient lighting products?

[Open ended]

- 98. DK
- 99. REF

B9. Does your business typically plan projects in advance and have approved in a budget?

- 1. Yes
- 2. No
- 98. DK
- 99. REF

B9a. [If B9=1] Do you have opportunity to amend budget through the year?

- 1. Yes
- 2. No
- 98. DK
- 99. REF

B9b. [If B9a=1] Does the opportunity to take advantage of Xcel Energy programs affect decisions on projects that may be added or removed?

- 1. Yes
- 2. No
- 98. DK
- 99. REF

B10. How are decisions such as major purchases in efficient lighting purchases are made at your company? **[do not read list]**

- 1. Technical team or facilities manager initiates, makes recommendations, management approves and includes in budget, and technical team implements.
- 2. Business operator initiates, recommends purchase to business owner and implements when approves.
- 3. Business owner initiates, decides and implements the decision.
- 4. Business owner initiates, decides and delegates implementation to maintenance staff
- 5. Business hires a maintenance company that manages all energy equipment and purchases
- 6. Other [Specify]
- 98. DK
- 99. REF

SECTION S: SPILLOVER

Next, I'd like to ask you about other types of energy efficiency equipment you may have purchased since purchasing the discounted lighting products through the LED Instant Rebate program.

S1. Since your purchase of discounted efficient lighting in **[IF SITE=0, <MONTH> of <YEAR >,IF SITE>0 in 2019 or 2020"]** has your company installed any efficient lighting products at this facility without a rebate or discount from Xcel Energy? When I say "efficient lighting products", the most common products are LEDs, retrofit kits, T5s, and lighting controls.

1. Yes
2. No [SKIP TO S7]
98. DK [SKIP TO S7]
99. REF [SKIP TO S7]

S1a. Why did you not purchase these through the LED Instant Rebate program or apply for an Xcel Energy rebate for purchasing these efficient lighting products?

1. We worked with a different distributor who did not offer the discount
2. We received a rebate on the item through another rebate program
3. We chose different equipment that was ineligible
4. We didn't know there was a rebate available
5. Other [OPEN END]
98. DK
99. REF

S2. Did your experience with the discounted efficient lighting products you purchased **[IF SITE=0, through <TRADE ALLY>, IF SITE>0]** influence your decision to install the additional efficient lighting products on your own?

1. Yes
2. No [SKIP TO S7]
98. DK [SKIP TO S7]
99. REF [SKIP TO S7]

S3. What type of lighting was it? (LIST ALL TYPES)

1. screw-in LEDs
2. linear LEDs
3. more efficient linear fluorescents
4. occupancy sensors
5. daylighting sensors
6. network lighting controls
7. Other [specify]
98. DK [SKIP TO S7]
99. REF [SKIP TO S7]

S4. Approximately how many of each type did you install? (READ TYPES LISTED IN S3. For controls, ask for approximate number of lamps or fixtures controlled.)

1. screw-in LEDs
2. linear LEDs
3. more efficient linear fluorescents
4. occupancy sensors

- 5. daylighting sensors
- 6. network lighting controls
- 7. other

S5. How important was your experience in purchasing discounting lighting products through the LED Instant Rebate program in your decision to install these lighting products on your own, using a scale from 0 to 10, where 0 is "not at all important" and 10 is "extremely important"?

Record [0 to 10]

- 98. DK
- 99. REF

S6. How likely is it that your organization would have installed these additional efficient lighting products had you NOT participated in the LED Instant Rebate Program? Use a 0 to 10 scale, where 0 means you definitely WOULD NOT have installed these products and 10 means you definitely WOULD have installed these lighting products.

Record [0 to 10]

- 98. DK
- 99. REF

S7. Since your purchase of discounted lighting through the LED Instant Rebate program, have you installed any additional energy efficient equipment, other than lighting, at this or other facilities in Xcel Energy's territory without receiving a rebate or a discount from Xcel Energy or another energy efficiency program?

- 1. Yes
- 2. No [Skip to E1]
- 98. DK [Skip to E1]
- 99. REF [Skip to E1]

[ASK IF S7=1]

S8. Did your experience with the lighting products purchased through the LED Instant Rebate program influence your decision to install some or all of these efficient products?

- 1. Yes
- 2. No [Skip to E1]
- 98. DK [Skip to E1]
- 99. REF [Skip to E1]

S9. What equipment did you install? Please provide as much detail as you can. (PROBE FOR NUMBER INSTALLED, EQUIPMENT TYPE, EFFICIENCY, SIZE)

- 1. Equipment 1: [NUMBER INSTALLED; TYPE OF EQUIPMENT; SIZE; EFFICIENCY]
- 2. Equipment 2: [NUMBER INSTALLED; TYPE OF EQUIPMENT; SIZE; EFFICIENCY]
- 3. Equipment 3: [NUMBER INSTALLED; TYPE OF EQUIPMENT; SIZE; EFFICIENCY]

- 4. Equipment 4: [NUMBER INSTALLED; TYPE OF EQUIPMENT; SIZE; EFFICIENCY]
- 5. Equipment 5: [NUMBER INSTALLED; TYPE OF EQUIPMENT; SIZE; EFFICIENCY]
- 98. DK [Skip to 1]
- 99. REF [Skip to E1]

[PROGRAMMING NOTE: CREATE LOOP S10-S12 FOR EACH MEMBER OF S9, MAX 5 LOOPS]

[ASK S10-S11 FOR INDIVIDUALLY FOR EACH EQUIPMENT METIONED IN S9]

- S10.** How important was your experience purchasing discounted lighting products through the LED Instant Rebate program in your decision to install this **[EQUIPMENTX]**, using a scale from 0 to 10, where 0 is "not at all important" and 10 is "extremely important"?
 - 1. [NUMERIC OPEN END, 0 – 10]
 - 98. DK
 - 99. REF
- S11.** If you had not purchased the discounted lighting products through the LED Instant Rebate program, how likely is it that your organization would still have installed **[EQUIPMENTX]**, using a 0 to 10 scale, where 0 means you definitely **WOULD NOT** have implemented this equipment and 10 means you definitely **WOULD** have implemented this equipment?
 - 1. [NUMERIC OPEN END, 0 – 10]
 - 98. DK
 - 99. REF

SECTION E: EXPERIENCE AND SATISFACTION

[ASK E1-E2 if A0=1, ELSE SKIP TO E3] Next, I want to ask you a few questions about your experience with the program, and how the program's processes worked for you.

- E1.** I am going to ask you to rate how easy or difficult the following tasks associated with the LED Instant Rebate Program were to complete, using a scale from 0 to 10, where 0 is "very difficult" and 10 is "very easy". You may also tell me if something was not applicable to your experience. How would you rate the ease of... **(PAUSE AFTER EACH FOR RESPONSE. REPEAT SCALE IF NEEDED).**
 - 1. [NUMERIC OPEN END, 0 – 10]
 - 77. Not applicable
 - 98. DK
 - 99. REF

(RANDOMIZE)

- E1a.** The process to find out where to purchase discounted lighting products
- E1b.** Getting approved as an Xcel Energy customer
- E1c.** Finding the products we needed that were eligible through the program
- E1d.** Installing the lighting equipment
- E1e.** Receiving help from the lighting product representatives when needed

[For any E1 < 3]

E2a – E2e. Why was it not easy to **<RESTORE QUESTION WORDING FROM E1a – E1e>**

E3. Thank you for your patience; we have only a few questions left. I'm going to ask you to rate your satisfaction with various aspects of the new lighting products purchased as part of the program. For each, please rate your satisfaction or dissatisfaction on a scale from 0 to 10, where 0 is "very dissatisfied" and 10 is "very satisfied." You can also let me know if it is not applicable to your project. How would you rate your satisfaction with:
[RANDOMIZE E3a - h, PAUSE AFTER EACH FOR RATING, REPEAT SCALE IF NECESSARY.]

- 1. [NUMERIC OPEN END, 0 – 10]
- 77. Not applicable
- 98. DK
- 99. REF

(RANDOMIZE)

- E3a.** The quality of the products you received as part of the program
- E3b.** The information you received on how to operate / maintain installed products
- E3c.** The quality of the lighting in your facility after installing the new products
- E3d.** The information you received on energy efficiency
- E3e.** The amount of time it took between receiving program approval and receiving the program equipment
- E3f.** The amount of time it took to install the products
- E3g.** Your interactions with staff where you purchased the discounted lighting products
- E3h.** Energy savings realized after the program

[ASK E3.1 IF E3a-h < 3]

E3.1 Why weren't you satisfied with **<RESTORE QUESTION WORDING FROM E3a – E3h>**

- 1. [OPEN END]
- 77. Not applicable
- 98. DK
- 99. REF

E4. Using the same scale from 0 to 10, where 0 is “very dissatisfied” and 10 is “very satisfied”, how would you rate Xcel Energy as an energy provider?

1. [NUMERIC OPEN END, 0 – 10]

77. Not applicable

98. DK

99. REF

E5. Have you noticed any of the following additional benefits from your new lighting products that are not related to your energy bills? (Select all that apply)

1. Improved light quality

2. Improved lighting levels

3. Improved space temperature comfort

4. Fewer accidents

5. Other [Specify]

DK

REF

E6. [FOR EACH Y IN RESPONSE TO E5, ASK] Relative to the energy bill savings from your lighting purchases, how much do you value the additional benefit of **[E5 response]**. For example, if energy savings are \$100, what percentage of the \$100, is the value of the **[E5 response]**?

1. 0 to 20%

2. 21-40%

3. 41-60%

4. 61-80%

5. 80-100%

6. 100-200%

7. More than 200%

8. Other [Specify]

DK

REF

SECTION G: FIRMOGRAPHICS

G1. How would you describe the primary business activity at this location?
(IF RESPONDENT IS A PROPERTY MANAGER, PROBE FOR BUSINESS ACTIVITY OF MOST TENANTS)

1. Hotel/motel

2. Restaurant/bar

3. Convenience store

4. Grocery

5. Agriculture, forestry, fishing, and hunting

6. Arts, entertainment, and recreation

7. Construction

8. Educational services

9. Finance and insurance

10. Health care
11. Insurance
12. Professional, scientific, and technical services
13. Public administration
14. Real estate and rental and leasing
15. Retail trade
16. Wholesale trade
17. Service
18. Religious worship
19. Warehouse/storage
20. Other: (Specify)
98. DK
99. Prefer not to answer

G2. [IF SITE=0] How many buildings are at this address?

G3. [IF SITE=0] What is the approximate total square footage of all the occupied space for all buildings at this address?

G4. What is your occupational title within your company? (**ASK OPEN END, PROBE FOR SPECIFICS / VERIFY SELECTION AS NEEDED**)

1. President / CEO
2. Proprietor / Owner
3. Chief Financial Officer
4. Vice President / Director / Assistant Director / Department Head
5. Other financial / administrative position
6. Facilities Manager
7. Energy Manager
8. Other facilities management / maintenance position
9. Other Manager / assistant manager
10. Other _____
88. DK
99. REF

G5. Approximately how many full-time equivalent (FTE) employees does your organization currently have in the state of Colorado?

1. < 20
2. 20 - 49
3. 50 - 99
4. 100 - 249
5. 250 - 499
6. 500 - 999
7. 1,000 - 2,500
8. > 2,500
- DK
- REF / Prefer not to say

G6. Does your organization own, lease, or rent your facility?

1. Own
 2. Lease / Rent
 3. Other _____
- DK
REF

[ASK IF G6 <> 1]

G7. Do you pay your Xcel Energy bill, or does someone else (e.g., a landlord or building manager)?

1. Our organization pays the bill
 2. Someone else pays the bill
- DK
REF

SECTION: CLOSE

CLOSE1. Is there anything we didn't cover that you'd like to mention or discuss about your experiences as a participant in the LED Instant Rebate program, including recommendations for program improvements?

CLOSE2. These are all the questions I have. As a thank you for your input, we'd like to email you, or someone of your choosing, a \$25 Amazon gift card. We just need a bit of information to email the gift card to the intended recipient.

[COLLECT CONTACT INFORMATION]

[IF <CONTACT> ASKS]

We also have an option to donate the \$25 to United Way.

[IF CONTACT ASKS FOR MORE INFO ABOUT UNITED WAY] United Way is a worldwide non-profit that focus on education, income, and health which they believe are the building blocks for a good quality of life. They have local chapters throughout the US.

B.3 INACTIVE TRADE ALLY INTERVIEW GUIDE

TO: Nick Minderman, Xcel Energy
Jackie Ducharme, Xcel Energy

FROM: Jane Colby, Keari Bell-Gawne, and Katie Parkinson, Apex Analytics
Nicole Thomas, EMI Consulting

CC: Jeremy Kraft, EMI Consulting
Matthew Rose, EMI Consulting

DATE: July 8, 2020

RE: Xcel Energy CO Business LED Instant Rebate Product – Inactive Trade Ally In-Depth Interview Guide

PROGRAM BACKGROUND

The CO Instant Rebate Lighting program offers instant rebates, through a trained distributor channel, to Xcel Energy commercial customers who purchase qualifying lighting lamps in existing or new buildings. Rebates are intended to encourage Xcel Energy electric commercial customers to purchase high-efficiency lighting products in their small businesses and commercial and industrial facilities. Secondary goals include driving market transformation, forming a gateway for additional DSM products, expanding awareness of the Xcel Energy brand, and providing high-quality touchpoints for commercial customers.

Products are distributed through a network of 40-50 active distributors and rebate aggregators who promote the lighting products and provide instant rebates. Distributors sign a participation agreement and receive training and a login to the partner portal, which Xcel Energy staff use to qualify products and customers as eligible. Distributors are reimbursed for discounts within 45 days, pending approval of uploaded sales and customer information.

RESEARCH OBJECTIVES

To support the 2020 process and impact evaluation of Xcel Energy efficiency products, the EMI Consulting evaluation team will be conducting a process and impact evaluation of the Xcel Energy CO Business LED Instant Rebate Product products.

These topics are mapped to the following **objectives of the process evaluation**:

- Understand business customer variations in their decision-making process to install efficient lighting equipment, and whether the product influence varies by these differences.

- Assess product experience and satisfaction, among both customers and trade partners.
- Understand customer awareness, participation in, and perception of, related programs and products.

These inactive trade ally interviews are intended to understand why some vendors decided to stop participating in the program. To understand this, we ask questions about their role, the experience with the program, and what ultimately caused them to decide to stop participating.

Topic	Research Questions
Introduction	What are the daily tasks, goals, and frustrations for vendors?
Products Sold	What product types are sold and what proportion are LED-based, now and for next year? How has COVID-19 impacted efficient lighting sales, now and projected?
General Program Experience	How did the vendor become aware of the program? What other utility programs have they worked with? When did the vendor participate in the program and what was their experience with different program aspects?
Spillover and Market Effects	Has the program influenced their LED sales? Do they believe the overall lighting market has shifted as a result of the product? What market share of their current lighting sales are program qualified?
Experience with Program Specifics	What was the vendor experience with different program aspects?

RECRUITMENT EMAIL

Subject: Help us improve the Xcel Energy Instant Rebate Lighting Program

Hi [First Name],

We are contacting you because you participated in the Xcel Energy Instant Rebate Lighting Program prior to 2019.

We want to learn from your experience, so that we can understand how to improve this program in the future. We understand your time is valuable, and **we are offering a \$50 gift card for completing a 20-30 minute phone call with one of our research staff.**

During this informal interview, we will ask you questions about your experience working with the Xcel Energy Instant Rebate Lighting Program to understand why you left. We value your feedback and expertise and hope you are open to helping us grow and learn.

To participate, please reply to this email and I will schedule a time to talk that is convenient for you. Please feel free to email me with any questions you may have about this study.

To verify the validity of this study you may contact
Jacqueline.M.Ducharme[@Xcelenergy.com](mailto:Jacqueline.M.Ducharme@Xcelenergy.com).

Thank you,

[Name]

CONFIRMATION EMAIL

Subject: Help us improve the Xcel Energy Instant Rebate Lighting Program

Hi [First Name],

Thank you for agreeing to participate in our research regarding the Xcel Energy Instant Rebate Lighting Program. We have you scheduled for:

[Insert Date/Time] with [Insert Interviewer]

To ensure the efficiency of the interview and minimize the impact on your time, we are sending you the attached spreadsheet that requests specific information on your sales of different lighting products. You may either send the spreadsheet back to me directly prior to our interview time or we can walk through these questions together on the call. Please feel free to email me with any questions you may have about this study or the information requested.

Thank you,

[Name]

SAMPLE

Trade Partner Type	Population	Planned Interviews
Inactive Trade Partners	10	4-5

INTERVIEW GUIDE

Thank you for agreeing to speak with me today. For today's discussion, I'd like to understand how you became aware of the Xcel Energy lighting program, what your experience was like in the program, and why you haven't participated since 2018. Our goal is to learn from your experience to understand how to improve the program. I expect this conversation will take about **20-30** minutes. I know your time is important, at the end of the interview I will verify your email and send you a **\$50** gift card in appreciation of your time.

Please note, this discussion is not an assessment of performance. To ensure your anonymity, our company, Apex Analytics, was hired by Xcel Energy to conduct these interviews to learn how to improve the program for trade allies like you. Your answers will be anonymized and confidential.

What questions do you have for me about our discussion today?

It is helpful for me to record to take better notes. These recordings will only be used internally with our team at APEX Analytics. Is it okay for me to record this conversation?

[If yes, start recording]

SCREENER

1. We understand your company participated in the Xcel Energy Instant Rebate program in the past, and may be involved with other Xcel Energy programs. Are you familiar with involvement with the Xcel Energy Instant Rebate Lighting program that offers rebates on energy efficient lamps?
 - a. [If no] Do you know who at your company was involved?
 - i. [If yes] It would be helpful to talk with someone who was involved with the program, would you be able to provide me with their contact information? [Write down and call]
1. [Thank and terminate]

- ii. [If person no longer works there] Did your company's participation in the program stop when that employee left?
 - 1. Can you tell me briefly how and why participation ended?
 - a. [Thank and terminate]
 - b. [if yes] Great. I wanted to make sure I talked with someone who had participated in the program. I'll ask about your experience in the program after a few introduction questions.
 - i. [continue with interview]

INTRODUCTION

First I want to understand a little more about your role as a distributor. I ask these questions because I want to better understand what your role is like, to understand how this program may have hindered, or helped your ability to do your job effectively.

- 2. What is your position at [Company] and how long have you been with the company? What are your primary responsibilities in your role?

PRODUCTS SOLD

- 3. How has the COVID-19 pandemic impacted your sales of LED-based products?
Would you say
 - a. Large negative effect
 - b. Moderate negative effect
 - c. Little or no effect
 - d. Moderately positive effect
 - Large positive effect
- 4. [IF a, b, d, or e] What percentage impact do you estimate?
- 5. Do you see this impact continuing through 2021?
- 6. What types of customers does your company sell to? [Probe for business types or sizes]
- 7. Do you perform installs, distribute, or both? [Probe for proportion if both]

GENERAL PROGRAM EXPERIENCE

Next, I'd like to ask some questions about your experience participating in the Xcel Energy Instant Discount Lighting program.

8. How did you first become aware of the Xcel Energy Instant Discount Lighting program?
 - a. When was that?
9. How long did you participate?
10. Have you worked with any other utilities in a similar program?
 - a. [If yes] do you still participate?
 - b. [If yes] how does/did the program(s) compare to Xcel?
11. Do you currently participate, or have you ever participated in any other Xcel programs besides the Instant Rebate lighting program?
 - a. [If yes] which, and when?
12. Can you tell me what you remember most about your participation in the program? Does any memory, event, or feeling come most vividly to mind?
 - a. What do you remember as a benefit of participating, if any?
 - b. What were your frustrations?

SPILOVER AND MARKET EFFECTS

13. Did the program influence any changes in your lighting sales, the services you deliver, products you provide, or the customer you serve? How so?
14. Did those changes continue even after you stopped participating in the program?
15. What are your current sales in units, not dollars, of LED-based lighting products?
16. Had you not participated in Xcel Energy's Business LED Instant Rebate Product program in the past, what do you think those sales would have been?

EXPERIENCE WITH PROGRAM SPECIFICS

17. Can you tell me about your experience signing up for the Xcel Energy Instant Discount lighting program? What do you remember about the sign-up process?
 - a. Did you feel anything was unclear or confusing when you signed up for the program?
18. What happened after signing up? [if nothing, continue]
19. As part of the program you had to track inventory that was eligible for a rebate. On a scale of 0 to 10, with 0 being very difficult and 10 being very easy, how easy was that process for you?
20. As part of the program, you also had to screen customers to make sure they were actual customers of Xcel Energy prior to providing the rebate. On a scale of 0 to 10, with 0 being very difficult and 10 being very easy, how easy was that process for you?
21. As part of the program you also had to fill out applications for rebates and send them to Xcel Energy, possibly through a web portal. On a scale of 0 to 10, with 0 being very difficult and 10 being very easy, how easy was that process for you?
22. Do you remember any other verification procedures (e.g., a sample of invoices, or a customer inspection) you had to complete to participate in the program?
23. [If yes] On a scale of 0 to 10, with 0 being very difficult and 10 being very easy, how easy was that process for you?
24. Did you ever call or email Xcel Energy for a problem or issue?
 - a. [If yes] when, why, and what happened? Did the issue get resolved? Why or why not?
 - b. [If multiple ask for each]
25. Can you walk me through the events that caused you to stop participating in the program?
26. Do you remember the moment you decided you would no longer participate in the program?
 - a. Did any event or frustration happen that was the 'last straw'? If yes, what was that?
 - i. [If yes] What events occurred leading up to this event that built up your frustration?

- ii. [If no] how did you decide that this program was not the right fit or direction for your business?
 - iii. Who was involved in the decision to stop participating?
 - 1. [If multiple] did everyone agree, or were there people with differing opinions? [probe on opinions]
 - b. Was this an easy or difficult decision for you and your company? Why?
27. Do any of your competitors use utility incentives or rebates?
- a. [If yes] how do you keep competitive when they offer these incentives?
28. What could have Xcel Energy done differently, if anything, to avoid losing you as a participating partner in the Instant Rebate Lighting Program?

Those are all the questions I have for you today. Is there anything you would like to discuss that we did not cover?

Before we end, I would like to verify your email so that I can send you a \$50 gift card as a thank you for your time.

I have _____ on file for you, is that the best email to send this gift card?

Wonderful, I will send this gift card to you and you should receive it within the next two weeks. Please check your junk and spam folders. Please reach out if for whatever reason you do not receive your gift card within two weeks.

Thank you for talking with me today, have a great rest of your day.

B.4 TRADE ALLY INTERVIEW GUIDE

TO: Nick Minderman, Xcel Energy
Jackie Ducharme, Xcel Energy

FROM: Jane Colby, Keri Bell-Gawne, and Katie Parkinson, Apex Analytics
Nicole Thomas, EMI Consulting

CC: Jeremy Kraft, EMI Consulting
Matthew Rose, EMI Consulting

DATE: July 6, 2020

RE: Xcel Energy CO Business LED Instant Rebate Product – Trade Ally In-Depth Interview Guide

PROGRAM BACKGROUND

The CO Instant Rebate Lighting program offers instant rebates, through a trained distributor channel, to Xcel Energy commercial customers who purchase qualifying lighting equipment in existing or new buildings. Rebates are intended to encourage Xcel Energy electric commercial customers to purchase high-efficiency lighting products in their commercial and industrial facilities. Secondary goals include driving market transformation, forming a gateway for additional DSM products, expanding awareness of the Xcel Energy brand, and providing high-quality touchpoints for commercial customers.

Products are distributed through a network of 40-50 active distributors and rebate aggregators who promote the lighting products and provide instant rebates. Distributors sign a participation agreement, receive training, and a login to the partner portal. The partner portal is used by Xcel Energy staff use to qualify products and customers as eligible. Distributors are reimbursed for discounts within 45 days, pending approval of uploaded sales and customer information.

EVALUATION OBJECTIVES

The objectives for the CO Business LED Instant Rebate Product Channel evaluation are to:

- Estimate an overall NTG ratio documenting the product's influence on customers' decisions, major drivers of free ridership, and participant and non-participant spillover.
- Assess market effects of the Business LED Instant Rebate Product products.
- Understand business customer variations in their decision-making process to install efficient lighting equipment, and whether the product influence varies by these differences.

- Assess product experience and satisfaction, among both customers and trade partners.
- Understand customer awareness, participation in, and perception of, related programs and products.
- Understand how peer utilities operate their Business LED Instant Rebate Product programs.

The participating customer survey does not address every evaluation objective. For reference, the following table provides the evaluation efforts used for each objective.

Table 5: CO Business LED Instant Rebate Product Evaluation Objectives

Evaluation Objective	Impact or Process Objective	Research Activity	Participant Trade Ally Objective
Estimate an overall NTG ratio documenting the product's influence on customers' decisions, identifying major drivers of free ridership and assessing participant and nonparticipant spillover	Impact and Process	Participating Trade Ally Interviews; Participant Survey	✓
Assess market effects of the Business LED Instant Rebate Product products	Process	Trade Ally Interviews	✓
Understand business customer variations in their decision-making process to install efficient lighting equipment, and whether the product influence varies by these differences	Process	Participant Survey ; Participant Trade Ally Interviews	✓
Assess product experience and satisfaction, among both customers and trade partners	Process	Participant Survey; Participating and Nonparticipating Trade Ally Interviews; Manufacturer Interviews	✓
Understand customer awareness, participation in, and perception of, related programs and products	Process	Participant Survey	
Understand how peer utilities operate their Business LED Instant Rebate Product programs	Process	Peer Utility Interviews	

The following table presents the link between each evaluation objective, research question, and survey question.

Table 6: Evaluation Objective, Research Question, and Survey Question Crosswalk

Evaluation Objective	Research Questions	Survey Questions
Assess product experience and satisfaction, among both customers and trade partners		
Introduction	How long have they been in the industry generally? What are their primary responsibilities? How do they stay abreast of new products and information?	1-2
Business Operations	How do distributors operate? Do different operation styles lend themselves to more or less successful participation in the program? What types of customers do they serve and how do they work with those having maintenance contracts? How important are rebates to the business's operations and competitiveness in the market?	3-7
Program Experience	How long has the trade ally been working with the program? What other Xcel Energy programs do they participate in? When did the trade ally become aware of the program? How does the program compare to other utility midstream lighting programs if applicable?	8-10
Administrative Systems	How does the company handle administrative tasks needed to complete the rebates? What works well and what is frustrating? What barriers did trade allies have to overcome to be able to accomplish administrative tasks for this program?	11-17
Inventory Considerations	How do distributors determine what to keep in stock? What trends are happening in the lighting market? What items do they wish were eligible and why?	18-20
Satisfaction	How satisfied are trade allies overall in the program?	43-46

Evaluation Objective	Research Questions	Survey Questions
	How could the program improve?	
Customer Decision Making	<p>How do trade ally customers decide which lighting products to buy? What variables are important? To what degree is energy efficiency factored into decision criteria? Does this vary by customer type or industry type?</p> <p>How do trade allies upsell eligible products, if at all. How do they talk about energy efficiency to customers, if at all?</p> <p>What is the influence of the rebate on customer decision making, and are customers aware of the rebate during the purchase process?</p>	21-25
Estimate an overall NTG ratio documenting the product's influence on customers' decisions, identifying major drivers of free ridership and assessing participant and nonparticipant spillover	How are distributors influenced by the midstream offering? How do they expect LED sales to change in 2021?	39-42 + advance questions

RECRUITMENT EMAIL

Subject: Help us improve the Xcel Energy Instant Rebate Lighting Program

Hi [First Name],

We are contacting you because you sell rebated products through the Xcel Energy Instant Rebate Lighting Program. Currently Xcel Energy is conducting research to understand how the program is working for customers, vendors, and manufacturers of lighting products.

We want to invite you to participate in a research effort to improve the program. We understand your time is valuable, and **we are offering a \$50 gift card for completing a 45-minute phone call with one of our research staff.**

During this informal interview, we will ask you questions about your role, industry trends, and experience working with Xcel Energy's Instant Rebate Lighting Program. We value your feedback and expertise.

To participate, please reply to this email and I will schedule a time to talk that is convenient for you. Please feel free to email me with any questions you may have about this study.

To verify the validity of this study you may contact
Jacqueline.M.Ducharme[@Xcelenergy.com](mailto:Jacqueline.M.Ducharme@Xcelenergy.com).

Thank you,

[Name]

CONFIRMATION EMAIL

Subject: Help us improve the Xcel Energy Instant Rebate Lighting Program

Hi [First Name],

Thank you for agreeing to participate in our research regarding the Xcel Energy Instant Rebate Lighting Program. We have you scheduled for:

[Insert Date/Time] with [Insert Interviewer]

We are sending you the attached spreadsheet that asks for data we will ask about in the interview. To reduce the time in your interview, you may wish to review this in advance and send back the form ahead of our call. Otherwise, we can go through these questions during our call. Please feel free to email me with any questions you may have about this study or the information requested.

Thank you,

[Name]

TARGET COMPLETES AND POPULATION

Trade Partner Type	Strata	Population	Planned Interviews
Active Trade Partners	Top Performers	13	10
	Remaining Partners	55	24
	TOTAL	68	34

INTERVIEW GUIDE

Thank you for agreeing to speak with me today. For today's discussion, I'd like to understand how you became aware of the Xcel Energy Instant Rebate lighting program, how it is working for you, as well as understand a little more about your business and your customers. Our goal is to learn how the program is working for you and your customers, so that we can continue to improve the process for trade allies like you. I expect this conversation will take about 45 minutes. I know your time is important, at the end of the interview I will verify your email and send you a \$50 gift card in appreciation of your time.

Please note, this discussion is not an assessment of performance. To ensure your anonymity, our company, APEX analytics, was hired by Xcel energy to conduct these interviews to learn how to improve the program for trade allies like you. Your answers will be anonymized and confidential.

[Confirm receipt of the spreadsheet and ask about any missing data or confirm a time when it will be provided]

What questions do you have for me about our discussion today?

It is helpful for me to record to take better notes. These recordings will only be used internally with our team at APEX Analytics. Is it okay for me to record this conversation?

[If yes, start recording]

INTRODUCTION

First I would like to understand a little bit more about you and your position at [company].

1. What are your primary responsibilities at [company]?
2. How long have you worked in the lighting industry?
 - a. How do you stay up to date with new products and information?
 - b. If Q2>5 years, how have your responsibilities changed over the past [Insert Q2 response] years?

BUSINESS OPERATIONS

Next, I'd like to ask you a few questions about your business and how you operate.

3. How many employees do you have?

4. Does your company also do installation, or does your company solely do distribution? [probe share of installation vs distribution if both]
5. Who are your typical customers? [probe for contractors, customer types]
6. Do you or your contractor customers provide lighting products to end-use customers through any maintenance contracts?
 - a. [If yes] Are specific lighting products typically detailed in the contract?
 - b. [If yes] What opportunities do you have for influencing the products purchased by customers that have maintenance contracts?
7. Do you need to use incentives to be competitive in the lighting market in your area? Why or why not?

PROGRAM EXPERIENCE

8. How long have you worked with Xcel Energy in the Instant Rebate Lighting Program?
 - a. Has your experience with the program changed over time? How? [Probe for is it running better or worse than before?]
 - b. How did you first become aware of the Instant Rebate Lighting program?
 - c. What are the reasons why your company decided to register for the program?
 - d. What have been your primary reasons for staying involved in the Instant Rebate program?
9. Do you participate in any other Xcel Energy programs? If so, which?

ADMINISTRATIVE SYSTEMS

Next, I'd like to ask a few questions about how you handle administrative tasks, specifically tasks for participating in the Xcel Instant Rebate Lighting Program

10. Are you familiar with the Trade Ally portal for uploading rebate data to Xcel Energy?
 - a. Have there ever been issues with the customer eligibility, application, or upload process?
 - i. If so, what?

- ii. How did they get resolved, if at all?
 - b. What do you like about the process?
 - c. Is there anything you find frustrating about the process?
- 11. How much time does it take to get reimbursed? How do you feel about the time it takes?
- 12. Is the rebate system integrated with your other inventory software?
 - a. [If yes] How easy or challenging was it to integrate your inventory with the rebate system? Why?
- 13. Are there times that you lost money by offering a rebate that ended up not being eligible? [If yes] what happened? How often does this occur?
- 14. How do you stay up to date with the program, including what is eligible and the incentive amounts?
 - a. How do you feel about the way changes are made to the program?
 - b. How does this process work for you?
- 15. Have you participated in any training offered by Xcel Energy? [If yes] On a scale of 0 to 10, where 0 is not at all useful and 10 is extremely useful, how useful was this training?

INVENTORY CONSIDERATIONS

Next, I would like to ask you a few questions about your inventory, including eligible lighting products for rebate, and trends in the light industry generally.

- 16. How does your organization decide what to keep in stock? [Probe for individual's role in that process]
- 17. Do you see any upcoming trends in lighting that you think will affect what you keep in stock? If yes, what?
- 18. How do you feel about the number and quality of items that are eligible for Xcel Energy rebates?
 - a. Are there any products you think should be eligible for rebates but are not?

CUSTOMER DECISION MAKING

Next, I'd like to ask you a few questions about your customers and what is important to them.

21. What are your observations about how customers decide which products to purchase? For example, how do they decide lamp type and/or quantity to purchase at a given time?

a. Does this vary by business type? How about by customer size?

22. Under what conditions, if any, do you recommend energy efficient program-eligible lighting products with customers that are not requesting these products?

19. Do you think the incentive affects which lamp your customers ultimately purchase? Why or why not?

20. How does your company use the incentive to encourage customers to purchase more efficient and higher priced product than standard halogens?

21. Do you think most customers know that they received an incentive on their lighting purchase? Why or why not?

22. How has the COVID-19 pandemic impacted your sales of efficient lighting products? Would you say

- a. Large negative effect
- b. Moderate negative effect
- c. Little or no effect
- d. Moderately positive effect
- e. Large positive effect

23. [If a, b, d, or e] What percentage impact do you estimate?

24. Do you see this impact continuing through 2021?

NET TO GROSS

25. Generally speaking, can you describe how Xcel Energy's lighting rebates have changed the way you do business in the Xcel Energy service territory in CO, if at all?[if needed, time horizon is since they got involved with any of Xcel Energy's lighting programs].

26. I'm going to ask you about various strategies you might use to sell program-qualified equipment. Which of the following strategies have you used to sell program qualified lamps? [NOTE ALL THAT APPLY].
- a. Upsell contractors to purchase program-qualified lamps? Y/N
 - b. Conduct training workshops for contractors to learn about energy efficient lighting or the Xcel Energy lighting incentives? Y/N
 - c. Increase marketing of program-qualified lamps? Y/N
 - d. Additional price reductions on program-qualified lamps? Y/N
 - e. Increase the stocking or assortment of program qualified lamps? Y/N
 - f. Discuss the benefits of program-qualified lamps with design professionals? Y/N
27. What other strategies have you used to sell program-qualified lamps [INDICATE NONE OR SPECIFIC BELOW]
- a. First mention:
 - b. Second mention:
 - c. Third mention:
28. We just talked about the different strategies your company uses to increase sales of program-qualified lighting products. Now, I'm going to ask you about the extent to which the Instant rebate program influenced your decision to use these strategies. For each please give an answer on a scale of 0-10 where 0 means the program factor was not at all influential and 10 means it was very influential.
- a. How influential were Program incentives on your decision to pursue the sales strategies? [0-10]
 - b. How influential was the Sales training on your decision to pursue the sales strategies? [0-10]
 - c. How influential was Xcel Energy's promotion and marketing support on your decision to pursue the sales strategies? [0-10]
 - d. How influential was any previous experience with an Xcel Energy program on your decision to pursue the sales strategies? [0-10]
29. Are there any other factors that influenced your company's decision to utilize these sales strategies? If yes, please list
- a. Additional factor mention #1
 - b. Additional factor mention #2
 - c. Additional factor mention #3

30. [Ask if Additional factors were mentioned in 29] Did Xcel Energy influence your company in prioritizing these other factors? (if needed, e.g. if increasing profits – do the incentives offered make these sales strategies more profitable? or if company has sustainability goals – did Xcel Energy have a role in educating or influencing your company’s sustainability goals?)
- a. Additional factor mention #1 [Y/N]
 - b. Additional factor mention #2 [Y/N]
 - c. Additional factor mention #3 [Y/N]
31. [For each “Y” in 29, ask] How?
32. [ASK for “Y” in 29] How influential was [insert additional factor] in your decision to pursue the sales strategies to sell more high efficiency lighting equipment? For each please give an answer on a scale of 0-10 where 0 means not at all influential and 10 means very influential.
33. Using a 0 to 10 scale, where 0 is not at all likely and 10 is extremely likely, if the Xcel Energy Instant Rebate program had not been available, what is the likelihood you would pursued the same sales strategies to sell more high efficiency lighting equipment?
34. IF [MAX OF Q28 and Q 32 influence responses IS < 4 AND MAX OF Q33 IS > 7] OR IF [MAX OF Q28 and Q32 IS > 7 AND MAX OF Q33RESPONSE IS < 4] ASK: Earlier, you assigned a value of [INSERT MAX OF Q33] to the question about the influence of the program on your strategies to sell more program-qualified units but assigned a value of [INSERT MAX OF Q38] to the question about the likelihood of pursuing these strategies if the program had not been available.. The first suggests (HIGH OR LOW PROGRAM INFLUENCE) while the other suggests (HIGH OR LOW) program influence). These answers seem inconsistent. Just to make sure I understand, would you explain why the program was very important in your decision to pursue these sales strategies? It’s OK if you want to change one of your answers.
35. Before starting the program, approximately what percentage of all program qualified units you sold in Colorado went to customers outside of Xcel Energy’s service territory? As a reference point, Xcel Energy comprises about 60% of all commercial customers in CO.
- 36.To what extent have you applied the same sales strategies we discussed for selling program-qualified units in non-Xcel Energy regions of Colorado? Please give an answer on a scale of 0-10 where 0 means not at all similar and 10 means completely the same. [probe if above 5, what influenced you to do that?]

PROSPECTIVE NET TO GROSS

37. Lots of factors may have contributed to the growth in energy efficient lighting over the past ten years in Colorado. I'd like to hear your perspective on what has been most important. What do you believe are the most important drivers that have resulted in market adoption of LED lighting?

38. Now I'd like you to rate, on a scale from 0 to 10, with 0 being not at all influential and 10 being very influential, how influential you think each of the following factors have been in increasing uptake of energy efficient lighting:

- a. Reductions in cost due to Xcel Energy rebates
- b. Reductions in cost due to market forces not related to Xcel Energy rebates
- c. Increased customer awareness of LED benefits due to Xcel Energy marketing and program efforts
- d. Increased customer awareness of LED benefits due to contractor, distributor, and manufacturer marketing and educational efforts
 - i. [IF d>5] What contractor, distributor, or manufacturer efforts do you think were influential?
- e. Utility program training, workshops, and other support provided to contractors and distributors
- f. [Factors mentioned above from 37 that are outside of incentives and awareness]

SATISFACTION

39. Overall, how would you rate your satisfaction working with Xcel Energy? If 0 is very unsatisfied and 10 is very satisfied? Why?

40. How could the program be more helpful for trade allies like you?

41. What else would you like to discuss that we haven't covered yet?

Before we end, I would like to verify your email so that I can send you \$50 gift card as a thank you for your time.

I have _____ on file for you, is that the best email to send this gift card?

Wonderful, I will send this gift card to you and you should receive it within the next two weeks. Please check your junk and spam folders. Please reach out if for whatever reason you do not receive your gift card within two weeks.

Thank you for talking with me today, have a great rest of your day.

Memorandum BUSINESS LED INSTANT REBATE PRODUCT

1. What products do you sell?

Products	Products offered (Y/N)	What % of each product type are LEDs?	How much influence does Xcel Energy's Lighting programs have on your choice to sell LEDs?
Example: Product	Y	80%	10
Linear Tubes			
Screw-based Lamps			
Pin-based lamps			
HID-based lamps			
Retrofit kits			
Fixtures			
Other [specify]			

2. How much influence does Xcel Energy's Lighting rebate programs have on your choice to sell LEDs?

Answer 0 to 10 scale where 0 = no influence at all and 10 = highly influential

Please fill in the data for LEDs that your company sells, comparing 2019 and projected 2021 sales to what they might be if there were no Xcel Energy rebates.

Please fill in the data for LEDs that your company sells, comparing 2019 and projected 2021 sales to what they might be if there were no Xcel Energy lighting rebates.

Column	A	B	C	D	
Products	2019 LEDs Quantity Sold	How would sales be impacted if there were no Xcel Energy lighting rebates? [no impact, sales higher, sales lower]	If [sales higher or lower] by what percentage?	Thinking out to 2021, what do you project your LED sales to be?	What would sales in 2021 look like if there were no Xcel Energy lighting rebates? (number sold)
Example	5,000	sales lower	50%	4,000	2,000
All LED lamps and fixtures					

B.5 MANUFACTURER INTERVIEW GUIDE

TO: Nick Minderman, Xcel Energy
Jackie Ducharme, Xcel Energy

FROM: Jane Colby, Keari Bell-Gawne, and Katie Parkinson, Apex Analytics
Nicole Thomas, EMI Consulting

CC: Jeremy Kraft, EMI Consulting
Matthew Rose, EMI Consulting

DATE: July 8, 2020

RE: Xcel Energy CO Business LED Instant Rebate Product – Manufacturer In-Depth Interview Guide

PROGRAM BACKGROUND

The CO Business LED Instant Rebate Product program offers instant rebates, through a trained distributor channel, to Xcel Energy commercial customers who purchase qualifying lighting equipment in existing or new buildings. Rebates are intended to encourage Xcel Energy electric commercial customers to purchase high-efficiency lighting products in their commercial and industrial facilities. Secondary goals include driving market transformation, forming a gateway for additional DSM products, expanding awareness of the Xcel Energy brand, and providing high-quality touchpoints for commercial customers.

Products are distributed through a network of 40-50 active distributors and rebate aggregators who promote the lighting products and provide instant rebates. Distributors sign a participation agreement and receive training and a login to the partner portal, which Xcel Energy staff use to qualify products and customers as eligible. Distributors are reimbursed for discounts within 45 days, pending approval of uploaded sales and customer information.

RESEARCH OBJECTIVES

To support the 2020 process and impact evaluation of Xcel Energy efficiency products, the EMI Consulting evaluation team will be conducting a process and impact evaluation of the Xcel Energy CO Business LED Instant Rebate Product products.

These topics are mapped to the following **objectives of the process evaluation**:

- Understand business customer variations in their decision-making process to install efficient lighting equipment, and whether the product influence varies by these differences.

- Assess product experience and satisfaction, among both customers and trade partners.
- Understand customer awareness, participation in, and perception of, related programs and products.

These Manufacturer interviews are intended to assess the product experience and satisfaction with the manufacturer trade partners. As part of that, we will gather information to understand the role of the manufacturer in the supply chain and decision-making process. That is, what role does the manufacturer play in the supply, sales, and demand of energy efficient lighting? To understand this, we ask questions about their role, the importance of energy efficiency, and how they influence distributors, marketing and customers.

Topic	Research Questions
Introduction	What are the daily tasks, goals, and frustrations for employees in the manufacturing field?
Products and Sales	What do manufacturers see as upcoming market trends for lighting? How do manufactures decide what to produce and promote?
Distributor Relationships	What is manufactures relationship to distributors? What requirements, if any, do manufactures have for their distributors? How much influence do manufacturers perceive to have over distributors in what they sell? What marketing materials or training, if any, do manufactures supply to their distributors?
Experience with Utility Programs	What utility lighting programs are manufactures aware of, and how do they perceive the effect of these programs on their business? Do manufactures have a positive or negative disposition about the role of

Topic	Research Questions
	these programs in their business operations? Why?
Xcel Energy Business LED Instant Rebate Product Program and Satisfaction	<p>What is the manufactures experience in the Xcel Energy Midstream lighting program? Do they have a positive or negative demeanor about it?</p> <p>How satisfied are they with the Xcel Energy Business LED Instant Rebate Product Program?</p> <p>What do manufactures think could be done to make the program better?</p>
Prospective NTG	<p>How do they see LED sales in 2021?</p> <p>Influence of Xcel Energy program on sales. How has COVID-19 impacted current sales and expected 2021 sales?</p>

RECRUITMENT EMAIL

Subject: Help us improve the Xcel Energy Instant Rebate Lighting Program

Hi [First Name],

I am contacting you on behalf of Xcel Energy. We are contacting you because you manufacture lighting products eligible for rebates through the Xcel Energy Instant Rebate Lighting Program. Currently Xcel Energy is conducting research to understand how the program is working for customers, distributors, and manufacturers of lighting products that are eligible for Xcel Energy Rebates.

We want to invite you to participate in a research effort to improve the program. We understand your time is valuable, and **we are offering a \$50 gift card for completing a 45-minute phone call with one of our research staff.**

During this informal interview, we will ask you questions about your role, industry trends, relationship to distributors, and experience working with utility lighting programs. We value your feedback and expertise.

To participate, please reply to this email and I will schedule a time to talk that is convenient for you. Please feel free to email me with any questions you may have about this study.

To verify the validity of this study you may contact
Jacqueline.M.Ducharme@Xcelenergy.com.

Thank you,

Name

CONFIRMATION EMAIL

Subject: Help us improve the Xcel Energy Instant Rebate Lighting Program

Hi [First Name],

Thank you for agreeing to participate in our research regarding the Xcel Energy Instant Rebate Lighting Program. We have you scheduled for:

[Insert Date/Time] with [Insert Interviewer]

To ensure the efficiency of the interview and minimize the impact on your time, we are sending you the attached spreadsheet that requests specific information on your sales of different lighting products. You may either send the spreadsheet back to me directly prior to our interview time or we can walk through these questions together on the call. Please feel free to email me with any questions you may have about this study or the information requested.

Thank you,

[Name]

SAMPLE AND POPULATION

Trade Partner Type	Population	Planned Interviews
Manufacturers	8	4-5

INTERVIEW GUIDE

Thank you for agreeing to speak with me today. For today's discussion, I'd like to understand your role as a manufacturer, specifically as it relates to decisions and promotion of energy efficient lighting equipment. Our goal is to understand your role and needs, your relationship with distributors and customers, and how you make product or marketing decisions. I expect this conversation will take about 45

minutes. I know your time is important, at the end of the interview I will verify your email and send you a \$50 gift card in appreciation of your time.

Please note, this discussion is not an assessment of performance. To ensure your anonymity, our company, APEX analytics, was hired by Xcel Energy to conduct these interviews to learn how to improve the program for trade allies like you. Your answers will be anonymized and confidential.

What questions do you have for me about our discussion today?

It is helpful for me to record to take better notes. These recordings will only be used internally with our team at Apex Analytics. Is it okay for me to record this conversation?

[If yes, start recording]

INTRODUCTION

First I want to understand a little more about your role as a manufacturer. I ask these questions because I want to better understand what your role is like, to understand how this program may have hindered, or helped your ability to do your job effectively.

1. How long have you worked in the manufacturing industry?
 - a. How long have you worked with lighting products specifically?
2. What are you responsible for in your role, and how long have you been with [COMPANY]?
 - a. [If manufacture has worked with lighting products beyond their current company (answer for 1a > answer for 2)] It sounds like you were working with lighting products before you started working at [COMPANY] can you tell me briefly about your experience before working at [COMPANY]?

PRODUCTS AND SALES

Next, I'll ask you some questions about products and sales.

3. How has the COVID-19 pandemic affected your sales of LED-based lighting products at all? Would you say
 - a. Large negative effect
 - b. Moderate negative effect
 - c. Little or no effect
 - d. Moderately positive effect

Large positive effect

4. [IF a, b, d, or e] What percentage impact do you estimate?
5. Do you see this impact continuing through 2021?

[ASK about Sales Worksheet if you haven't received it and put it on the screen to walk through]

6. Do you see any upcoming trends in lighting that you think will affect what you produce? If yes, what?
7. Are there any other variables that are important when you consider increasing product sales and production? Which?
8. Do you, or have you ever, actively promoted certain products? How do you do this? [Probe on marketing efforts and distributors]
 - a. [If yes] Does eligibility for utility programs ever play a role in your considerations for product promotions or marketing materials? Why or why not?
9. Do you ever sell direct to customer, or do you solely work through distributors? Why?

DISTRIBUTOR RELATIONSHIPS

Next, I'd like to ask some questions about your relationship to distributors and customers.

10. Can you briefly describe how you work with distributors?
 - a. Do you ever provide training to distributors? If so, when and how?
 - b. Do you ever provide marketing materials to distributors?
 - c. Do you supply any other form of support to distributors? If yes, what?
 - d. Are there any criteria, training or certifications a distributor must pass to work with you?
11. How many distributors do you work with?
12. How much influence would you say you have over what a distributor keeps in stock? Why? [Open ended, probe on answers]

13. [IF 9= YES] How often do you work directly with customers? [Probe: if ever]
Under what circumstances do you work directly with end-use customers? How much influence would you say you have over what lighting products customers purchase?

EXPERIENCE WITH UTILITY PROGRAMS

Next, I'll ask you about your awareness and experience with utility energy efficiency programs.

14. What utility energy efficiency programs for lighting are you aware of? [if needed, give examples or more details]
15. How do these programs affect your business, if at all?
16. How do you feel about these programs and the impact on your business?
17. Have these programs become more influential, less influential, or about the same influence on your business operations in the last 5 years (or timeframe participant has been in business)?

XCEL ENERGY BUSINESS LED INSTANT REBATE PRODUCT PROGRAM AND SATISFACTION

Finally, I'll ask you a few questions on your experience with Xcel Energy's midstream lighting program.

18. Are you aware of the Xcel Energy Instant Rebate lighting program, where they offer instant rebates on energy efficient lighting equipment?
- a. What do you know about it?
 - b. How does it affect what you do? [PROBE for Xcel vs. nationally]
 - c. Has the Xcel Energy Instant Rebate lighting program influenced any changes in the products you manufacture? How so?
 - d. Earlier you indicated that your sales of LED-based products were [insert answer from Sales Sheet]. If Xcel Energy's Instant Rebate lighting

- program did not exist, do you think your sales would have been higher, lower, or the same? [If can't answer – ask about utility rebate programs in general]
- e. [if higher/lower] How much [higher/lower]? [if can't answer – do you think its 50% or more and narrow down to a range, compared to areas without rebates]
19. [ASK if Q18=Yes] How do you feel about the program?
- a. [If Manufacturer said they worked with other utilities in the section above] In comparison to [other utility] how does Xcel Energy's Instant Rebate Lighting program compare? [feedback on what they like or don't like]
- b. How does the program affect your relationship with distributors, if at all?
- c. Do you promote the Xcel Energy lighting program in any way?
- d. What do you like about the program?
- e. What do you dislike about the program?
- f. If you could change anything about the program, what would you change and why?
- g. How could Xcel Energy better leverage manufacturers like you to improve the success of the program?

Those are all the questions I have for you today, is there anything you would like to discuss that we did not cover?

Before we end, I would like to verify your email so that I can send you the \$50 gift card as a thank you for your time.

I have _____ on file for you, is that the best email to send this gift card?

Wonderful, I will send this gift card to you and you should receive it within the next two weeks. Please check your junk and spam folders. Please reach out if for whatever reason you do not receive your gift card within two weeks.

Thank you for talking with me today, have a great rest of your day.

Please fill in the data for each type of lighting product that your company manufactures, comparing 2019 sales to projected 2021 sales

1. How many total lighting products did you sell in 2019?

2. What percent of your 2019 sales were for each of the product types below?

Products	% Lighting Products Sold by Type
Linear Tubes	
Screw-based Lamps	
Pin-based lamps	
HID-based lamps	
Retrofit kits	
Fixtures	
Other Lighting [specify]	
Total Lighting Products	100%

What % of your 2019 total lighting sales were LEDs?

If Xcel Energy's lighting rebates didn't exist, do you think your LED sales would have been higher, lower or the same?

If higher/lower, by how much? (%)

Do you project 2021 LED sales to be higher, lower or about the same as 2019?

If higher/lower -- by what percentage?

If higher/lower, why do you expect it to change?

B.6 XCEL ENERGY BUSINESS LED INSTANT REBATE PRODUCT BEST PRACTICES: UTILITY INTERVIEW GUIDE

INTRODUCTION

To support the process and impact evaluation of the 2019 Xcel Energy energy-efficiency programs, the EMI Consulting evaluation team will benchmark the Xcel Energy programs against peer utilities. The objective of the benchmarking is to identify opportunities to improve the Xcel Energy programs based on a comparison of peer utility programs' design, delivery, and processes. In addition, benchmarking allows the evaluation team to understand the performance of the program in context with the performance of other utilities. To conduct the benchmarking, the evaluation team will conduct secondary research on the peer utilities identified and perform in-depth interviews with program managers at the peer utilities.

This document presents the in-depth interview guide for peer utility Business LED Instant Rebate Product. Table 7 identifies the interview questions related to each of the research objectives.

This interview is being conducted with a set of approximately 6 of Xcel Energy's peer utilities. Target respondents are managers of midstream lighting energy efficiency programs targeting business customers.

Table 7: Mapping of interview questions to research objectives

Key Performance Indicator	Data Needed	Interview Question
Products Included	<ul style="list-style-type: none"> Midstream products offered, any added or removed in the past year/reason Crossover with other programs If crossover, verification, tracking approach 	A2,B1
Product Incentives	<ul style="list-style-type: none"> How do they determine incentives for each product? 	A2
Customer Verification	<ul style="list-style-type: none"> Do they verify customers? If so, how? If not, do they account for leakage? 	A1
Net-to-gross ratios (NTGRs)	<ul style="list-style-type: none"> NTG values estimated at program level or measure level, retrospectively or prospectively Method for calculating 	A3
Forward looking design	<ul style="list-style-type: none"> Planned changes and reasons 	B2

RECRUITING INSTRUCTIONS

The research team plans to send advance emails to any program managers with available emails. The email will contain an explanation of the research, as well as both an Xcel Energy and EMI Consulting contact person the utility can reach out to if they have additional questions or would like to schedule an interview at their convenience. We will offer to share the results of the benchmarking study with them when final.

Potential respondents will be recruited by consultants on the research team who will be conducting interviews and have been trained on the purpose and goals of the Business LED Instant Rebate Product qualitative research. The research team will be as flexible as possible in scheduling these interviews, including scheduling early morning or evening interviews when possible to accommodate busy utility schedules. The research team will leave a voicemail or receptionist message on the first attempt whenever possible, and then use discretion to determine any additional messages left on subsequent attempts. The research team will strive to attempt to contact each peer utility a minimum of 4 times before giving up on that particular contact, but depending on each unique situation, the research team may need to attempt some contacts more times to ultimately reach the correct person.

INTERVIEW

INTRODUCTION/RECRUITMENT

INTRO 1 Hello, this is INTERVIEWER NAME, calling from Apex Analytics on behalf of Xcel Energy. Is CONTACT NAME available?

INTRO 2 We are working with Xcel Energy on a benchmarking and best practices study for their Business LED Instant Rebate Product energy efficiency programs. As part of this study, we are reaching out to leaders of lighting programs to learn about innovative programs and best practices in the field.

We would like to include UTILITY in this study, as your lighting program has been identified as an [innovative/peer] program. We would like to spend some time talking with you about your lighting program's design and implementation, as well as your plans for future lighting programs.

[IF NEEDED:] We will not be requesting any customer or participant data.

INTRO 3 Can we include your utility in the study?

- a. Yes **[RECORD CONTACT INFORMATION; SETUP INTERVIEW TIME; EMAIL INTERVIEW TOPICS]**
- b. No **[DISCUSS CONCERNS; ANSWER QUESTIONS; OFFER TO SHARE RESULTS, IF CONCERNED ABOUT SHARING INFORMATION PUBLICLY OFFER TO KEEP ANONYMOUS OR SHARE ONLY WITH OTHER UTILITIES IN THE STUDY AND NOT PUBLIC]**

SECTION A: KPIS/PROGRAM DESIGN

A1. First, we'd like to talk through the basic design and organization of your midstream lighting program targeting business customers. **[ASK/CONFIRM BASED ON HOLES IN BACKGROUND RESEARCH ON PROGRAM]**

Can you describe your midstream commercial lighting program at a high level?

- a. Is your program run by utility staff or a third-party implementer?
- b. How do you work with trade allies to offer the program?
- c. What requirements do you have of trade allies for participation? **[PROBE: customer verification, rebate tracking and data providing, promotion/marketing]**
- d. What types of support do you offer for trade allies? **[PROBE: online tools for verification, rebate tracking, or product compliance; marketing support, training, etc.]**
- e. What customer segments are eligible for incentives?

A2. Next, I'd like to talk about your program's incentives for 2020.

- a. What types of measures do you offer? **[PROBE: screw-in bulbs, high efficiency fluorescents, TLEDs, fixtures, controls]**
 - a. Do you require lighting products to be energy star or DLC certified?
- b. How do you determine your incentive level per product and is there a cap? I'm trying to find out if there is a cap like rebates can't be more than 60% of incremental cost or XX% of retail price. **PROBE: Does it vary by product or product type?]**

- A3. What net-to-gross ratio is your program currently claiming for 2019?
- a. Does this ratio vary product or segment (i.e. screw-in bulbs, tubes, fixtures, controls? If so, what are the different NTGRs?
 - b. What program year(s) is that net-to gross ratio applied?
 - c. Do you have a different, prospectively applied net-to-gross ratio?

SECTION B: PROGRAM DESIGN

Next, I'd like to talk about recent and future changes to your midstream lighting program.

- B1. Have you made any changes to your lighting program in the past year?
- a. Any changes to types of products offered? (screw-in bulbs, tubulars, fixtures, controls/others). Why did you make this change?
 - b. Changes to incentives? Why did you make this change?
 - c. Requirements for trade allies (e.g. verification, reporting, etc.) Why did you make this change?
- B2. Are you planning to make changes to your lighting programs in 2020 and beyond? What changes are you planning? [ADJUST QUESTIONS BASED ON ANSWERS ABOVE]
- a. Any changes to types of products offered? (screw-in bulbs, tubulars, fixtures, controls/others). Why did you make this change?
 - b. Changes to incentives?
 - c. Requirements for trade allies?
 - d. When will these program changes come into effect?

SECTION E: CLOSING

- E1. Would you like a summary of our research when it is complete?
- a. [If YES], May we associate your responses with your company to share with the other utilities?

b. [If YES] And would it be okay to share your responses publicly?

Great! Thank you so much for your time. Those are all the questions we have for you today. Before we finish, do you have any questions for me, or anything else you would like to add?

APPENDIX C: CUSTOMER SURVEY RESPONSE

SECTION C: COVID IMPACTS

C1. First, we'd like to ask you generally about how your business is doing given the COVID pandemic.

Frequencies for C1 by Business Size

COVID Effects	Small Business (count)	Small %	Medium to Large Business Count	Large %
Doing okay or well	43	58.1%	43	65.2%
Improving	5	6.8%	7	10.6%
Business is Slow	17	23.0%	6	9.1%
Poor	3	4.1%	2	3.0%
Closed	1	1.4%		
Missing	5	6.8%	8	12.1%
Total	74		66	

Frequencies for C1

C1	Frequency	Percent	Valid Percent	Cumulative Percent
All okay	1	0.709	0.769	0.769
At the moment we are doing pretty well. We had to shut down in March but doing alright now.	1	0.709	0.769	1.538
Back to school in person - made some changes - so far so good	1	0.709	0.769	2.308
Better than expected	1	0.709	0.769	3.077
Better than most. Occupancy is not falling off that much.	1	0.709	0.769	3.846
Business has been slow, but getting better.	1	0.709	0.769	4.615
Business is doing well.	1	0.709	0.769	5.385
Business is slow but open	1	0.709	0.769	6.154
Doing alright	1	0.709	0.769	6.923
Doing alright - We're Google.	1	0.709	0.769	7.692
Doing alright, but we have only been doing projects on an as needed basis for maintenance.	1	0.709	0.769	8.462
Doing fine	1	0.709	0.769	9.231
Doing fine.	3	2.128	2.308	11.538
Doing good	1	0.709	0.769	12.308
Doing good.	1	0.709	0.769	13.077
Doing great	2	1.418	1.538	14.615

Frequencies for C1

C1	Frequency	Percent	Valid Percent	Cumulative Percent
Doing okay - things are getting better now that we reopened.	1	0.709	0.769	15.385
Doing okay - working from home	1	0.709	0.769	16.154
Doing okay, not too bad overall	1	0.709	0.769	16.923
Doing okay.	1	0.709	0.769	17.692
Doing pretty good	4	2.837	3.077	20.769
Doing pretty good -just trying to stay safe and adapt to the new requirements for reopening.	1	0.709	0.769	21.538
Doing well	1	0.709	0.769	22.308
Doing well.	1	0.709	0.769	23.077
Excellent	2	1.418	1.538	24.615
Fairly well	1	0.709	0.769	25.385
Fine	3	2.128	2.308	27.692
Going well	1	0.709	0.769	28.462
Good	1	0.709	0.769	29.231
Great	1	0.709	0.769	30.000
Hanging in there.	1	0.709	0.769	30.769
Hasn't really impacted us too much	1	0.709	0.769	31.538
Having a rough time.	1	0.709	0.769	32.308
I think we are doing pretty well.	1	0.709	0.769	33.077
Industry has been struggling, but it's getting better.	1	0.709	0.769	33.846
It has affected business--slow down but we're involved in PPP program which helped	1	0.709	0.769	34.615
It has been fine	1	0.709	0.769	35.385
It is interesting in the fact that some kids are working in person, some are working remotely and some disappeared.	1	0.709	0.769	36.154
It was a bumpy road but we are on track to be back to normal	1	0.709	0.769	36.923
It's been an adjustment, but we are moving ahead with plans for the semester.	1	0.709	0.769	37.692
It's been tough - we've had to reduce staff and during a time when we usually would be sold out, we are at 30% occupancy now.	1	0.709	0.769	38.462
It's doing pretty good	1	0.709	0.769	39.231
It's down some as it is harder to get things done.	1	0.709	0.769	40.000
It's generally the same. Our buildings are 15 years leased out. All operations are essentially the same.	1	0.709	0.769	40.769
It's hard to answer. We are hanging in there like everybody else.	1	0.709	0.769	41.538
It's okay.	2	1.418	1.538	43.077
Just fine, staying busy	1	0.709	0.769	43.846

Frequencies for C1

C1	Frequency	Percent	Valid Percent	Cumulative Percent
Middle of the road.	1	0.709	0.769	44.615
My company is doing great, no layoffs	1	0.709	0.769	45.385
Not affected	1	0.709	0.769	46.154
Not bad - just takes a little longer to do business now.	1	0.709	0.769	46.923
Not too good - occupancy is at 20%.	1	0.709	0.769	47.692
Not too much of an effect	1	0.709	0.769	48.462
Okay	3	2.128	2.308	50.769
Our doors are open, but business is down about 20%.	1	0.709	0.769	51.538
Our opening of the restaurant was delayed so we had to open at the beginning of the pandemic, so it was tough.	1	0.709	0.769	52.308
Pandemic has reduced our income, since we have had to waive the rent for some of our tenants in the center.	1	0.709	0.769	53.077
Pretty good-we rent office space and have multiple tenants. So we are doing fine.	1	0.709	0.769	53.846
Pretty well	1	0.709	0.769	54.615
Really great	1	0.709	0.769	55.385
Sales are well	1	0.709	0.769	56.154
Slightly tenuous	1	0.709	0.769	56.923
Slower but overall pretty consistent	1	0.709	0.769	57.692
Staying busy	1	0.709	0.769	58.462
Still good	1	0.709	0.769	59.231
Terrible	1	0.709	0.769	60.000
The Government and we are trying to keep it all together	1	0.709	0.769	60.769
The pandemic is costing the organization a lot of money. We had to add employees in certain areas to fill certain demand. Each	1	0.709	0.769	61.538
Things are slow for sure. I do property management, and we have tenants who are slowly trying to get back to normal. We are offe	1	0.709	0.769	62.308
Things are starting to get back to normal	1	0.709	0.769	63.077
We are a small management company, doing relatively well, a bit busier than normal. We maintained distancing, moved work to voic	1	0.709	0.769	63.846
We are an indoor play space, so things have been difficult but are getting better.	1	0.709	0.769	64.615
We are doing a little less business than before - need new clients to occupy space	1	0.709	0.769	65.385
We are doing fine, but we do some reservations with how things will go.	1	0.709	0.769	66.154
We are doing fine-never closed	1	0.709	0.769	66.923

Frequencies for C1

C1	Frequency	Percent	Valid Percent	Cumulative Percent
We are doing good with the limited staff that we have.	1	0.709	0.769	67.692
We are doing okay, just small decline	1	0.709	0.769	68.462
We are doing really well	1	0.709	0.769	69.231
We are doing well. We are able to social distance and have 200 people at mass.	1	0.709	0.769	70.000
We are down 15% in business	1	0.709	0.769	70.769
We are down quite a bit-more than half.	1	0.709	0.769	71.538
We are fairly large university--just reopened and in 3rd week of classes. restrictions in place.	1	0.709	0.769	72.308
We are fully staffed	1	0.709	0.769	73.077
We are maintaining occupancy, but there is a large decrease in market rents	1	0.709	0.769	73.846
We are okay.	1	0.709	0.769	74.615
We are operating at different hours that usual	1	0.709	0.769	75.385
We are struggling a little bit but will be fine in the end	1	0.709	0.769	76.154
We are struggling to make numbers but holding our own	1	0.709	0.769	76.923
We are working through a lot of situations	1	0.709	0.769	77.692
We had a rough couple of months in March and April. Could only do to-go. Sale is at 30-40%. Opened up for dine-in recently and d	1	0.709	0.769	78.462
We had to lay off two employees	1	0.709	0.769	79.231
We have been busy.	1	0.709	0.769	80.000
We have been closed since March and probably will be closed until October 2020.	1	0.709	0.769	80.769
We haven't been affected. We're super busy with capital projects.	1	0.709	0.769	81.538
We lost about \$20,000 because we had to cancel a lot of scheduled work. We are still having to cancel.	1	0.709	0.769	82.308
We slowed down and laid a few people off. We are at 85% level of work back now.	1	0.709	0.769	83.077
We still are at below normal as far as occupancy and some staff have been furloughed, but it's getting better.	1	0.709	0.769	83.846
We took a hit, since elective procedures were cancelled and less people were coming in, but we are bouncing back now.	1	0.709	0.769	84.615
We went down 50% then back up to 100% now.	1	0.709	0.769	85.385
We're a school district, so doing okay I guess.	1	0.709	0.769	86.154

Frequencies for C1

C1	Frequency	Percent	Valid Percent	Cumulative Percent
We're actually doing okay.	1	0.709	0.769	86.923
We're doing extremely well. It did put a small damper on operations in the beginning of the quarantine, but we've had minimal ef	1	0.709	0.769	87.692
We're doing fine	1	0.709	0.769	88.462
We're doing fine.	1	0.709	0.769	89.231
We're doing good. I haven't been affected, nor have any of my coworkers.	1	0.709	0.769	90.000
We're doing okay	1	0.709	0.769	90.769
We're doing okay - we are a utility facility.	1	0.709	0.769	91.538
We're doing okay, but are running building operations and capital projects on a need-only basis right now.	1	0.709	0.769	92.308
We're doing okay.	3	2.128	2.308	94.615
We're doing okay. No layoff or furloughs.	1	0.709	0.769	95.385
We're good	1	0.709	0.769	96.154
We're just fine.	1	0.709	0.769	96.923
We're surviving. We were shut down for five weeks but have now reopened.	1	0.709	0.769	97.692
We've been affected a lot. Business is very slow.	1	0.709	0.769	98.462
We've taken a hit but we're doing alright.	1	0.709	0.769	99.231
DK	1	0.709	0.769	100.000
Missing	11	7.801		
Total	141	100.000		

C2. Is there anything Xcel Energy could be doing to help your business through this time?

Response	Count	%
Nothing	91	64.5%
Reduce prices/add discounts	15	10.6%
Defer payments/continue suspending late fees	5	3.5%
Offer more rebates	5	3.5%
Better outage service	3	2.1%
More advertising/communication/education	3	2.1%
Don't Know	10	7.1%
Other	7	5%
Missing	2	1.4

Total	141	100%
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Frequencies for C2

C2	Frequency	Percent	Valid Percent	Cumulative Percent
A reduction in gas prices.	1	0.709	0.719	0.719
Better notification of outages via email or phone	1	0.709	0.719	1.439
Bills have been off kilter - meters not being able to be read - getting separate billings.	1	0.709	0.719	2.158
Cheaper rates	1	0.709	0.719	2.878
Continue the lighting rebate program and offer some energy rebates for people having trouble.	1	0.709	0.719	3.597
Continue to suspend late fees	1	0.709	0.719	4.317
Defer payments	1	0.709	0.719	5.036
Discounting electricity rates.	1	0.709	0.719	5.755
Discounts would be nice	1	0.709	0.719	6.475
Doing things like payment plans.	1	0.709	0.719	7.194
Don't know what it would be	1	0.709	0.719	7.914
Help with rebate/discount on installing more LED	1	0.709	0.719	8.633
I don't think so, except lowering costs.	1	0.709	0.719	9.353
I don't think so.	1	0.709	0.719	10.072
I think advertising and communication with the business community will help.	1	0.709	0.719	10.791
Information on outages or anything that would affect us operationally	1	0.709	0.719	11.511
Keep giving us discount because we buy all of these light bulbs.	1	0.709	0.719	12.230
Keep running and not have any blackouts or interruptions in service - keeping our equipment up and running is important to us.	1	0.709	0.719	12.950
Lots of confusing info on ASHRAE (industry sites) on how to clean the air through our energy/machine usage. Energy efficient tec	1	0.709	0.719	13.669
Lower our bills.	1	0.709	0.719	14.388
Lower rates	1	0.709	0.719	15.108
Lower rates - not send a bill for a month	1	0.709	0.719	15.827
Lowering electrical demand rates on electrical and lowering the tap charges on steam. Those are very significant charges especia	1	0.709	0.719	16.547
Lowering the bill	1	0.709	0.719	17.266
Make more online material available on how to save energy and more easily accessible information	1	0.709	0.719	17.986

Frequencies for C2

C2	Frequency	Percent	Valid Percent	Cumulative Percent
Maybe offering some kind of rebate when tenants need to shut down their offices during Covid	1	0.709	0.719	18.705
More rebates and incentives.	1	0.709	0.719	19.424
My only complaint is that lately with the summer months the increase of pricing of their electric bill is confusing the resident	1	0.709	0.719	20.144
Nest thermostat program - further communication on further programs	1	0.709	0.719	20.863
No	67	47.518	48.201	69.065
No - besides lowering our bill.	1	0.709	0.719	69.784
No it has been fine	1	0.709	0.719	70.504
No, just politics...	1	0.709	0.719	71.223
No, we are okay.	1	0.709	0.719	71.942
No. Not really.	1	0.709	0.719	72.662
No. We got a lot of people working from home which results in cheaper bills.	1	0.709	0.719	73.381
No. When I call Xcel they are always there.	1	0.709	0.719	74.101
Not that I can think of	1	0.709	0.719	74.820
Not at this moment.	1	0.709	0.719	75.540
Not currently	1	0.709	0.719	76.259
Not having to pay the power bill for a while would be nice	1	0.709	0.719	76.978
Not now. We are involved in EIS program and have great contractors through Xcel.	1	0.709	0.719	77.698
Not really	1	0.709	0.719	78.417
Not that I am aware of. Don't think they offer anything.	1	0.709	0.719	79.137
Not that I can think of	1	0.709	0.719	79.856
Not that I can think of.	2	1.418	1.439	81.295
Not that I can think of. I turned off computers and HVAC when we were shut down, we were not heating and cooling and our electri	1	0.709	0.719	82.014
Not that I could think of.	1	0.709	0.719	82.734
Not that I think of	1	0.709	0.719	83.453
Nothing I can think of.	1	0.709	0.719	84.173
Nothing beyond what they are doing	1	0.709	0.719	84.892
Nothing comes to mind	1	0.709	0.719	85.612
Offering more rebates and making sure we know about them	1	0.709	0.719	86.331
Provide me with more power. We have single phased power - we need 3 phased power. It's tough to come up with funds to pay for th	1	0.709	0.719	87.050

Frequencies for C2

C2	Frequency Percent		Valid Percent	Cumulative Percent
They could be raising power line on back of our building. We can't get trucks in here because of that.	1	0.709	0.719	87.770
We appreciated the rebates for bulbs.....has changed a lot around here. They last a lot longer.	1	0.709	0.719	88.489
We are taking steps to looking into companies to re-do upgrade lighting in office facility. Trying to take advantage of rebates	1	0.709	0.719	89.209
We got the biggest bill ever since November 2017. It was hot, so maybe the A/C used a lot. We could use help with bill reduction	1	0.709	0.719	89.928
We work with them on a few projects--they have done a nice job...there could be some deferment of cost.	1	0.709	0.719	90.647
We're a private-payer Alzheimer's home, so we don't get much federal assistance. Any other rebates or discounts to lower bills	1	0.709	0.719	91.367
Yes - try to find the scammers who are calling, saying they are from Xcel Energy, asking about the bill and threatening to shut	1	0.709	0.719	92.086
Yes - we have a lot of lighting and some electricity wiring that could be updated to improve efficiency. Any more information a	1	0.709	0.719	92.806
You can give a COVID discount	1	0.709	0.719	93.525
DK	9	6.383	6.475	100.000
Missing	2	1.418		
Total	141	100.000		

C3. Would you describe your company as a small business? [If needed: we categorize small business as having 1 to 3 key decision makers, typically with no formal approval process]

Frequencies for C3

C3	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	74	52.482	52.857	52.857
No	66	46.809	47.143	100.000
Missing	1	0.709		
Total	141	100.000		

SECTION A: AWARENESS AND PARTICIPATION

A0. Prior to today, were you aware that the “lighting products” you purchased were discounted by Xcel Energy through the LED Instant Rebate program at local lighting distributors?

Frequencies for A0

	A0	Frequency	Percent	Valid Percent	Cumulative Percent
Yes		101	71.631	72.143	72.143
No		39	27.660	27.857	100.000
Missing		1	0.709		
Total		141	100.000		

Frequencies for A0 by Business Size

Small Business	A0	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	Yes	49	66.216	67.123	67.123
	No	24	32.432	32.877	100.000
	Missing	1	1.351		
	Total	74	100.000		
No	Yes	51	77.273	77.273	77.273
	No	15	22.727	22.727	100.000
	Missing	0	0.000		
	Total	66	100.000		

A1. [ASK IF A0=2 or 98] How could Xcel Energy have better communicated with you? **[do not read, select all that apply]**

Frequencies for A1

A1	Frequency	Percent	Valid Percent	Cumulative Percent
More general advertising	2	1.418	5.882	NA
Direct mail	5	3.546	14.706	NA
Through the distributor	8	5.674	23.529	NA
Email notices	19	13.475	55.88	NA
No improvement needed	1	0.709	2.941	NA
Other, specify:	3	2.127	8.823	NA
Missing	107	75.887		
Total	141			

Frequencies for A1_Other

A1_Other	Frequency Percent		Valid Percent	Cumulative Percent
Notice in bill	1	0.709	33.333	33.333
Through Xcel representative who can reach out more	1	0.709	33.333	66.667
Through contractors	1	0.709	33.333	100.000
Missing	138	97.872		
Total	141	100.000		

Frequencies for A1 by Business Size

Small Business	A1	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	More general advertising	1	1.351	4.545	NA
	Direct mail	3	4.054	13.636	NA
	Through the distributor	6	8.108	27.273	NA
	Email notices	12	16.216	54.545	NA
	No improvement needed	1	1.351	4.545	NA
	Other, specify:	3	4.054	13.636	NA
	Missing	52	70.270		
	Total	74			
No	More general advertising	1	1.515	8.333	NA
	Direct mail	2	3.030	16.667	NA
	Through the distributor	2	3.030	16.667	NA
	Email notices	7	10.606	58.333	NA
	No improvement needed	0	0.000	0.000	NA
	Other, specify:	0	0.000	0.000	NA
	Missing	54	81.818		
	Total	66			

Other:

A2. [ASK IF A0=1] How did you first hear about the Xcel Energy LED Instant Rebate Program? (Select one)

Frequencies for A2

A2	Frequency Percent		Valid Percent	Cumulative Percent
When I went to purchase lighting at [TRADE_ALLY]	40	28.369	42.105	42.105

Frequencies for A2

A2	Frequency Percent		Valid Percent	Cumulative Percent
Xcel Energy program email	7	4.965	7.368	49.474
Xcel Energy website	3	2.128	3.158	52.632
Advertising from [TRADE_ALLY]	3	2.128	3.158	55.789
Advertising from another industry representative	4	2.837	4.211	60.000
Personal connection (friends, family, neighbors)	8	5.674	8.421	68.421
Other, specify:	30	21.277	31.579	100.000
Missing	46	32.624		
Total	141	100.000		

Frequencies for A2_Other

A2_Other	Frequency Percent		Valid Percent	Cumulative Percent
Contractor	3	2.128	10.000	10.000
From Colorado Lighting	1	0.709	3.333	13.333
General contractors	1	0.709	3.333	16.667
Have been working with Xcel for years - not sure how we learned	1	0.709	3.333	20.000
I did my own research.	1	0.709	3.333	23.333
I have been participating for the last 15 years - through seminars	1	0.709	3.333	26.667
I went to EC Electric about cutting electric bill and heard from them.	1	0.709	3.333	30.000
Manager	1	0.709	3.333	33.333
Our Xcel representative	3	2.128	10.000	43.333
Our Xcel representative keeps us informed of opportunities	1	0.709	3.333	46.667
Our construction engineer	1	0.709	3.333	50.000
Our electrician	1	0.709	3.333	53.333
Ryan Group. But they called me prior to the purchase.	1	0.709	3.333	56.667
Someone from city came	1	0.709	3.333	60.000
Through invoicing	1	0.709	3.333	63.333
Through our Xcel Energy account manager	1	0.709	3.333	66.667
Through our chief engineer	1	0.709	3.333	70.000
Through our electrical installer who we work with.	1	0.709	3.333	73.333
Through our lighting contractor (Ridge Electric) who installed the equipment.	1	0.709	3.333	76.667
Through our property managers	1	0.709	3.333	80.000
Vendors come out to us	1	0.709	3.333	83.333
Word of mouth - prior experience	1	0.709	3.333	86.667
Word of mouth and commercials	1	0.709	3.333	90.000

Frequencies for A2_Other

A2_Other	Frequency Percent		Valid Percent	Cumulative Percent
Xcel Account Representative	1	0.709	3.333	93.333
Xcel Energy representative visited my office	1	0.709	3.333	96.667
Xcel representative told us during a site visit	1	0.709	3.333	100.000
Missing	111	78.723		
Total	141	100.000		

Frequencies for A2 by Business Size

Small Business	A2	Frequency Percent		Valid Percent	Cumulative Percent
Yes	When I went to purchase lighting at [TRADE_ALLY]	26	35.135	55.319	55.319
	Xcel Energy program email	3	4.054	6.383	61.702
	Xcel Energy website	0	0.000	0.000	61.702
	Advertising from [TRADE_ALLY]	1	1.351	2.128	63.830
	Advertising from an another industry representative	2	2.703	4.255	68.085
	Personal connection (friends, family, neighbors)	3	4.054	6.383	74.468
	Other, specify:	12	16.216	25.532	100.000
	Missing	27	36.486		
	Total	74	100.000		
No	When I went to purchase lighting at [TRADE_ALLY]	14	21.212	29.787	29.787
	Xcel Energy program email	4	6.061	8.511	38.298
	Xcel Energy website	3	4.545	6.383	44.681
	Advertising from [TRADE_ALLY]	2	3.030	4.255	48.936
	Advertising from another industry representative	2	3.030	4.255	53.191
	Personal connection (friends, family, neighbors)	5	7.576	10.638	63.830
	Other, specify:	17	25.758	36.170	100.000
	Missing	19	28.788		
	Total	66	100.000		

A3. What is your most preferred method for hearing about similar opportunities from Xcel Energy?

Frequencies for A3

A3	Frequency	Percent	Valid Percent	Cumulative Percent
By email	98	69.504	70.504	70.504
By direct mail	9	6.383	6.475	76.978
With utility bill (online or mail insert)	13	9.220	9.353	86.331
Social media	1	0.709	0.719	87.050
Xcel Energy website	2	1.418	1.439	88.489
Advertise at the point of purchase	6	4.255	4.317	92.806
Other, specify:	10	7.092	7.194	100.000
Missing	2	1.418		
Total	141	100.000		

Frequencies for A3_Other

A3_Other	Frequency	Percent	Valid Percent	Cumulative Percent
Account manager from Xcel	1	0.709	10.000	10.000
Distributor	1	0.709	10.000	20.000
Friend	1	0.709	10.000	30.000
In-person visit	1	0.709	10.000	40.000
My Xcel representative	1	0.709	10.000	50.000
Phone call	3	2.128	30.000	80.000
Through our salesman at Conserve-A-Watt Lighting.	1	0.709	10.000	90.000
Vendor	1	0.709	10.000	100.000
Missing	131	92.908		
Total	141	100.000		

Frequencies for A3 by Business Size

Small Business	A3	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	By email	48	64.865	65.753	65.753
	By direct mail	6	8.108	8.219	73.973
	With utility bill (online or mail insert)	10	13.514	13.699	87.671
	Social media	1	1.351	1.370	89.041

Frequencies for A3

	A3	Frequency	Percent	Valid Percent	Cumulative Percent
No	Xcel Energy website	0	0.000	0.000	89.041
	Advertise at the point of purchase	3	4.054	4.110	93.151
	Other, specify:	5	6.757	6.849	100.000
	Missing	1	1.351		
	Total	74	100.000		
	By email	49	74.242	75.385	75.385
	By direct mail	3	4.545	4.615	80.000
	With utility bill (online or mail insert)	3	4.545	4.615	84.615
	Social media	0	0.000	0.000	84.615
	Xcel Energy website	2	3.030	3.077	87.692
	Advertise at the point of purchase	3	4.545	4.615	92.308
	Other, specify:	5	7.576	7.692	100.000
	Missing	1	1.515		
	Total	66	100.000		

A4. Have you participated in any other Xcel Energy energy-efficiency programs?**Frequencies for A4**

	A4	Frequency	Percent	Valid Percent	Cumulative Percent
Yes		53	37.589	39.850	39.850
No		80	56.738	60.150	100.000
Missing		8	5.674		
Total		141	100.000		

Frequencies for A4 by Business Size

	Small Business	A4	Frequency	Percent	Valid Percent	Cumulative Percent
Yes		Yes	19	25.676	27.143	27.143
		No	51	68.919	72.857	100.000
		Missing	4	5.405		
		Total	74	100.000		
No		Yes	34	51.515	54.839	54.839

Frequencies for A4 by Business Size

Small Business	A4	Frequency	Percent	Valid Percent	Cumulative Percent
	No	28	42.424	45.161	100.000
	Missing	4	6.061		
	Total	66	100.000		

A5. [IF A4=YES] In which programs have you participated? [READ IF NECESSARY]**Frequencies for A5**

A5	Frequency	Percent	Valid Percent	Cumulative Percent
Motor, Drive & Pump Efficiency	17	12.057	34.000	NA
Lighting Efficiency	26	18.440	52.000	NA
Compressed Air Efficiency	2	1.418	4.000	NA
Small Business Lighting	2	1.418	4.000	NA
Cooling	5	3.546	10.000	NA
Self-Direct Efficiency	1	0.709	2.000	NA
Heating Efficiency	9	6.383	18.000	NA
Energy Management System	4	2.837	8.000	NA
Strategic Energy Management	1	0.709	2.000	NA
Custom Efficiency	3	0	0	NA
Computer Equipment	0	0	0	NA
Commercial Refrigeration Efficiency	0	0	0	NA
Multifamily Building Efficiency	0	0	0	NA
Data Center Programs	0	0	0	NA
Other, specify:	8	5.674	16.000	NA
Missing	91	64.539		
Total	141	100.000		

Frequencies for A5_Other

A5_Other	Frequency	Percent	Valid Percent	Cumulative Percent
Boiler rebates and solar	1	0.709	12.500	12.500
Energy Audit	1	0.709	12.500	25.000
Fan Drive	1	0.709	12.500	37.500
HVAC	1	0.709	12.500	50.000
Load sharing	1	0.709	12.500	62.500
Shades and lighting	1	0.709	12.500	75.000
Solar Power Program	1	0.709	12.500	87.500
Upgrading HVAC	1	0.709	12.500	100.000
Missing	133	94.326		
Total	141	100.000		

Frequencies for A5 by Business Size

Small Business	A5	Frequency Percent		Valid Percent	Cumulative Percent
Yes	Motor, Drive & Pump Efficiency	3	4.054	17.647	NA
	Lighting Efficiency	11	14.865	64.706	NA
	Compressed Air Efficiency	0	0.000	0.000	NA
	Small Business Lighting	1	1.351	5.882	NA
	Cooling	2	2.703	11.765	NA
	Self-Direct Efficiency	0	0.000	0.000	NA
	Heating Efficiency	3	4.054	17.647	NA
	Energy Management System	0	0.000	0.000	NA
	Custom Efficiency	0	0.000	0.000	NA
	Strategic Energy Management	0	0.000	0.000	NA
	Other, specify:	3	4.054	17.647	NA
	Missing	57	77.027		
	Total	74	100.000		
No	Motor, Drive & Pump Efficiency	14	21.212	42.424	NA
	Lighting Efficiency	15	22.727	45.455	NA
	Compressed Air Efficiency	2	3.030	6.061	NA
	Small Business Lighting	1	1.515	3.030	NA
	Cooling	3	4.545	9.090	NA
	Self-Direct Efficiency	1	1.515	3.030	NA
	Heating Efficiency	6	9.090	18.182	NA
	Energy Management System	4	6.060	12.121	NA
	Custom Efficiency	3	4.545	9.090	NA
	Strategic Energy Management	1	1.515	3.030	NA
	Other, specify:	5	1.515	3.030	NA
	Missing	33	50.000		
	Total	66	100.000		

A6. [IF A4=YES] On a scale of 0 to 10, where 0 is "Not at all easy" and 10 is "Very easy", how easy was it to determine the Xcel Energy energy-efficiency program best suited for your needs?

Descriptive Statistics

	A6
Valid	49
Missing	92
Mean	8.286

Descriptive Statistics

	A6
Std. Deviation	1.620
Minimum	3.000
Maximum	10.000

Descriptive Statistics by Business Size

	A6	
	Small Business	Medium to Large Business
Valid	16	33
Missing	58	33
Mean	8.250	8.303
Std. Deviation	1.571	1.667
Minimum	4.000	3.000
Maximum	10.000	10.000

Note. Excluded 1 rows from the analysis that correspond to the missing values of the split-by variable C3

Average rating: Count

A7. [IF A5=3 or 6] What products did you install through the [IF A4=3, Lighting Efficiency or IF A4=6, Small Business Lighting program] ?

Frequencies for A7

A7	Frequency Percent		Valid Percent	Cumulative Percent
2X2 troffers, CAM lights, 2X4 troffers and Recess lighting.	1	0.709	3.571	3.571
At this property we changed out light fixtures & bulbs	1	0.709	3.571	7.143
Ballasts and LED bulbs	1	0.709	3.571	10.714
EM lights and corridor lighting	1	0.709	3.571	14.286
Exterior lighting	1	0.709	3.571	17.857
Fixtures (LED Troffers) and exterior lighting.	1	0.709	3.571	21.429
LED High Bay lighting	1	0.709	3.571	25.000
LED custom lighting, parking lot lighting (exterior)	1	0.709	3.571	28.571
LED fixtures	1	0.709	3.571	32.143
LED lighting (replacing old lighting in our building)	1	0.709	3.571	35.714
LED lighting and changed out ballasts for lighting	1	0.709	3.571	39.286
LED lighting and fixtures	1	0.709	3.571	42.857
LED lights	1	0.709	3.571	46.429
LED lights in school	1	0.709	3.571	50.000
LED retrofits and upgrades	1	0.709	3.571	53.571
LED troffer	1	0.709	3.571	57.143
LEDs	1	0.709	3.571	60.714

Frequencies for A7

A7	Frequency Percent		Valid Percent	Cumulative Percent
Lighting fixtures LEDs	1	0.709	3.571	64.286
Medium based bulbs, GU 10 bulbs, GE Can retrofits, T8 LED retrofits.	1	0.709	3.571	67.857
Motion sensors, LED fixtures.	1	0.709	3.571	71.429
Replacement of bulbs to LED	1	0.709	3.571	75.000
The LED High Bay Fixture Panel Lighting	1	0.709	3.571	78.571
Track lighting and fluorescent lightbulbs	1	0.709	3.571	82.143
We changed our bulbs from fluorescent to LED	1	0.709	3.571	85.714
We did recess lighting troffers, LED bulbs and exterior lights	1	0.709	3.571	89.286
We originally changed from incandescent lights to LEDs when LEDS first came out	1	0.709	3.571	92.857
DK	2	1.418	7.143	100.000
Missing	113	80.142		
Total	141	100.000		

A8. [IF A5=3 or 6] On a scale of 0 to 10, where 0 is "Not at all easy" and 10 is "Very easy", how easy was it to navigate the multiple rebate options for purchasing your lighting products?

Descriptive Statistics

	A8
Valid	26
Missing	115
Mean	8.731
Std. Deviation	1.458
Minimum	5.000
Maximum	10.000

Descriptive Statistics by Business Size

	A8	
	Small Business	Medium to Large Business
Valid	10	16
Missing	64	50
Mean	9.100	8.500
Std. Deviation	1.197	1.592
Minimum	7.000	5.000
Maximum	10.000	10.000

Note. Excluded 1 rows from the analysis that correspond to the missing values of the split-by variable C3

Average rating: _____ Count

A9. [IF A8=0-10] Why do you say that?**Frequencies for A9**

A9	Frequency	Percent	Valid Percent	Cumulative Percent
Didn't have to do anything	1	0.709	4.000	4.000
It could be confusing at times as far as which replacement products qualify for rebates	1	0.709	4.000	8.000
It was easy	1	0.709	4.000	12.000
It was easy.	1	0.709	4.000	16.000
It was very easy	1	0.709	4.000	20.000
It wasn't the easiest thing--relied on vendor who was supplying the light fixtures and bulbs to work with us on rebates.	1	0.709	4.000	24.000
Most of our lighting rebates are handled through vendors and we get the cost and sign paperwork	1	0.709	4.000	28.000
Mostly One Source takes care of everything and they do all the paperwork	1	0.709	4.000	32.000
No issues, super easy to navigate.	1	0.709	4.000	36.000
Our Xcel representative is pretty good about notifying us about rebates we qualify for.	1	0.709	4.000	40.000
Our account rep was able to get us the options for the fixtures that we needed.	1	0.709	4.000	44.000
Our contractor handles rebates and discount programs.	1	0.709	4.000	48.000
Subcontractor did most of the work	1	0.709	4.000	52.000
The vendors knew that the owners were looking for a low bottom line.	1	0.709	4.000	56.000
There were some things that you had to go through to get the products in terms of applications before getting the products.	1	0.709	4.000	60.000
Took a little while to navigate	1	0.709	4.000	64.000
Vendor provided all the information.	1	0.709	4.000	68.000
We had a lot of guidance from our sales person and the rebates which were available	1	0.709	4.000	72.000
We had lighting rep do it	1	0.709	4.000	76.000
We had to call the Xcel rep and it seemed so confusing. We had to get consultant to assist.	1	0.709	4.000	80.000
We have a good relationship with our Xcel Representative, who lets us know about discounts and rebates.	1	0.709	4.000	84.000
We have many different types of lighting, so not always clear which ones are eligible.	1	0.709	4.000	88.000
We were using a contractor who took care of everything	1	0.709	4.000	92.000
Working with the installers and One Source Lighting, we were able to narrow everything down to what would be our best options ef	1	0.709	4.000	96.000

Frequencies for A9

A9	Frequency Percent		Valid Percent	Cumulative Percent
DK	1	0.709	4.000	100.000
Missing	116	82.270		
Total	141	100.000		

SECTION B: DECISION MAKING AND BARRIERS

B1. Did the [IF SITE=0, <Participation_Description >, IF SITE>0, "discounted lighting products"] you purchased replace lamps that could continue to operate for at least another year, were close to or at the end of their life, or a combination ?

Frequencies for B1

B1	Frequency Percent		Valid Percent	Cumulative Percent
Could continue to operate for at least another year	49	34.752	36.029	36.029
At the end of their life	28	19.858	20.588	56.618
Combination	59	41.844	43.382	100.000
Missing	5	3.546		
Total	141	100.000		

Frequencies for B1 by Business Size

Small Business	B1	Frequency Percent		Valid Percent	Cumulative Percent
Yes	Could continue to operate for at least another year	33	44.595	47.143	47.143
	At the end of their life	15	20.270	21.429	68.571
	Combination	22	29.730	31.429	100.000
	Missing	4	5.405		
	Total	74	100.000		
No	Could continue to operate for at least another year	15	22.727	23.077	23.077
	At the end of their life	13	19.697	20.000	43.077
	Combination	37	56.061	56.923	100.000
	Missing	1	1.515		
	Total	66	100.000		

B2. [IF B1=3] Approximately what percent of the lighting products replaced could have operated for at least another year?

Frequencies for B2

B2	Frequency	Percent	Valid Percent	Cumulative Percent
0	2	1.418	3.390	3.390
10	2	1.418	3.390	6.780

Frequencies for B2

	B2	Frequency	Percent	Valid Percent	Cumulative Percent
20		6	4.255	10.169	16.949
25		3	2.128	5.085	22.034
30		9	6.383	15.254	37.288
35		1	0.709	1.695	38.983
40		1	0.709	1.695	40.678
50		13	9.220	22.034	62.712
60		2	1.418	3.390	66.102
70		2	1.418	3.390	69.492
75		1	0.709	1.695	71.186
80		2	1.418	3.390	74.576
85		1	0.709	1.695	76.271
90		3	2.128	5.085	81.356
95		2	1.418	3.390	84.746
100		2	1.418	3.390	88.136
DK		7	4.965	11.864	100.000
Missing		82	58.156		
Total		141	100.000		

Frequencies for B2 by Business Size

	Small Business	B2	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	0		1	1.351	4.545	4.545
	10		1	1.351	4.545	9.091
	20		1	1.351	4.545	13.636
	25		0	0.000	0.000	13.636
	30		1	1.351	4.545	18.182
	35		0	0.000	0.000	18.182
	40		0	0.000	0.000	18.182
	50		11	14.865	50.000	68.182
	60		0	0.000	0.000	68.182
	70		0	0.000	0.000	68.182
	75		0	0.000	0.000	68.182
	80		0	0.000	0.000	68.182
	85		1	1.351	4.545	72.727
	90		1	1.351	4.545	77.273
	95		1	1.351	4.545	81.818
	100		1	1.351	4.545	86.364
	DK		3	4.054	13.636	100.000
	Missing		52	70.270		
	Total		74	100.000		
No	0		1	1.515	2.703	2.703

Frequencies for B2

B2	Frequency	Percent	Valid Percent	Cumulative Percent
10	1	1.515	2.703	5.405
20	5	7.576	13.514	18.919
25	3	4.545	8.108	27.027
30	8	12.121	21.622	48.649
35	1	1.515	2.703	51.351
40	1	1.515	2.703	54.054
50	2	3.030	5.405	59.459
60	2	3.030	5.405	64.865
70	2	3.030	5.405	70.270
75	1	1.515	2.703	72.973
80	2	3.030	5.405	78.378
85	0	0.000	0.000	78.378
90	2	3.030	5.405	83.784
95	1	1.515	2.703	86.486
100	1	1.515	2.703	89.189
DK	4	6.061	10.811	100.000
Missing	29	43.939		
Total	66	100.000		

Average response: _____ Count _____

B3. [IF B2>0% or 998] Why did you decide to replace those products that could have continued operating? **[Do not read, multiple responses allowed]**

Frequencies for B3

B3	Frequency	Percent	Valid Percent	Cumulative Percent
Remodeling project	17	12.057	29.825	NA
More cost effective to change it at the same time	17	12.057	29.825	NA
Part of scheduled replacement	1	0.709	1.754	NA
Discounts made it attractive	6	4.255	10.526	NA
Seeking to increase energy efficiency or save money	12	8.511	21.053	NA
Other, specify:	6	4.255	10.526	NA
Missing	84	59.574		
Total	141	100.000		

Frequencies for B3 by Business Size

Small Business	B3	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	Remodeling project	4	5.405	19.048	NA
	More cost effective to change it at the same time	7	9.459	33.333	NA
	Part of scheduled replacement	1	1.351	4.762	NA

Frequencies for B3 by Business Size

Small Business	B3	Frequency Percent		Valid Percent	Cumulative Percent
No	Discounts made it attractive	3	4.054	14.286	NA
	Seeking to increase energy efficiency or save money	5	6.757	23.810	NA
	Other, specify:	2	2.703	9.524	NA
	Missing	53	71.622		
	Total	74	100.000		
	Remodeling project	13	19.697	36.111	NA
	More cost effective to change it at the same time	10	15.152	27.778	NA
	Part of scheduled replacement	0	0.000	0.000	NA
	Discounts made it attractive	3	4.545	8.333	NA
	Seeking to increase energy efficiency or save money	7	10.061	19.444	NA
	Other, specify:	4	6.061	11.111	NA
	Missing	30	45.455		
	Total	66	100.000		

B4. What motivated your company to purchase energy efficient lighting when the product is higher priced? **[Do not read, multiple responses allowed]**

Frequencies for B4

B4	Frequency Percent		Valid Percent	Cumulative Percent
Discounts made it attractive	21	14.894	15.108	NA
Long term energy bill savings	91	64.539	65.468	NA
Reduced maintenance	22	15.603	15.827	NA
We have a corporate policy to meet energy efficiency standards	19	13.475	13.669	NA
Previous experience with this type of equipment	9	6.383	6.475	NA
Recommended by <TRADE ALLY>	5	3.546	3.597	NA
Other, specify:	39	27.660	28.058	NA
Missing	2	1.418		
Total	141	100.000		

Frequencies for B4 by Business Size

Small Business	B4	Frequency Percent		Valid Percent	Cumulative Percent
Yes	Discounts made it attractive	11	14.865	15.278	NA
	Long term energy bill savings	49	66.216	68.056	NA
	Reduced maintenance	12	16.216	16.667	NA

Frequencies for B4 by Business Size

Small Business	B4	Frequency Percent		Valid Percent	Cumulative Percent
No	We have a corporate policy to meet energy efficiency standards	4	5.405	5.556	NA
	Previous experience with this type of equipment	4	5.405	5.556	NA
	Recommended by <TRADE ALLY>	2	2.703	2.778	NA
	Other, specify:	24	32.432	33.333	NA
	Missing	2	2.703		
	Total	74	100.000		
	Discounts made it attractive	9	13.636	13.636	NA
	Long term energy bill savings	42	63.636	63.636	NA
	Reduced maintenance	10	15.151	15.151	NA
	We have a corporate policy to meet energy efficiency standards	15	22.727	22.727	NA
	Previous experience with this type of equipment	6	9.091	9.091	NA
	Recommended by <TRADE ALLY>	3	4.545	4.545	NA
	Other, specify:	15	22.727	22.727	NA
	Missing	0	0.000		
	Total	66	100.000		

B5. How, if at all, do you think that decision would have been different if your company were deciding today given the COVID-19 pandemic?

Frequencies for B5

B5	Frequency Percent		Valid Percent	Cumulative Percent
We would likely have made the same exact purchase	99	70.213	71.739	71.739
We would likely have purchased some of the same products, but not all	8	5.674	5.797	77.536
We would likely have put off buying anything	31	21.986	22.464	100.000
Missing	3	2.128		
Total	141	100.000		

Frequencies for B5 by Business Size

Small Business	B5	Frequency Percent		Valid Percent	Cumulative Percent
Yes	We would likely have made the same exact purchase	49	66.216	67.123	67.123

Frequencies for B5 by Business Size

Small Business	B5	Frequency Percent		Valid Percent	Cumulative Percent
No	We would likely have purchased some of the same products, but not all	4	5.405	5.479	72.603
	We would likely have put off buying anything	20	27.027	27.397	100.000
	Missing	1	1.351		
	Total	74	100.000		
	We would likely have made the same exact purchase	50	75.758	78.125	78.125
	We would likely have purchased some of the same products, but not all	4	6.061	6.250	84.375
	We would likely have put off buying anything	10	15.152	15.625	100.000
	Missing	2	3.030		
	Total	66	100.000		

B6. How, has the COVID-19 changed your decisions, if at all, on other capital projects planned for the next year?

Frequencies for B6

B6	Frequency Percent		Valid Percent	Cumulative Percent
No change	49	34.752	35.252	35.252
We are delaying projects, if possible	64	45.390	46.043	81.295
We are accelerating projects, if possible	4	2.837	2.878	84.173
We are looking for less expensive ways to implement projects	18	12.766	12.950	97.122
Other, specify	4	2.837	2.878	100.000
Missing	2	1.418		
Total	141	100.000		

Frequencies for B6 by Business Size

Business Size	B6	Frequency Percent		Valid Percent	Cumulative Percent
Yes	No change	31	41.892	41.892	41.892
	We are delaying projects, if possible	32	43.243	43.243	85.135
	We are accelerating projects, if possible	1	1.351	1.351	86.486
	We are looking for less expensive ways to implement projects	8	10.811	10.811	97.297
	Other, specify	2	2.703	2.703	100.000
	Missing	0	0.000		
	Total	74	100.000		

Frequencies for B6 by Business Size

Business Size	B6	Frequency Percent		Valid Percent	Cumulative Percent
No	No change	18	27.273	28.125	28.125
	We are delaying projects, if possible	31	46.970	48.438	76.563
	We are accelerating projects, if possible	3	4.545	4.688	81.250
	We are looking for less expensive ways to implement projects	10	15.152	15.625	96.875
	Other, specify	2	3.030	3.125	100.000
	Missing	2	3.030		
	Total	66	100.000		

B7. What was your role in the decision to purchase the discounted lighting products? **[Do not read, multiple responses allowed]**

Frequencies for B7

B7	Frequency	Percent	Valid Percent	Cumulative Percent
Initiated the need for a purchase	42	29.787	30.882	NA
Recommended this purchase	43	30.496	31.176	NA
Implemented the decision to purchase	38	26.950	27.941	NA
Made the decision to purchase	79	56.028	58.088	NA
Other, specify:	16	11.348	11.765	NA
Missing	5	3.546		
Total	141	100.000		

Frequencies for B7 by Business Size

Small Business	B7	Frequency Percent		Valid Percent	Cumulative Percent
Yes	Initiated the need for a purchase	24	32.432	33.803	33.803
	Recommended this purchase	16	21.622	22.535	40.845
	Implemented the decision to purchase	20	27.027	28.169	56.338
	Made the decision to purchase	48	64.865	67.606	91.549
	Other, specify:	6	8.108	8.451	100.000
	Missing	3	4.054		
	Total	74	100.000		

Frequencies for B7

	B7	Frequency	Percent	Valid Percent	Cumulative Percent
No	Initiated the need for a purchase	18	27.273	28.125	28.125
	Recommended this purchase	27	40.091	42.188	48.438
	Implemented the decision to purchase	17	25.758	26.563	59.375
	Made the decision to purchase	31	46.970	48.438	84.375
	Other, specify:	10	15.152	15.625	100.000
	Missing	2	3.030		
	Total	66	100.000		

Frequencies for B7_Other

	B7_Other	Frequency	Percent	Valid Percent	Cumulative Percent
	Business Manager's team decision	1	0.709	6.250	6.250
	Helped Project Manager identify the rebates	1	0.709	6.250	12.500
	I am not part of it - came in during installation	1	0.709	6.250	18.750
	I did not have a role, I was here during project	1	0.709	6.250	25.000
	I was not consulted for this	1	0.709	6.250	31.250
	I wasn't here yet - didn't have a role	1	0.709	6.250	37.500
	I wasn't involved with decision then - but was involved with installation	1	0.709	6.250	43.750
	Made the payments	1	0.709	6.250	50.000
	No direct role	1	0.709	6.250	56.250
	No role	3	2.128	18.750	75.000
	No role - manager made the decision - I am the assistant	1	0.709	6.250	81.250
	None	2	1.418	12.500	93.750
	Oversaw the completion	1	0.709	6.250	100.000
	Missing	125	88.652		
	Total	141	100.000		

B8. [IF B7 does not = 4], who, in terms of their job title or position your company made the decision to purchase energy efficient lighting products?

Frequencies for B8

Role	Small Business (count)	Small Business (n=26)	Medium to Large Business (count)	Medium to Large Business (n=34)
Architect/Designer	2	8%	0	0%
Facilities Manager/Maintenance	2	8%	4	12%
Engineer/Electrician	1	4%	6	18%
Board/Council/Team	6	23%	2	6%
Upper Management/Corporate	2	8%	8	24%
General Manager/Project Manager/Administrator	3	12%	9	26%
President/Owner	10	38%	5	15%

Frequencies for B8

B8	Frequency	Percent	Valid Percent	Cumulative Percent
Administrator	1	0.709	1.613	1.613
Architects	1	0.709	1.613	3.226
Asset Manager	1	0.709	1.613	4.839
Board of Directors	2	1.418	3.226	8.065
Bob Deibel, The President.	1	0.709	1.613	9.677
Building Engineer	1	0.709	1.613	11.290
CFO	1	0.709	1.613	12.903
Chief Engineer	2	1.418	3.226	16.129
Church Council	1	0.709	1.613	17.742
Community Manager and Facilities Manager	1	0.709	1.613	19.355
Controller	1	0.709	1.613	20.968
Corporate level - VP of Maintenance Operations	1	0.709	1.613	22.581
Director of Engineering	1	0.709	1.613	24.194
Director of Facilities, VP of OPS and Senior Property Managers	1	0.709	1.613	25.806
Electrician	2	1.418	3.226	29.032
Facilities Director	1	0.709	1.613	30.645
Facilities Manager	1	0.709	1.613	32.258
Facility Manager and Construction Manager (joint decision)	1	0.709	1.613	33.871
General Manager	1	0.709	1.613	35.484
Head Electrician	1	0.709	1.613	37.097
I was part of the team that made the decision.	1	0.709	1.613	38.710
It varies. Usually tenants, sometimes the owner.	1	0.709	1.613	40.323
It was a team decision of finance council of which I am part of. It's a team of eight people.	1	0.709	1.613	41.935
Landlord	1	0.709	1.613	43.548

Frequencies for B8

B8	Frequency	Percent	Valid Percent	Cumulative Percent
Maintenance	1	0.709	1.613	45.161
Maintenance Manager	1	0.709	1.613	46.774
Me and my General Manager	1	0.709	1.613	48.387
My boss - who has now passed away	1	0.709	1.613	50.000
My building manager	1	0.709	1.613	51.613
My designer	1	0.709	1.613	53.226
My manager.	1	0.709	1.613	54.839
Owner	6	4.255	9.677	64.516
Owner of the company	1	0.709	1.613	66.129
Owner/Operator	1	0.709	1.613	67.742
President	1	0.709	1.613	69.355
President and Owner	1	0.709	1.613	70.968
Project Manager	3	2.128	4.839	75.806
Project Managers and Asset Managers	1	0.709	1.613	77.419
Property Owner	1	0.709	1.613	79.032
Purchasing office at corporate	1	0.709	1.613	80.645
Senior Financial Manager	1	0.709	1.613	82.258
Someone at corporate office (don't know title)	1	0.709	1.613	83.871
Someone in corporate	1	0.709	1.613	85.484
Superintendent	1	0.709	1.613	87.097
The Board. We have a board of nine members. I presented the proposal as to what the capital improvements I was recommending and	1	0.709	1.613	88.710
The five member HOA Board	1	0.709	1.613	90.323
Upper Management	2	1.418	3.226	93.548
VP of Operations	1	0.709	1.613	95.161
VP of Procurement	1	0.709	1.613	96.774
We have an executive board. I made the recommendation to them and they approved it.	1	0.709	1.613	98.387
DK	1	0.709	1.613	100.000
Missing	79	56.028		
Total	141	100.000		

B9. Does your business typically plan projects in advance and have approved in a budget?

Frequencies for B9

B9	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	114	80.851	81.429	81.429
No	26	18.440	18.571	100.000
Missing	1	0.709		

Frequencies for B9

B9	Frequency	Percent Valid	Percent Cumulative	Percent
Total	141	100.000		

Frequencies for B9 by Business Size

Small Business	B9	Frequency	Percent Valid	Percent Cumulative	Percent
Yes	Yes	52	70.270	70.270	70.270
	No	22	29.730	29.730	100.000
	Missing	0	0.000		
	Total	74	100.000		
No	Yes	61	92.424	93.846	93.846
	No	4	6.061	6.154	100.000
	Missing	1	1.515		
	Total	66	100.000		

B9a. [If B9=1] Do you have opportunity to amend the budget through the year?

Frequencies for B9a

B9a	Frequency	Percent Valid	Percent Cumulative	Percent
Yes	85	60.284	74.561	74.561
No	29	20.567	25.439	100.000
Missing	27	19.149		
Total	141	100.000		

Frequencies for B9a by Business Size

Small Business	B9a	Frequency	Percent Valid	Percent Cumulative	Percent
Yes	Yes	40	54.054	76.923	76.923
	No	12	16.216	23.077	100.000
	Missing	22	29.730		
	Total	74	100.000		
No	Yes	44	66.667	72.131	72.131
	No	17	25.758	27.869	100.000
	Missing	5	7.576		
	Total	66	100.000		

B9b. [If B9a=1] Does the opportunity to take advantage of Xcel Energy programs affect decisions on projects that may be added or removed?

Frequencies for B9b

B9b	Frequency	Percent Valid	Percent Cumulative	Percent
Yes	63	44.681	77.778	77.778
No	18	12.766	22.222	100.000
Missing	60	42.553		
Total	141	100.000		

Frequencies for B9b by Business Size

Frequencies for B9b

	B9b	Frequency	Percent	Valid Percent	Cumulative Percent
Small Business	B9b	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	Yes	28	37.838	71.795	71.795
	No	11	14.865	28.205	100.000
	Missing	35	47.297		
	Total	74	100.000		
No	Yes	34	51.515	82.927	82.927
	No	7	10.606	17.073	100.000
	Missing	25	37.879		
	Total	66	100.000		

B10. How are decisions such as major purchases in efficient lighting purchases are made at your company? **[do not read list]**

Frequencies for B10

B10	Frequency	Percent	Valid Percent	Cumulative Percent
Technical team or facilities manager initiates, makes recommendations, management approves and includes in budget, and technical	61	43.262	43.885	43.885
Business operator initiates, recommends purchase to business owner and implements when approves.	14	9.929	10.072	53.957
Business owner initiates, decides and implements the decision.	26	18.440	18.705	72.662
Business owner initiates, decides and delegates implementation to maintenance staff.	22	15.603	15.827	88.489
Business hires a maintenance company that manages all energy equipment and purchases.	2	1.418	1.439	89.928
Other, specify:	14	9.929	10.072	100.000
Missing	2	1.418		
Total	141	100.000		

Frequencies for B10 by Business Size

Small Business	B10	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	Technical team or facilities manager initiates, makes recommendations, management approves and includes in budget, and technical	14	18.919	19.178	19.178
	Business operator initiates, recommends purchase to business	9	12.162	12.329	31.507

Frequencies for B10 by Business Size

Small Business	B10	Frequency Percent		Valid Percent	Cumulative Percent
No	owner and implements when approves.				
	Business owner initiates, decides and implements the decision.	24	32.432	32.877	64.384
	Business owner initiates, decides and delegates implementation to maintenance staff.	17	22.973	23.288	87.671
	Business hires a maintenance company that manages all energy equipment and purchases.	0	0.000	0.000	87.671
	Other, specify:	9	12.162	12.329	100.000
	Missing	1	1.351		
	Total	74	100.000		
	Technical team or facilities manager initiates, makes recommendations, management approves and includes in budget, and technical				
	Business operator initiates, recommends purchase to business owner and implements when approves.	5	7.576	7.692	78.462
	Business owner initiates, decides and implements the decision.	2	3.030	3.077	81.538
	Business owner initiates, decides and delegates implementation to maintenance staff.	5	7.576	7.692	89.231
	Business hires a maintenance company that manages all energy equipment and purchases.	2	3.030	3.077	92.308
	Other, specify:	5	7.576	7.692	100.000
	Missing	1	1.515		
	Total	66	100.000		

SECTION S: SPILLOVER

S1. Since your purchase of discounted efficient lighting in **[IF SITE=0, <MONTH> of <YEAR >,IF SITE>0 in 2019 or 2020"]** has your company installed any efficient lighting products at this facility without a rebate or discount from Xcel Energy? When I say "efficient lighting products", the most common products are LEDs, retrofit kits, T5s, and lighting controls.

Frequencies for S1

S1	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	34	24.113	25.564	25.564

Frequencies for S1

S1	Frequency	Percent	Valid Percent	Cumulative Percent
No	99	70.213	74.436	100.000
Missing	8	5.674		
Total	141	100.000		

Frequencies for S1 by Business Size

Small Business	S1	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	Yes	19	25.676	26.027	26.027
	No	54	72.973	73.973	100.000
	Missing	1	1.351		
	Total	74	100.000		
No	Yes	15	22.727	25.424	25.424
	No	44	66.667	74.576	100.000
	Missing	7	10.606		
	Total	66	100.000		

S1a. Why did you not purchase these through the LED Instant Rebate program or apply for an Xcel Energy rebate for purchasing these efficient lighting products?

Frequencies for S1a

S1a	Frequency	Percent	Valid Percent	Cumulative Percent
We worked with a different distributor who did not offer the discount	4	2.837	12.500	12.500
We received a rebate on the item through another rebate program	2	1.418	6.250	18.750
We chose different equipment that was ineligible	4	2.837	12.500	31.250
We didn't know there was a rebate available	10	7.092	31.250	62.500
Other, specify:	12	8.511	37.500	100.000
Missing	109	77.305		
Total	141	100.000		

Frequencies for S1a_Other

S1a_Other	Frequency	Percent	Valid Percent	Cumulative Percent
Because it was very ad hoc. I didn't have the volume. Just general timing and convenience.	1	0.709	8.333	8.333
Did not offer discount. It was easier to get at Home Depot	1	0.709	8.333	16.667
It was just an in-store decision to purchase	1	0.709	8.333	25.000
It was nothing large scale	1	0.709	8.333	33.333

Frequencies for S1a_Other

S1a_Other	Frequency Percent		Valid Percent	Cumulative Percent
It's simpler to order online	1	0.709	8.333	41.667
Minimal basis with tenant units	1	0.709	8.333	50.000
Minimal fixtures	1	0.709	8.333	58.333
Not in Xcel Energy territory	1	0.709	8.333	66.667
We needed them right away to replace lighting that had gone out	1	0.709	8.333	75.000
We purchased these as test lighting to see which one worked best so didn't think to ask about rebates	1	0.709	8.333	83.333
We wanted something quick	1	0.709	8.333	91.667
We wanted to get it done and had donation money so bought from Home Depot and installed them ourselves	1	0.709	8.333	100.000
Missing	129	91.489		
Total	141	100.000		

Frequencies for S1a by Business Size

Small Business	S1a	Frequency Percent		Valid Percent	Cumulative Percent
Yes	We worked with a different distributor who did not offer the discount	2	2.703	11.111	11.111
	We received a rebate on the item through another rebate program	2	2.703	11.111	22.222
	We chose different equipment that was ineligible	2	2.703	11.111	33.333
	We didn't know there was a rebate available	6	8.108	33.333	66.667
	Other, specify:	6	8.108	33.333	100.000
	Missing	56	75.676		
	Total	74	100.000		
No	We worked with a different distributor who did not offer the discount	2	3.030	14.286	14.286
	We received a rebate on the item through another rebate program	0	0.000	0.000	14.286
	We chose different equipment that was ineligible	2	3.030	14.286	28.571
	We didn't know there was a rebate available	4	6.061	28.571	57.143
	Other, specify:	6	9.091	42.857	100.000
	Missing	52	78.788		
	Total	66	100.000		

S2. Did your experience with the discounted efficient lighting products you purchased **[IF SITE=0, through <TRADE ALLY>, IF SITE>0]** influence your decision to install the additional efficient lighting products on your own?

Frequencies for S2

S2	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	16	11.348	47.059	47.059
No	18	12.766	52.941	100.000
Missing	107	75.887		
Total	141	100.000		

Frequencies for S2 by Business Size

Small Business	S2	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	Yes	10	13.514	52.632	52.632
	No	9	12.162	47.368	100.000
	Missing	55	74.324		
	Total	74	100.000		
No	Yes	6	9.091	40.000	40.000
	No	9	13.636	60.000	100.000
	Missing	51	77.273		
	Total	66	100.000		

S3. What type of lighting was it? (LIST ALL TYPES)

Frequencies for S3

S3	Frequency	Percent	Valid Percent	Cumulative Percent
Screw-in LEDs	3	2.128	23.077	NA
Linear LEDs	5	3.546	38.462	NA
More efficient linear fluorescents	1	0.709	7.692	NA
Other, specify:	6	4.255	46.154	NA
Missing	128	90.780		
Total	141	100.000		

Frequencies for S3 by Business Size

Small Business	S3	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	Screw-in LEDs	1	1.351	11.111	NA
	Linear LEDs	4	5.405	44.444	NA
	More efficient linear fluorescents	1	1.351	11.111	NA
	Other, specify:	4	5.405	44.444	NA
	Missing	65	87.838		
	Total	74	100.000		

Frequencies for S3 by Business Size

Small Business	S3	Frequency	Percent	Valid Percent	Cumulative Percent
No	Screw-in LEDs	2	3.030	50.000	NA
	Linear LEDs	1	1.515	25.000	NA
	More efficient linear fluorescents	0	0.000	0.000	NA
	Other, specify:	2	3.030	50.000	NA
	Missing	62	93.939		
	Total	66	100.000		

Frequencies for S3_Other

S3_Other	Frequency	Percent	Valid Percent	Cumulative Percent
Canopy lights above hotel driveway/entrance	1	0.709	16.667	NA
Exterior lighting	1	0.709	16.667	NA
LED 4-Pin-Base	1	0.709	16.667	NA
LED Fixtures	1	0.709	16.667	NA
LED Light Fixtures	1	0.709	16.667	NA
Other bulbs	1	0.709	16.667	NA
Missing	135	95.745		
Total	141	100.000		

S4. Approximately how many of each type did you install? (READ TYPES LISTED IN S3 For controls, ask for approximate number of lamps or fixtures controlled)

Descriptive Statistics

	Screw In LED	Linear LED	More Efficient Linear Fluorescent	Occupancy Sensors	Daylighting sensors	Network lighting controls	Other
Valid	3	2	1	0	0	0	4
Missing	138	139	140	141	141	141	137
Mean	7.000	795.000	12.000	NaN	NaN	NaN	7.500
Std. Deviation	7.550	997.021	NaN	NaN	NaN	NaN	5.972
Minimum	1.500e - 198	90.000	12.000	∞^a	∞^a	∞^a	2.000
Maximum	15.000	1500.000	12.000	$-\infty^a$	$-\infty^a$	$-\infty^a$	16.000

^a Infimum (minimum) of an empty set is ∞ , supremum (maximum) of an empty set is $-\infty$.

S5. How important was your experience in purchasing discounting lighting products through the LED Instant Rebate program in your decision to install

these lighting products on your own, using a scale from 0 to 10, where 0 is “not at all important” and 10 is “extremely important”?

Descriptive Statistics

S5	
Valid	13
Missing	128
Mean	7.538
Std. Deviation	2.436
Minimum	1.000
Maximum	10.000

Descriptive Statistics by Business Size

	S5	
	Small Business	Medium to Large Business
Valid	9	4
Missing	65	62
Mean	7.667	7.250
Std. Deviation	2.646	2.217
Minimum	1.000	5.000
Maximum	10.000	10.000

Note. Excluded 1 rows from the analysis that correspond to the missing values of the split-by variable C3

- S6.** How likely is it that your organization would have installed these additional efficient lighting products had you NOT participated in the LED Instant Rebate Program? Use a 0 to 10 scale, where 0 means you definitely WOULD NOT have installed these products and 10 means you definitely WOULD have installed these lighting products.

Descriptive Statistics

S6	
Valid	13
Missing	128
Mean	8.769
Std. Deviation	1.691
Minimum	4.000
Maximum	10.000

Descriptive Statistics by Business Size

	S6	
	Small Business	Medium to Large Business
Valid	9	4
Missing	65	62
Mean	8.333	9.750
Std. Deviation	1.871	0.500
Minimum	4.000	9.000

Descriptive Statistics by Business Size

	S6	
	Small Business	Medium to Large Business
Maximum	10.000	10.000

Note. Excluded 1 rows from the analysis that correspond to the missing values of the split-by variable C3

S7. Since your purchase of discounted lighting through the LED Instant Rebate program, have you installed any additional energy efficient equipment, other than lighting, at this or other facilities in Xcel Energy's territory without receiving a rebate or a discount from Xcel Energy or another energy efficiency program?

Frequencies for S7

S7	Frequency	Percent Valid	Percent Cumulative	Percent
Yes	29	20.567	21.642	21.642
No	105	74.468	78.358	100.000
Missing	7	4.965		
Total	141	100.000		

Frequencies for S7 by Business Size

Small Business	S7	Frequency	Percent Valid	Percent Cumulative	Percent
Yes	Yes	17	22.973	23.288	23.288
	No	56	75.676	76.712	100.000
	Missing	1	1.351		
	Total	74	100.000		
No	Yes	12	18.182	20.000	20.000
	No	48	72.727	80.000	100.000
	Missing	6	9.091		
	Total	66	100.000		

S8. [ASK IF S7=1] Did your experience with the lighting products purchased through the LED Instant Rebate program influence your decision to install some or all of these efficient products?

Frequencies for S8

S8	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	14	9.929	48.276	48.276
No	15	10.638	51.724	100.000
Missing	112	79.433		
Total	141	100.000		

Frequencies for S8 by Business Size

Small Business	S8	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	Yes	8	10.811	47.059	47.059

Frequencies for S8

	S8	Frequency	Percent	Valid Percent	Cumulative Percent
No	No	9	12.162	52.941	100.000
	Missing	57	77.027		
	Total	74	100.000		
	Yes	6	9.091	50.000	50.000
	No	6	9.091	50.000	100.000
	Missing	54	81.818		
	Total	66	100.000		

S9. What equipment did you install? Please provide as much detail as you can.

Frequencies for S9

	S9	Frequency	Percent	Valid Percent	Cumulative Percent
AC unit		1	0.709	7.143	7.143
Air compressor motor		1	0.709	7.143	NA
Boiler		1	0.709	7.143	NA
Computers		1	0.709	7.143	NA
Digital control steam valves		1	0.709	7.143	NA
Door sensors		1	0.709	7.143	NA
Drives		1	0.709	7.143	NA
Faucet aerators		1	0.709	7.143	NA
HVAC		2	1.418	14.286	NA
Heating and Cooling equipment		1	0.709	7.143	NA
Lighting fixtures		1	0.709	7.143	NA
VFD		3	2.127	21.429	NA
Air Compressor		1	0.709	7.143	NA
Plumbing Fixtures		1	0.709	7.143	NA
Broilers		1	0.709	7.143	NA
Domestic Water Pumps		1	0.709	7.143	NA
High Efficiency Motors		1	0.709	7.143	NA
Pool Boiler		1	0.709	7.143	NA
TV Monitors		1	0.709	7.143	NA
Toilet Replacement		1	0.709	7.143	NA
Light Sensors		1	0.709	7.143	NA
Efficient washer and dryer		1	0.709	7.143	NA
Missing		127	90.071		
Total		141	100.000		

[ASK S10-S11 FOR INDIVIDUALLY FOR EACH EQUIPMENT METIONED IN S9]

S10. How important was your experience purchasing discounted lighting products through the LED Instant Rebate program in your decision to install this

[EQUIPMENTX], using a scale from 0 to 10, where 0 is “not at all important” and 10 is “extremely important”?

	Mean
Valid	25
Missing	116
Mean	7.680
Minimum	0.000
Maximum	10.00
	0

S11. If you had not purchased the discounted lighting products through the LED Instant Rebate program, how likely is it that your organization would still have installed **[EQUIPMENTX]**, using a 0 to 10 scale, where 0 means you definitely **WOULD NOT** have implemented this equipment and 10 means you definitely **WOULD** have implemented this equipment?

	Mean
Valid	25
Missing	116
Mean	8.28
Minimum	4.000
Maximum	10.00
	0

SECTION E: EXPERIENCE AND SATISFACTION

E1. I am going to ask you to rate how easy or difficult the following tasks associated with the LED Instant Rebate Program were to complete, using a scale from 0 to 10, where 0 is “very difficult” and 10 is “very easy”. You may also tell me if something was not applicable to your experience. How would you rate the ease of... **(PAUSE AFTER EACH FOR RESPONSE. REPEAT SCALE IF NEEDED).**

E1a. The process to find out where to purchase discounted lighting products

Descriptive Statistics

	E1a
Valid	83
Missing	58
Mean	8.759
Std. Deviation	1.825
Minimum	0.000
Maximum	10.000

Descriptive Statistics by Business Size

	E1a	
	Small Business	Medium to Large Business
Valid	40	43

Descriptive Statistics by Business Size

	E1a	
	Small Business	Medium to Large Business
Missing	34	23
Mean	8.700	8.814
Std. Deviation	1.829	1.842
Minimum	3.000	0.000
Maximum	10.000	10.000

Note. Excluded 1 rows from the analysis that correspond to the missing values of the split-by variable C3

E1b. Getting approved as an Xcel Energy customer

Descriptive Statistics

	E1b
Valid	88
Missing	53
Mean	9.148
Std. Deviation	1.326
Minimum	3.000
Maximum	10.000

Descriptive Statistics by Business Size

	E1b	
	Small Business	Medium to Large Business
Valid	41	47
Missing	33	19
Mean	9.146	9.149
Std. Deviation	1.333	1.335
Minimum	5.000	3.000
Maximum	10.000	10.000

Note. Excluded 1 rows from the analysis that correspond to the missing values of the split-by variable C3

E1c. Finding the products we needed that were eligible through the program

Descriptive Statistics

	E1c
Valid	84
Missing	57
Mean	8.857
Std. Deviation	1.449
Minimum	4.000
Maximum	10.000

Descriptive Statistics by Business Size

	E1c	
	Small Business	Medium to Large Business
Valid	40	44
Missing	34	22
Mean	8.875	8.841
Std. Deviation	1.556	1.363
Minimum	4.000	5.000
Maximum	10.000	10.000

Note. Excluded 1 rows from the analysis that correspond to the missing values of the split-by variable C3

E1d. Installing the lighting equipment

Descriptive Statistics

	E1d
Valid	92
Missing	49
Mean	8.728
Std. Deviation	1.577
Minimum	4.000
Maximum	10.000

Descriptive Statistics by Business Size

	E1d	
	Small Business	Medium to Large Business
Valid	45	46
Missing	29	20
Mean	8.667	8.804
Std. Deviation	1.638	1.544
Minimum	4.000	4.000
Maximum	10.000	10.000

Note. Excluded 1 rows from the analysis that correspond to the missing values of the split-by variable C3

E1e. Receiving help from the lighting product representative when needed

Descriptive Statistics

	E1e
Valid	90
Missing	51
Mean	8.889
Std. Deviation	1.795
Minimum	2.000
Maximum	10.000

Descriptive Statistics by Business Size

	E1e	
	Small Business	Medium to Large Business
Valid	47	43
Missing	27	23
Mean	8.872	8.907
Std. Deviation	1.952	1.630
Minimum	2.000	3.000
Maximum	10.000	10.000

Note. Excluded 1 rows from the analysis that correspond to the missing values of the split-by variable C3

E2a – E2e. Why was it not easy to <RESTORE QUESTION WORDING FROM E1a – E1e>**Descriptive Statistics**

	E2a	E2b	E2c	E2d	E2e
Valid	0	0	0	0	1
Missing	141	141	141	141	140
Mean	NaN	NaN	NaN	NaN	
Std. Deviation	NaN	NaN	NaN	NaN	
Minimum	∞^a	∞^a	∞^a	∞^a	
Maximum	$-\infty^a$	$-\infty^a$	$-\infty^a$	$-\infty^a$	

Note. Not all values are available for *Nominal Text* variables

^a Infimum (minimum) of an empty set is ∞ , supremum (maximum) of an empty set is $-\infty$.

Frequencies for E2e

E2e	Frequency Percent		Valid Percent	Cumulative Percent
They were very short with me. Very quick and not helpful. DID NOT GET THE REBATE!! They took it.	1	0.709	100.000	100.000
Missing	140	99.291		
Total	141	100.000		

E3. Thank you for your patience; we have only a few questions left. I'm going to ask you to rate your satisfaction with various aspects of the new lighting products purchased as part of the program. For each, please rate your satisfaction or dissatisfaction on a scale from 0 to 10, where 0 is "very dissatisfied" and 10 is "very satisfied." You can also let me know if it is not applicable to your project. How would you rate your satisfaction with:
[RANDOMIZE E3a - h, PAUSE AFTER EACH FOR RATING, REPEAT SCALE IF NECESSARY]

E3a. The quality of the products you received as part of the program

Descriptive Statistics

	E3a
Valid	139
Missing	2
Mean	9.201
Std. Deviation	1.252
Minimum	2.000
Maximum	10.000

Descriptive Statistics by Business Size

	E3a	
	Small Business	Medium to Large Business
Valid	74	64
Missing	0	2
Mean	9.189	9.234
Std. Deviation	1.362	1.123
Minimum	2.000	4.000
Maximum	10.000	10.000

Note. Excluded 1 rows from the analysis that correspond to the missing values of the split-by variable C3

E3b. The Information you received on how to operate / maintain Installed products

Descriptive Statistics

	E3b
Valid	116
Missing	25
Mean	8.871
Std. Deviation	1.629
Minimum	0.000
Maximum	10.000

Descriptive Statistics by Business Size

	E3b	
	Small Business	Medium to Large Business
Valid	62	53
Missing	12	13
Mean	8.774	8.962
Std. Deviation	1.759	1.480
Minimum	0.000	4.000
Maximum	10.000	10.000

Note. Excluded 1 rows from the analysis that correspond to the missing values of the split-by variable C3

E3c. The quality of the lighting in your facility after installing the new products

Descriptive Statistics

	E3c
Valid	139
Missing	2
Mean	9.403
Std. Deviation	0.953
Minimum	4.000
Maximum	10.000

Descriptive Statistics by Business Size

	E3c	
	Small Business	Medium to Large Business
Valid	74	64
Missing	0	2
Mean	9.284	9.563
Std. Deviation	0.929	0.957
Minimum	7.000	4.000
Maximum	10.000	10.000

Note. Excluded 1 rows from the analysis that correspond to the missing values of the split-by variable C3

E3d. The Information you received on energy efficiency

Descriptive Statistics

	E3d
Valid	111
Missing	30
Mean	8.396
Std. Deviation	2.163
Minimum	0.000
Maximum	10.000

Descriptive Statistics by Business Size

	E3d	
	Small Business	Medium to Large Business
Valid	56	55
Missing	18	11
Mean	8.143	8.655
Std. Deviation	2.339	1.955
Minimum	0.000	0.000
Maximum	10.000	10.000

Note. Excluded 1 rows from the analysis that correspond to the missing values of the split-by variable C3

E3e. The amount of time it took between receiving program approval and receiving the program equipment

Descriptive Statistics

	E3e
Valid	122
Missing	19
Mean	8.754
Std. Deviation	1.445
Minimum	2.000
Maximum	10.000

Descriptive Statistics by Business Size

	E3e	
	Small Business	Medium to Large Business
Valid	63	58
Missing	11	8
Mean	8.857	8.655
Std. Deviation	1.512	1.384
Minimum	2.000	5.000
Maximum	10.000	10.000

Note. Excluded 1 rows from the analysis that correspond to the missing values of the split-by variable C3

E3f. The amount of time it took to install the products

Descriptive Statistics

	E3f
Valid	136
Missing	5
Mean	8.750
Std. Deviation	1.514
Minimum	0.000
Maximum	10.000

Descriptive Statistics by Business Size

	E3f	
	Small Business	Medium to Large Business
Valid	72	63
Missing	2	3
Mean	8.833	8.667
Std. Deviation	1.424	1.626
Minimum	4.000	0.000
Maximum	10.000	10.000

Note. Excluded 1 rows from the analysis that correspond to the missing values of the split-by variable C3

E3g. Your interactions with staff where you purchased the discounted lighting products

Descriptive Statistics

	E3g
Valid	125
Missing	16
Mean	9.304
Std. Deviation	1.159
Minimum	3.000
Maximum	10.000

Descriptive Statistics by Business Size

	E3g	
	Small Business	Medium to Large Business
Valid	66	59
Missing	8	7
Mean	9.318	9.288
Std. Deviation	1.166	1.160
Minimum	3.000	4.000
Maximum	10.000	10.000

Note. Excluded 1 rows from the analysis that correspond to the missing values of the split-by variable C3

E3h. Energy savings realized after the program

Descriptive Statistics

	E3h
Valid	100
Missing	41
Mean	8.030
Std. Deviation	2.134
Minimum	1.000
Maximum	10.000

Descriptive Statistics by Business Size

	E3h	
	Small Business	Medium to Large Business
Valid	53	47
Missing	21	19
Mean	7.755	8.340
Std. Deviation	2.377	1.797
Minimum	1.000	2.000
Maximum	10.000	10.000

Note. Excluded 1 rows from the analysis that correspond to the missing values of the split-by variable C3

E3.1 Why weren't you satisfied with <RESTORE QUESTION WORDING FROM E3a – E3h>

Frequencies for E3.1a

E3.1a	Frequency Percent		Valid Percent	Cumulative Percent
We initially received light bulbs that went out weekly - could have been a bad batch, but they were replaced with another brand	1	0.709	100.000	100.000
Missing	140	99.291		
Total	141	100.000		

Frequencies for E3.1b

E3.1b	Frequency Percent		Valid Percent	Cumulative Percent
We didn't receive any information	1	0.709	100.000	100.000
Missing	140	99.291		
Total	141	100.000		

Frequencies for E3.1c

E3.1c	Frequency	Percent	Valid Percent	Cumulative Percent
Missing	141	100.000		
Total	141	100.000		

Frequencies for E3.1d

E3.1d	Frequency Percent		Valid Percent	Cumulative Percent
I just don't remember anyone talking about it or giving much information about this.	1	0.709	25.000	25.000
Never got any	1	0.709	25.000	50.000
We didn't receive any information about energy efficiency.	1	0.709	25.000	75.000
We didn't receive anything. We saw next power bill and it was awful, bill was outrageous.	1	0.709	25.000	100.000
Missing	137	97.163		
Total	141	100.000		

Frequencies for E3.1e

E3.1e	Frequency Percent		Valid Percent	Cumulative Percent
Because of pandemic it came in three different shipments and over a few months...it wasn't the distributor's fault though.	1	0.709	100.000	100.000
Missing	140	99.291		
Total	141	100.000		

Frequencies for E3.1f

E3.1f	Frequency	Percent	Valid Percent	Cumulative Percent
It took too long	1	0.709	100.000	100.000
Missing	140	99.291		
Total	141	100.000		

Frequencies for E3.1g

E3.1g	Frequency	Percent	Valid Percent	Cumulative Percent
Missing	141	100.000		
Total	141	100.000		

Frequencies for E3.1h

E3.1h	Frequency	Percent	Valid Percent	Cumulative Percent
Because the bill was still outrageous	1	0.709	33.333	33.333
It did not lower my electric bill at all	1	0.709	33.333	66.667
No savings that we could see	1	0.709	33.333	100.000
Missing	138	97.872		
Total	141	100.000		

E4. Using the same scale from 0 to 10, where 0 is “very dissatisfied” and 10 is “very satisfied”, how would you rate Xcel Energy as an energy provider?

Descriptive Statistics

E4	
Valid	139
Missing	2
Mean	8.741
Std. Deviation	1.426
Minimum	3.000
Maximum	10.000

E5. Have you noticed any of the following additional benefits from your new lighting products that are not related to your energy bills? (Select all that apply)

Frequencies for E5

E5	Frequency	Percent	Valid Percent	Cumulative Percent
Improved light quality	93	65.957	78.151	NA
Improved lighting levels	75	53.191	63.025	NA
Improved space temperature comfort	25	17.730	21.008	NA
Fewer accidents	2	1.418	1.681	
Other, specify:	5	3.546	4.202	NA
Missing	22	15.603		

Frequencies for E5

E5	Frequency Percent	Valid Percent	Cumulative Percent
Total	141 100.000		

Frequencies for E5_Other

E5_Other	Frequency Percent	Valid Percent	Cumulative Percent
Better revenue	1 0.709	14.286	14.286
Don't have to change lightbulbs all day	1 0.709	14.286	28.571
Durability	1 0.709	14.286	42.857
Fewer replacements	1 0.709	14.286	57.143
No	1 0.709	14.286	71.429
Reduced maintenance	1 0.709	14.286	85.714
Whiter light, it was yellow before	1 0.709	14.286	100.000
Missing	134 95.035		
Total	141 100.000		

Frequencies for E5 by Business Size

Small Business	E5	Frequency Percent	Valid Percent	Cumulative Percent
Yes	Improved light quality	46 62.162	75.410	NA
	Improved lighting levels	32 43.243	52.459	NA
	Improved space temperature comfort	11 14.865	18.033	NA
	Fewer accidents	0 0	0	NA
	Other, specify:	4 5.405	6.557	NA
	Missing	13 17.568		NA
	Total	74 100.000		NA
No	Improved light quality	47 71.212	81.034	NA
	Improved lighting levels	43 65.152	74.138	NA
	Improved space temperature comfort	14 21.212	24.138	NA
	Fewer accidents	2 3.030	3.448	NA
	Other, specify:	1 1.515	1.724	NA
	Missing	8 12.121		
	Total	66 100.000		

E6. [FOR EACH Y IN RESPONSE TO E5, ASK] Relative to the energy bill savings from your lighting purchases, how much do you value the additional benefit of **[E5 response]**. For example if energy savings are \$100, what percentage of the \$100, is the value of the **[E5 response]**?

Frequencies for E6_1_Improved Lighting Quality by Business Size

Small Business	E6_1	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	0 to 20%	0	0.000	0.000	0.000
	21-40%	6	8.108	14.634	14.634
	41-60%	5	6.757	12.195	26.829
	61-80%	5	6.757	12.195	39.024
	80-100%	13	17.568	31.707	70.732
	100-200%	12	16.216	29.268	100.000
	Missing	33	44.595		
	Total	74	100.000		
No	0 to 20%	1	1.515	2.564	2.564
	21-40%	4	6.061	10.256	12.821
	41-60%	6	9.091	15.385	28.205
	61-80%	8	12.121	20.513	48.718
	80-100%	16	24.242	41.026	89.744
	100-200%	4	6.061	10.256	100.000
	Missing	27	40.909		
	Total	66	100.000		

Frequencies for E6_2_Improved Lighting Levels by Business Size

Small Business	E6_2	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	0 to 20%	1	1.351	3.333	3.333
	21-40%	1	1.351	3.333	6.667
	41-60%	7	9.459	23.333	30.000
	61-80%	4	5.405	13.333	43.333
	80-100%	10	13.514	33.333	76.667
	100-200%	6	8.108	20.000	96.667
	More than 200%	1	1.351	3.333	100.000
	Missing	44	59.459		
No	Total	74	100.000		
	0 to 20%	1	1.515	2.703	2.703
	21-40%	4	6.061	10.811	13.514
	41-60%	3	4.545	8.108	21.622
	61-80%	8	12.121	21.622	43.243
	80-100%	15	22.727	40.541	83.784
	100-200%	6	9.091	16.216	100.000
	More than 200%	0	0.000	0.000	100.000
	Missing	29	43.939		
	Total	66	100.000		

Frequencies for E6_3_Improved Space Temperature Comfort by Business Size

Small Business	E6_3	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	0 to 20%	0	0.000	0.000	0.000
	21-40%	2	2.703	20.000	20.000
	41-60%	1	1.351	10.000	30.000
	61-80%	0	0.000	0.000	30.000
	80-100%	6	8.108	60.000	90.000
	100-200%	1	1.351	10.000	100.000
	Missing	64	86.486		
	Total	74	100.000		
No	0 to 20%	1	1.515	9.091	9.091
	21-40%	1	1.515	9.091	18.182
	41-60%	0	0.000	0.000	18.182
	61-80%	2	3.030	18.182	36.364
	80-100%	6	9.091	54.545	90.909
	100-200%	1	1.515	9.091	100.000
	Missing	55	83.333		
	Total	66	100.000		

Frequencies for E6_4_Fewer accidents by Business Size

Small Business	E6_4	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	80-100%	0	0.000	NaN	NaN
	100-200%	0	0.000	NaN	NaN
	Missing	74	100.000		
	Total	74	100.000		
No	80-100%	1	1.515	50.000	50.000
	100-200%	1	1.515	50.000	100.000
	Missing	64	96.970		
	Total	66	100.000		

Frequencies for E6_5_Other by Business Size

Small Business	E6_5	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	0 to 20%	1	1.351	25.000	25.000
	41-60%	2	2.703	50.000	75.000
	61-80%	0	0.000	0.000	75.000
	Other, specify:	1	1.351	25.000	100.000
	Missing	70	94.595		
	Total	74	100.000		
No	0 to 20%	1	1.515	50.000	50.000
	41-60%	0	0.000	0.000	50.000
	61-80%	1	1.515	50.000	100.000
	Other, specify:	0	0.000	0.000	100.000

Frequencies for E6_5_Other by Business Size

Small Business	E6_5	Frequency	Percent	Valid Percent	Cumulative Percent
	Missing	64	96.970		
	Total	66	100.000		

SECTION G: FIRMOGRAPHICS

G1. How would you describe the primary business activity at this location?
(IF RESPONDENT IS A PROPERTY MANAGER, PROBE FOR BUSINESS ACTIVITY OF MOST TENANTS)

Frequencies for G1

G1	Frequency	Percent	Valid Percent	Cumulative Percent
Hotel/Motel	6	4.255	4.255	4.255
Restaurant/Bar	3	2.128	2.128	6.383
Arts, entertainment, and recreation	6	4.255	4.255	10.638
Construction	4	2.837	2.837	13.475
Educational services	10	7.092	7.092	20.567
Health care	7	4.965	4.965	25.532
Professional, scientific, and technical services	3	2.128	2.128	27.660
Public administration	3	2.128	2.128	29.787
Real estate and rental and leasing	44	31.206	31.206	60.993
Retail trade	11	7.801	7.801	68.794
Wholesale trade	2	1.418	1.418	70.213
Service	8	5.674	5.674	75.887
Religious worship	3	2.128	2.128	78.014
Warehouse/storage	1	0.709	0.709	78.723
Other, specify:	30	21.277	21.277	100.000
Missing	0	0.000		
Total	141	100.000		

Frequencies for G1_Other

G1_Other	Frequency	Percent	Valid Percent	Cumulative Percent
Automotive Dealership	1	0.709	3.333	3.333
Automotive Detailing	1	0.709	3.333	6.667
Barber shop	1	0.709	3.333	10.000
Church/School	1	0.709	3.333	13.333
City/County Bus Service Administration	1	0.709	3.333	16.667
Comcast Call Center	1	0.709	3.333	20.000

Frequencies for G1_Other

G1_Other	Frequency	Percent	Valid Percent	Cumulative Percent
Commercial Office Building	1	0.709	3.333	23.333
Department of Corrections, State of Colorado	1	0.709	3.333	26.667
Elevator company	1	0.709	3.333	30.000
General office	1	0.709	3.333	33.333
Government	1	0.709	3.333	36.667
Higher Education	1	0.709	3.333	40.000
Manufacturing	3	2.128	10.000	50.000
Mechanic Shop	1	0.709	3.333	53.333
Media	1	0.709	3.333	56.667
Medical Office building	1	0.709	3.333	60.000
Medical Offices	1	0.709	3.333	63.333
Office	1	0.709	3.333	66.667
Office Building	1	0.709	3.333	70.000
Office building	1	0.709	3.333	73.333
Oriental Rug showroom	1	0.709	3.333	76.667
Property Management	1	0.709	3.333	80.000
Property Management/Leasing Office	1	0.709	3.333	83.333
School	1	0.709	3.333	86.667
Senior Housing	1	0.709	3.333	90.000
Social Club	1	0.709	3.333	93.333
TV Station	1	0.709	3.333	96.667
Vending	1	0.709	3.333	100.000
Missing	111	78.723		
Total	141	100.000		

Frequencies for G1 by Business Size

Small Business	G1	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	Hotel/Motel	3	4.054	4.054	4.054
	Restaurant/Bar	3	4.054	4.054	8.108
	Arts, entertainment, and recreation	5	6.757	6.757	14.865
	Construction	3	4.054	4.054	18.919
	Educational services	2	2.703	2.703	21.622
	Health care	4	5.405	5.405	27.027
	Professional, scientific, and technical services	1	1.351	1.351	28.378
	Public administration	0	0.000	0.000	28.378
	Real estate and rental and leasing	19	25.676	25.676	54.054

Small Business	G1	Frequency	Percent	Valid Percent	Cumulative Percent
No	Retail trade	10	13.514	13.514	67.568
	Wholesale trade	1	1.351	1.351	68.919
	Service	6	8.108	8.108	77.027
	Religious worship	2	2.703	2.703	79.730
	Warehouse/storage	0	0.000	0.000	79.730
	Other, specify:	15	20.270	20.270	100.000
	Missing	0	0.000		
	Total	74	100.000		
	Hotel/Motel	3	4.545	4.545	4.545
	Restaurant/Bar	0	0.000	0.000	4.545
	Arts, entertainment, and recreation	1	1.515	1.515	6.061
	Construction	1	1.515	1.515	7.576
	Educational services	8	12.121	12.121	19.697
	Health care	3	4.545	4.545	24.242
	Professional, scientific, and technical services	2	3.030	3.030	27.273
	Public administration	3	4.545	4.545	31.818
	Real estate and rental and leasing	24	36.364	36.364	68.182
	Retail trade	1	1.515	1.515	69.697
	Wholesale trade	1	1.515	1.515	71.212
	Service	2	3.030	3.030	74.242
	Religious worship	1	1.515	1.515	75.758
	Warehouse/storage	1	1.515	1.515	77.273
	Other, specify:	15	22.727	22.727	100.000
	Missing	0	0.000		
	Total	66	100.000		

G2. [IF SITE=0] How many buildings are at this address?

Descriptive Statistics

	G2
Valid	121
Missing	20
Mean	5.050
Std. Deviation	12.646
Minimum	1.000
Maximum	87.000

Descriptive Statistics by Business Size

	G2	
	Small Business	Medium to Large Business
Valid	64	57
Missing	10	9
Mean	2.938	7.421

Descriptive Statistics by Business Size

	G2	
	Small Business	Medium to Large Business
Std. Deviation	10.835	14.136
Minimum	1.000	1.000
Maximum	87.000	87.000

Note. Excluded 1 rows from the analysis that correspond to the missing values of the split-by variable C3

G3.[IF SITE=0] What is the approximate total square footage of all the occupied space for all buildings at this address?

Descriptive Statistics

G3	
Valid	86
Missing	55
Mean	1,122,000.000
Std. Deviation	6,100,000.000
Minimum	200.000
Maximum	450,00,000.000

Descriptive Statistics by Business Size

	G3	
	Small Business	Medium to Large Business
Valid	46	40
Missing	28	26
Mean	39,063.326	2,368,000.000
Std. Deviation	56,098.329	8,838,000.000
Minimum	200.000	319.000
Maximum	25,0000.000	450,000,000

Note. Excluded 1 rows from the analysis that correspond to the missing values of the split-by variable C3

G4. What is your occupational title within your company? (**ASK OPEN END, PROBE FOR SPECIFICS / VERIFY SELECTION AS NEEDED**)

Frequencies for G4

G4	Frequency	Percent	Valid Percent	Cumulative Percent
1	3	2.128	2.128	2.128
2	25	17.730	17.730	19.858
4	1	0.709	0.709	20.567
5	2	1.418	1.418	21.986
6	20	14.184	14.184	36.170
7	6	4.255	4.255	40.426
8	11	7.801	7.801	48.227
9	26	18.440	18.440	66.667

Frequencies for G4

G4	Frequency	Percent	Valid Percent	Cumulative Percent
10	9	6.383	6.383	73.050
11	13	9.220	9.220	82.270
12	25	17.730	17.730	100.000
Missing	0	0.000		
Total	141	100.000		

Frequencies for G4

G4	Frequency	Percent	Valid Percent	Cumulative Percent
President/CEO	3	2.128	2.128	2.128
Proprietor/Owner	25	17.730	17.730	19.858
Vice President/Director/Assistant Director/Department Head	1	0.709	0.709	20.567
Other financial/administrative position	2	1.418	1.418	21.986
Facilities Manager	20	14.184	14.184	36.170
Energy Manager	6	4.255	4.255	40.426
Other facilities management/maintenance position	11	7.801	7.801	48.227
Other manager/assistant manager	26	18.440	18.440	66.667
Extremely important	9	6.383	6.383	73.050
11	13	9.220	9.220	82.270
12	25	17.730	17.730	100.000
Missing	0	0.000		
Total	141	100.000		

G5. Approximately how many full-time equivalent (FTE) employees does your organization currently have in the state of Colorado?

Frequencies for G5

G5	Frequency	Percent	Valid Percent	Cumulative Percent
< 20	66	46.809	50.382	50.382
20 - 49	15	10.638	11.450	61.832
50 - 99	8	5.674	6.107	67.939
100 - 249	12	8.511	9.160	77.099
250 - 499	10	7.092	7.634	84.733
500 - 999	5	3.546	3.817	88.550
1,000 - 2,500	7	4.965	5.344	93.893
> 2,500	8	5.674	6.107	100.000
Missing	10	7.092		
Total	141	100.000		

Frequencies for G5 by Business Size

Small Business	G5	Frequency	Percent Valid	Percent Cumulative	Percent
Yes	< 20	55	74.324	75.342	75.342
	20 - 49	10	13.514	13.699	89.041
	50 - 99	3	4.054	4.110	93.151
	100 - 249	1	1.351	1.370	94.521
	250 - 499	2	2.703	2.740	97.260
	500 - 999	0	0.000	0.000	97.260
	1,000 - 2,500	1	1.351	1.370	98.630
	> 2,500	1	1.351	1.370	100.000
	Missing	1	1.351		
	Total	74	100.000		
No	< 20	11	16.667	18.966	18.966
	20 - 49	5	7.576	8.621	27.586
	50 - 99	5	7.576	8.621	36.207
	100 - 249	11	16.667	18.966	55.172
	250 - 499	8	12.121	13.793	68.966
	500 - 999	5	7.576	8.621	77.586
	1,000 - 2,500	6	9.091	10.345	87.931
	> 2,500	7	10.606	12.069	100.000
	Missing	8	12.121		
	Total	66	100.000		

G6. Does your organization own, lease, or rent your facility?**Frequencies for G6**

G6	Frequency	Percent	Valid Percent	Cumulative Percent
Own	84	59.574	61.765	61.765
Lease / Rent	45	31.915	33.088	94.853
Other, specify:	7	4.965	5.147	100.000
Missing	5	3.546		
Total	141	100.000		

Frequencies for G6_Other

G6_Other	Frequency	Percent Valid	Percent Cumulative	Percent
3rd party Management Company	1	0.709	14.286	14.286
Both	1	0.709	14.286	28.571
Manage	2	1.418	28.571	57.143
Neither	1	0.709	14.286	71.429
Property Management	1	0.709	14.286	85.714
Property management	1	0.709	14.286	100.000
Missing	134	95.035		
Total	141	100.000		

Frequencies for G6

	G6	Frequency	Percent	Valid Percent	Cumulative Percent
Frequencies for G6 by Business Size					
Small Business	G6	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	Own	37	50.000	50.685	50.685
	Lease / Rent	32	43.243	43.836	94.521
	Other, specify:	4	5.405	5.479	100.000
	Missing	1	1.351		
	Total	74	100.000		
No	Own	46	69.697	74.194	74.194
	Lease / Rent	13	19.697	20.968	95.161
	Other, specify:	3	4.545	4.839	100.000
	Missing	4	6.061		
	Total	66	100.000		

G7. Do you pay your Xcel Energy bill, or does someone else (e.g., a landlord or building manager)?

Frequencies for G7

G7	Frequency	Percent	Valid Percent	Cumulative Percent
Our organization pays the bill	48	34.043	87.273	87.273
Someone else pays the bill	7	4.965	12.727	100.000
Missing	86	60.993		
Total	141	100.000		

Frequencies for G7 by Business Size

Small Business	G7	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	Our organization pays the bill	35	47.297	94.595	94.595
	Someone else pays the bill	2	2.703	5.405	100.000
	Missing	37	50.000		
	Total	74	100.000		
No	Our organization pays the bill	13	19.697	72.222	72.222
	Someone else pays the bill	5	7.576	27.778	100.000
	Missing	48	72.727		
	Total	66	100.000		

APPENDIX D: MANUFACTURER SUMMARY

D.1 MANUFACTURER INTERVIEW RESULTS

To support the process and impact evaluation of the 2018 Xcel Energy Business LED Instant Rebate Product, members of the EMI Consulting evaluation team conducted in-depth telephone interviews with lighting manufacturers.

The evaluation team interviewed four lighting manufacturers as part of this effort.

Evaluation Objectives

The manufacturer interview task for the Business LED Instant Rebate Product evaluation informed three research objectives of the process evaluation.

- Understand business customer variations in their decision-making processes to install efficient lighting equipment, and whether product influence varies by these differences.
- Assess product experience and satisfaction, among both customers and trade partners.
- Understand customer awareness, participation in, and perception of, related programs and products.

The manufacturer interviews were intended to assess manufacturers' experience and satisfaction with the product and to understand the role of the manufacturer in the supply chain and decision-making processes. Specifically, the interviews addressed the following research questions:

- What do manufacturers see as upcoming market trends for lighting?
- How do manufacturers decide what to produce and promote?
- What is manufacturers' relationship to distributors?
- What requirements, if any, do manufacturers have for their distributors?
- How much influence do manufacturers perceive to have over distributors in what they sell?
- What marketing or training, if any, do manufacturers supply to their distributors?
- What utility lighting programs are manufacturers aware of, and how do they perceive the effect of these programs on their business?
- Do manufacturers have a positive or negative disposition about the role of these programs in their business operations? Why?
- How satisfied are they with the Xcel Energy Business LED Instant Rebate Product Program?
- What do manufacturers think could be done to make the program better?

- How do they see LED sales in 2021?
- What influence has the Xcel Energy Business LED Instant Rebate Product Program had on sales?
- How has COVID-19 impacted current and expected 2021 sales?

Key Takeaways

- There are different “tiers” of lighting manufacturers, ranging from manufacturers that only provide products to distributors to order, to “stocking manufacturers” whose products distributors keep on hand, to “specified manufacturers,” whose products architects will specify on blueprints for large new construction projects.
- Different tiers of manufacturers have different amounts of market power and ability to influence distributors; large manufacturers can offer favorable deals to distributors that sell more of their products.
- Efficiency program incentives play a significant role in lighting manufacturers’ business as a tool to promote lighting products. Manufacturers provide information about program incentives to distributors as a way to build relationships with distributors and may provide additional pricing discounts to leverage rebates and make products available at very low cost to the end user.
- Manufacturers saw a large decrease in overall lighting sales in the spring of 2020 as a result of the COVID-19 pandemic. By late summer, sales had recovered somewhat, but most manufacturers did not expect sales to return to pre-pandemic levels until at least the middle of 2021. Manufacturers noted a shift away from lighting products used in office spaces, toward more traditionally residential products. Manufacturer interviews provided no indication of a shift in demand away from LED lighting products as a result of the pandemic.

Interview Findings By Research Question

This section describes the findings from the Xcel Energy Business LED Instant Rebate Product manufacturer interviews. The results are organized by the research question used to address each of the research objectives outlined above.

DAILY TASKS, GOALS, AND FRUSTRATIONS

- Most interviewed manufacturers sell directly to some end-use customers. These end-users are typically very large customers and direct sales to customers represent a small share of total sales.
- One interviewed manufacturer reported that, while they make customer service staff available to answer questions for end-use customers, they do not sell directly to customers.

UPCOMING MARKET TRENDS

- Two manufacturers reported a trend toward color-selectable LED lighting products (lamps or fixtures that can be set to operate at a variety of different color temperatures).
 - These products are appealing to contractors and distributors as they allow them to meet a wider range of needs while stocking fewer products
 - One manufacturer noted that some of these products operate at different wattages, which poses a potential challenge for utility programs that may be able to claim savings only for the highest wattage, even if a customer sets the product to operate at a lower wattage.
- One manufacturer saw a trend toward controls like occupancy sensors integrated into LED fixtures, noting that these were not necessarily networked controls.
- One manufacturer reported they believe the trend toward Edison or filament style screw-in LED lamps has peaked; most manufacturers have already launched the products they will offer in this area.

PRODUCTION AND PROMOTION DECISIONS

- All the interviewed lighting manufacturers regularly promote certain products within their range of offerings.
 - Reasons for product promotion varied, ranging from a desire to leverage efficiency program offerings (discussed below), to reducing inventory of undersold products.
 - Approaches used to promote products included purchasing online advertising, providing promotional materials, like counter mats, to distributors, and conducting cooperative marketing with distributors.
 - One manufacturer reported the products they promote are typically LED lighting products eligible for program rebates. While they produce some non-LED replacement lamps, these are not the type of high-end or leading-edge products likely to be featured in a promotion.

DISTRIBUTOR RELATIONSHIPS

- Manufacturers seek to be good partners to their distributor customers by maintaining product availability and quickly fulfilling orders (within 24 hours).
 - “We want to be easy to do business with. We want to have the right product available at the right time. We want to get them out to the distributor in a timely manner.”
- In their sales outreach, one manufacturer reported that they treat each distributor location individually.

- There are two ways a distributor can work with a manufacturer: 1) stock the manufacturer's products, 2) make the manufacturer's products available for order.
 - Manufacturers prefer that distributors stock their products, although one interviewed manufacturer noted that they are not a "stocking manufacturer" for any distributor.
 - Manufacturers may configure some products to order (for example, adding sensors to a base luminaire).
- Two interviewed manufacturers, both of whom reported they were mid-size manufacturers, indicated that different "tiers" of manufacturers vary in the market power they have over distributors.
 - Large manufacturers can make favorable deals with large distributors that provide the distributor with significant benefits for selling that manufacturer's products like reduced pricing and improved financing terms.
 - To take advantage of these benefits, one manufacturer noted that distributors may require their sales staff to seek managers' permission before selling a product that is not from a preferred manufacturer.
 - Architects may specify lighting products from specific, large manufacturers in the plans for large new construction or major renovation projects. This gives those manufacturers considerable leverage over distributors in the areas where those projects occur. Manufacturers may demand that distributors stock a certain amount of their products in exchange for the opportunity to supply products for these plan and specify new construction projects.⁶
 - This power imbalance creates obstacles for smaller manufacturers.
 - One explained that the benefits large manufacturers offer distributors made it difficult to motivate distributors to offer smaller manufacturers' products. According to this manufacturer, "There are a lot of things over and above just good product and availability. You have to work with these other soft issues to get a foot in the door" with large distributors.

DISTRIBUTOR REQUIREMENTS

- The interviewed manufacturers did not require distributors to receive certain trainings, maintain certifications or meet other requirements in order to carry their products.

⁶ In plan and specify projects, an architect or engineer designs the lighting system and specifies the equipment to be installed. These specifications may include specific distributors that can supply the equipment.

- Two interviewed manufacturers reported they will verify that a prospective distributor customer is a legitimate business and appears financially sound.
- One interviewed manufacturer noted that distributors who are able to sell a greater volume of products may receive more favorable terms like improved pricing, better financing, and more lenient policies around returns of unsold products.

DISTRIBUTOR MARKETING AND TRAINING SUPPORT

- All the interviewed manufacturers provide information and training on the features, use cases, and installation of their products as well as pricing and any ongoing promotions to their distributor customers.
 - Two manufacturers reported expanding their offerings of online, informational videos as a result of the COVID-19 pandemic, which has limited their ability to interact with distributors in person.
 - Manufacturers also reported maintaining extensive information on their websites, including tools to help distributors and end-use customers identify rebates available for lighting products.
 - One manufacturer reported offering training to distributors and customers that provides the same information on products and promotions they offer to their own sales staff.
- The interviewed manufacturers also provide marketing support to their distributor customers.
 - This support includes educational tools, co-branded marketing materials, and cooperative marketing support.
 - According to one manufacturer, the goal is to do “whatever it is that we can help the distributor with to get them to stock more of our product.”

UTILITY LIGHTING PROGRAM AWARENESS AND INFLUENCE

- The interviewed manufacturers were aware of utility lighting programs. Along with Xcel Energy, manufacturers reported tracking programs operated by AEP, Wisconsin Focus on Energy, New Jersey program administrators, Massachusetts program administrators, and Efficiency Maine.
- Manufacturers reported programs can have a large effect on their sales of incentivized commercial lighting products, particularly when those programs offer high incentives and cover a wide range of products.
 - “The structure and design of a utility program being broad in scope and rich in incentives makes a huge difference in our ability, or a distributor’s ability, or an end-use customer’s ability, to move forward with projects.”
 - One manufacturer reported they had recently made an organizational decision to devote staff resources to tracking and leveraging

commercial lighting programs, reflecting the importance those programs have for their business.

- Two manufacturers reported that program offerings factor into their decisions about product promotion.
 - When possible, manufacturers will provide special pricing or market promotions to compliment utility incentives.
 - Manufacturers focus these promotional efforts on utility territories where program incentives, combined with manufacturer discounts, can cover a large portion of lighting product costs.
 - Manufacturers may partner with specific distributors in these promotions to offer products at very low cost to the end-user.
 - "When there is an aggressive rebate in any particular territory, we hone in on that and try to capitalize on it, and help our distributors capitalize on it."
 - "When [Xcel Energy] increased T8 incentives earlier in the year, we actively engaged sales people to make sure they were aware...so they could have conversations with distributor customers, agents, end customers, to let them know that T8s were at a lower price."
- Manufacturers inform their sales teams about efficiency programs and interview respondents reported sales staff were receptive to this information. Program information provides sales staff with talking points and helps them build relationships with distributors.
 - Two manufacturers noted that utility incentives provided their sales staff with a reason to meet with distributors and valuable information to offer them.
 - "It gives them a reason to be there, talking to the distributors, to give them something of value, not just walking in the door saying, 'hey, sell more of my product.'"
- Interviewed manufacturers assessment of program influence on their product lines was mixed.
 - Two manufacturers assessed little program impact on their product lines.
 - One is an LED-only manufacturer, focused on DLC premium products. This manufacturer noted that, while program offerings did not motivate their decision to take that approach, programs reinforce their decision to focus in that area.
 - Another noted that few individual utility programs are large enough to motivate a change to product lines designed for a national market.
 - A third manufacturer reported developing most products to DLC or ENERGY STAR specifications, anticipating that this will qualify them for

rebates.⁷ The respondent does this as a result of program availability and seeks to have an eligible product offering within each category of rebated lighting products.

DISPOSITION ABOUT ROLE OF PROGRAMS IN BUSINESS OPERATIONS

- Manufacturers generally had a positive disposition toward programs.
 - “[We are] always happy to engage...[programs are] a beneficial part of the business.”
 - According to one manufacturer, end-users appreciate the opportunity to reduce their upfront investment and like knowing that their utility is offering support.

SATISFACTION WITH XCEL ENERGY BUSINESS LED INSTANT REBATE PRODUCT PROGRAM

- Two interviewed manufacturers reported that simplicity and an easy user experience were benefits of the Xcel Energy Business LED Instant Rebate Product program.
- One interviewed manufacturer reported their distributor customers were frustrated with the program’s reporting requirements, particularly the need to tie products sold to particular commercial projects.
 - Contractors or end-use customers may make a single purchase to cover multiple projects.
 - Distributors perceive that this requirement does not apply to big box stores and see this difference in requirements as preferential treatment for a competitor that already has market advantages.
 - This manufacturer reported that distributors do not use the program for some sales, particularly for smaller orders. In total, this manufacturer estimated that 25-30% of sales may not pass through the program.

SUGGESTIONS FOR PROGRAM IMPROVEMENT

- One manufacturer reported that the Xcel Energy Business LED Instant Rebate Product program’s historic focus on screw-in bulbs had limited its applicability for commercial lighting.
 - This manufacturer suggested the program could benefit by incentivizing a wider range of products.
 - This manufacturer noted that it may be difficult for distributors and contractors to track which products are eligible for midstream rebates, which are eligible for prescriptive rebates, and which are custom.

⁷ The fourth respondent was unable to provide detailed responses about the impact of rebates on product design.

- Another manufacturer suggested that higher incentives would lead to increased sales of lighting products, noting that utilities in the Northeast offer rebates that are twice what Xcel Energy offers for LED flat panels or troffers. In those areas, this manufacturer reported, their sales of LED flat panels and troffers are 25% higher than in Xcel Energy's territory.
- Two manufacturers suggested there was an opportunity for the program to increase its communication with manufacturers, to keep manufacturers apprised of any changes to the program and provide an opportunity for manufacturer input on program design.

EXPECTED 2021 LED SALES

- Two of the four interviewed manufacturers produce exclusively LED lamps, and the remaining manufacturers reported the large majority (>90%) of their sales are LED.
 - One manufacturer reported producing some non-LED replacement lamps, although they expected the share to decrease over time. The other reported minimal non-LED sales, all for specialty applications.
 - One manufacturer reported the greatest demand for non-LED lamps in pin-based lamps, reporting that many hotels purchase pin-based GU-24 lamps and typically do not switch to LEDs unless they are completing a larger lighting retrofit.
- Three interviewed manufacturers anticipated moderate increases in their LED lighting sales in 2021 relative to 2019.
 - Anticipated increases in LED sales volume ranged from "low single digit percentages" to 25%.
 - One manufacturer was not able to estimate a sales volume increase, but expected increases of 2% to 5% in LED market share for linear tubes, screw-based lamps and pin-based lamps.

INFLUENCE OF XCEL ENERGY BUSINESS LED INSTANT REBATE PRODUCT PROGRAM

- All the interviewed manufacturers who provided estimates expected that their LED lamp sales would be lower if the Xcel Energy Business LED Instant Rebate Product program was not available.
 - One manufacturer estimated LED sales would decrease by 40% in Xcel territory
 - Another expected a more moderate decline of 15-20%
 - A third was unable to provide a quantitative estimate, but stated that "anywhere there is a rebate program, we have substantially higher sales."

IMPACT OF COVID-19 ON CURRENT AND EXPECTED SALES

- Interviewed manufacturers expect the COVID-19 pandemic to have a significant, negative impact on overall lighting sales.
 - Utility programs shutting down, end-use customers restricting access to their facilities, and distributors suspending visits from vendors have created barriers to lighting sales. Businesses are also reducing spending.
 - Two manufacturers reported an initial drop in lighting sales of approximately 50%, with one elaborating that sales have recovered somewhat but remain down by approximately one third.
 - One LED-only manufacturer reported that, while they experienced a large, initial drop in lighting sales, their domestic manufacturing capabilities have allowed them to meet strong demand in late spring and summer without the supply chain disruptions that other manufacturers have experienced.
- The pandemic has driven a shift in the types of lighting products customers demand:
 - One manufacturer noted a shift in the product mix: while there has been a large drop in sales of linear lamps, sales of residential fixtures have been high: "We are blowing through recessed lighting products like we never have before."
 - Another manufacturer expressed uncertainty about future demand for lighting in commercial office space as more people work remotely.
 - A third manufacturer saw potential for lamps that could provide virus mitigation, noting that these would primarily be screw-in lamps.
- Three manufacturers reported they did not expect sales to return to pre-COVID-19 levels until a vaccine becomes widely available or cases decrease. One noted that, if this occurs early in 2021, sales for the year could be strong, but another did not expect it to occur until at least the middle of the year.

D.2 TRADE ALLY INTERVIEW RESULTS

To support the process and impact evaluation of the 2020 Xcel Energy Instant Lighting Rebate Program, members of the EMI Consulting evaluation team conducted in-depth telephone interviews with trade allies.

The evaluation team interviewed 34 trade partners as part of this effort, as shown in **Error! Reference source not found..** Of these trade partners 8 were highly active (top 12 based on quantity of new equipment installed) and 26 were less active (all others). Trade allies in the highly active group installed over 9,200 efficient lighting products, and trade allies in the less active category installing from 32 up to 9,200 efficient lighting products. These interviews focused on process-related and net-to-gross questions.

Table 1. Xcel Energy Colorado Instant Rebate Lighting Program Trade Ally Target Interviews, by Interview Stratum

Trade Ally Interview Strata	Population	Completed Interviews	Percent of population
Highly active (9,200+ products installed)	12	8	75%
Less active (<9,200 products installed)	54	26	48%
Total	66*	34	52%

*note: our team found 2 duplicates in the population, reducing population size from 68 to 66.

Evaluation Objectives

The objectives for the trade ally interview task for the Xcel Energy Colorado Instant Rebate Lighting Program evaluation were to understand trade ally perceptions and awareness of the program and products, understand customer decision making and barriers, assess product experience and satisfaction, and gather data to conduct a net to gross analysis.

PERCEPTIONS AND AWARENESS

- Assess trade ally perception and awareness of efficient lighting equipment to understand how this may hinder greater product participation from trade partners and their customers.
- Identify barriers to participation from the trade ally perspective (certification requirements, administrative demands, program portal). Determine if trade allies sell products without the rebate and why.

CUSTOMER DECISION MAKING AND BARRIERS

- Understand how trade allies are promoting efficient lighting measures and how they are educating customers about the equipment and instant rebate.
- Identify barriers midstream vendors perceive to the adoption of efficient lighting measures by customers.
- Explore how trade allies work with customers with maintenance contracts, and how, if at all, they influence lighting purchases for these customers.

PRODUCT EXPERIENCE AND SATISFACTION

- Assess trade allies product experience and satisfaction with the product, including satisfaction with range of efficient measures, satisfaction with trade ally portal, and satisfaction of Trade Ally training and outreach.
- Understand what current activities are working well to motivate trade allies to sell more energy efficient lighting.

NET-TO-GROSS IMPACT

- Understand product attribution and how trade allies are influenced by the midstream offering.

Key Takeaways

- Trade Allies saw the value of high-quality products, and high-efficiency bulbs, particularly DLC listed LEDs. High-efficiency bulbs meant lower bills, higher return on investment, and higher bulb longevity for their customers. They relied on their manufacturer representatives to stay up to date with the latest LED products and technology.
- Overall trade allies were satisfied with the products available through the Instant Rebate Lighting Program. They especially liked that LED tubes were now included in the program. Trade ally respondents wanted to see more exterior options in the Instant Rebate Lighting Program including LED HID equivalent bulbs, mogul medium based bulbs, exterior wall packs and parking lot lighting. They also wanted more options for interior bulbs including adjustable color bulbs, Type B bulbs, troffers (1x4, 2x2, 2x4), linear strips, ambient fixtures, metal halide replacements (175, 200, and 400 watt), and solid state track heads (currently in custom).
- Trade ally respondents were not confused about the overlap between the Prescriptive Program and Instant Rebate Lighting Program. However, they wanted more products available on the Instant Rebate Lighting Program, particularly HID and exterior lighting.
- The longevity of LED bulbs has reduced the need for maintenance contracts. Only 4 respondents said they did maintenance contracts. One Trade Ally explained “my whole position is ‘let’s convert you to LED so you don’t have lighting maintenance to worry about’...the whole point is to eliminate that expense”. Those who did maintenance contracts said that each contract was different; some allowed the distributor to choose a bulb at the time of repair,

and sometimes it was predetermined. Most noted that if they are going to convert to LED, it was typical that customers did an entire renovation than have a mix of bulb types in the space.

- Trade Allies prefer not to hold LED stock, since LEDs are changing rapidly, they fear they will be 'stuck with' old stock that they cannot sell. Therefore, most Trade Allies dropship their LED bulbs to customers.
- Trade ally respondents reported high satisfaction with the program (average of 9 out of 10 where 0 is not at all satisfied, and 10 is extremely satisfied).
- Trade Allies noted that high incentives were a crucial factor for influencing them to promote efficient lighting with customers. Respondents that worked in multiple territories remarked that Xcel Energy had relatively high lighting incentives, causing them to prioritize Colorado territories for national chain remodels.
- Respondents noted that looking up customer addresses for eligibility could be difficult because it had to be typed a certain way. This problem was intensified on properties with multiple meters and parking lots. When they had an issue, they called CLEAResult staff who fixed it for them in a timely manner.
- Respondents told us that uploading their product spreadsheet often resulted in errors. Some hypothesized this was because the part number was not consistently referenced from the same source. Respondents said that sometimes the number was from the manufacturer, sometimes the DLC listing, and sometimes from Energy Star. Additionally, respondents noted that sometimes the system required the long number and sometimes the short number. Most trade allies said they would send an email to CLEAResult staff and it would get handled. A few respondents solely send the spreadsheet to CLEAResult staff instead of using the virtual portal.
- Overall trade allies were satisfied with the products available through the Instant Rebate Lighting Program. They especially liked that LED tubes were now included in the program. Trade ally respondents wanted to see more exterior options in the Instant Rebate Lighting Program including LED HID equivalent bulbs, mogul medium based bulbs, exterior wall packs and parking lot lighting. They also wanted more options for interior bulbs including adjustable color bulbs, Type B bulbs, troffers (1x4, 2x2, 2x4), linear strips, ambient fixtures, metal halide replacements (175, 200, and 400 watt), and solid state track heads (currently in custom).

Interview Findings By Research Question

This section describes the findings from the Xcel Energy Colorado Instant Rebate Lighting Program trade ally interviews. The results are organized by the research question used to address each of the research objectives outlined above.

PERCEPTIONS AND AWARENESS

- Trade Allies became aware of the Xcel Energy Instant Rebate Lighting Program through their participation in the Xcel Energy Prescriptive Program. They either enrolled in the Instant Rebate Lighting Program shortly after launch, or, once they realized LED tubes moved from the Prescriptive Program to the Instant Rebate Lighting Program.
- Trade Allies saw the value of high-quality products, and high-efficiency bulbs—particularly DLC listed LEDs. High-efficiency bulbs meant lower bills, higher return on investment, and higher bulb longevity for their customers. They relied on their manufacturer representatives to stay up to date with the latest LED products and technology.
- Smaller companies expressed that the time to process applications could be a barrier. They did not always use a rebate for “onsie-twosie” transactions (an application for one or two lamps). In larger organizations, getting all sales team members within a distributor company to report a rebate opportunity could be a challenge. Most tried to resolve this by making it as easy as possible for their sales staff to comply.
- The Instant Rebate Lighting Program attracts non-traditional distributors; several indicated that they identified more as contractors that drop-shipped product from manufacturers for their jobs, even expressing confusion when the program started because they were “not technically a distributor” but they sold to the end customer. Two of the respondents worked for companies that specialized in rebate processing and did not do distribution or installation.
- A few respondents expressed frustration about the overlap between residential and commercial programs. Some were frustrated that larger residential discounts were available on bulbs at ‘big box’ stores (e.g., Costco, Lowes, Home Depot), and they felt they could not compete on price.
- Trade ally respondents were not confused about the overlap between the Prescriptive Program and Instant Rebate Lighting Program. However, they wanted more products available on the Instant Rebate Lighting Program, particularly HIDs and exterior lighting.
- Highly active participants came from a range of company sizes (based on employees) and did not differ in their satisfaction of the program (8.7 out of 10) compared to less active trade allies (8.8 out of 10).

CUSTOMER DECISION MAKING AND BARRIERS

- Trade ally respondents tended to promote energy efficient lighting as the sensible choice for customers, using return on investment, energy savings, reduced maintenance costs, rebate incentives, and lighting quality (temperature and lumens) as key selling points. Trade allies did not want to be perceived as peddling a certain product, but rather, they said they genuinely believed LEDs are a better choice for their customers and tried to educate their customers rather than sell to them.

- When customers are purchasing lighting, they are most interested in price, return on investment, warranty, longevity, and quality of light.
- When customers did not purchase LED lights, it was usually because it was a single replacement (common for fluorescent tubes) and the customer did not want to commit to a renovation.
- Several trade allies noted that the market reduction in LED prices was a benefit and a detriment; it reduced LED costs, but also caused customers to purchase cheap LED products with low quality and short lifespan. This bad experience caused customers dismiss LED technology generally.
- Trade ally respondents explained that sometimes customers will buy fluorescent lights because they are still cheaper than LEDs. However, they did not believe it would be long until fluorescents and LEDs were a similar price.
- COVID-19 had a net negative effect for most trade ally respondents. Product supply slowed in February and March when COVID-19 peaked in China, and then product demand dipped in March, April, May and June as COVID-19 gained traction in the United States. Trade ally respondents saw an uptick in August sales, and hoped that it would continue through next year. They noted that the COVID bonus for an additional \$2 off of LED tubes has been helpful for securing sales during the pandemic.
- The longevity of LED bulbs has reduced the need for maintenance contracts. Only four respondents said they did maintenance contracts. One Trade Ally explained "my whole position is 'let's convert you to LED so you don't have lighting maintenance to worry about'...the whole point is to eliminate that expense". Those who did maintenance contracts said that each contract was different; some allowed the distributor to choose a bulb at the time of repair, and sometimes it was predetermined. Most noted that if their customers are going to convert to LED, it was typical that they did an entire renovation than have a mix of bulb types in the space.
- Trade allies preferred not to hold LED stock. Since LEDs are changing rapidly, they fear they will be 'stuck with' old stock that they cannot sell. Therefore, most trade allies dropship their LED bulbs to customers.
- Trade Ally respondents did not typically offer additional sales or price reductions on bulbs (outside of the rebates). However, when they received a discount from manufactures, they passed the discount onto their customers. They also did discounts for bulk quantities.

PRODUCT EXPERIENCE AND SATISFACTION

- Respondents reported high satisfaction with the program (average of 9 out of 10 where 0 is not at all satisfied, and 10 is extremely satisfied). Being a highly active, or less active trade ally did not affect satisfaction (both had an average of 9 out of 10 for satisfaction).
- Trade allies noted that high incentives were a crucial factor that influenced them to promote efficient lighting with customers. Respondents that worked

in multiple territories said that Xcel Energy had relatively high lighting incentives, causing them to prioritize Colorado territories for national chain remodels.

- Trade ally respondents felt the program has been getting better over time. They said there were large improvements since CLEAResult became the implementer. They were especially happy with the fast and friendly customer service.
- 16 out of 28 respondents remembered doing a training with Xcel. Respondents referenced the trade ally portal training and the annual trade ally meetings. The average satisfaction of training was 8 out of 10, where 0 is not at all satisfied and 10 is extremely satisfied.
- Respondents noted that looking up customer addresses for eligibility could be difficult because it had to be typed a certain way. This problem was intensified on properties with multiple meters and parking lots. When they had an issue, they called CLEAResult staff who fixed it for them in a timely manner.
- Respondents told us that uploading their product spreadsheet often resulted in errors. Some hypothesized this was because the part number was not consistently referenced from the same source. Respondents said that sometimes the number was from the manufacturer, sometimes the DLC listing, and sometimes from Energy Star. Additionally, respondents noted that sometimes the system required the long number and sometimes the short number. Most Trade Allies said they would send an email to CLEAResult staff and it would get handled quickly. A few respondents bypassed the portal entirely, and instead sent the spreadsheet to CLEAResult staff through email.
- Overall trade allies were satisfied with the products available through the Instant Rebate Lighting Program. They especially liked that LED tubes were now included in the program. Trade ally respondents wanted to see more exterior options in the Instant Rebate Lighting Program including LED HID equivalent bulbs, mogul medium based bulbs, exterior wall packs and parking lot lighting. They also wanted more options for interior bulbs including adjustable color bulbs, Type B bulbs, troffers (1x4, 2x2, 2x4), linear strips, ambient fixtures, metal halide replacements (175, 200, and 400 watt), and solid state track heads (currently in custom).

NET TO GROSS

- The most common sales strategy respondents used was upselling LED bulbs to contractors (87%). However, 14 distributors already sold 100% LED, so, upselling was essential to their business model.
- Conducting training workshops with contractors or customers was the least common sales strategy (30%). 4 out of the 30 respondents noted that they trained sales staff, but not contractors.
- When asked about what influenced their LED sales strategies, Xcel Energy LED incentives and past program experience ranked highest (7 out of 10).

Market and promotion support from Xcel ranked in the middle (5 out of 10), and Xcel Energy sales training ranked lowest (3 out of 10).

- When asked what variables influenced the LED market overall in the last 10 years, Trade Allies ranked reductions in cost due to incentives (8 out of 10) and reductions in cost due to market forces (7 out of 10) most influential, and sales training from Xcel as least influential (5). Customer awareness of LED technology was ranked in the middle, at 6 out of 10.

IMPLICATIONS FOR NET-TO-GROSS

- Two of the 34 trade allies were rebate processors. The NTG questions did not apply to them.
- Small businesses often did not have exact sales data readily available by bulb, and large businesses often could not disclose exact figures, making quantitative estimates of sales per year difficult to obtain.
- Trade allies struggled to rank how the program influenced their likelihood to pursue LED sales strategies. Often, they discussed that they would have done the same strategies, but they did not think those strategies would be as effective without the program.
- Trade allies struggled with the question “on a scale of 0 to 10 where 0 is not at all influential, and 10 is extremely influential, what is the influence that reductions in LED cost due to market forces had on the market transition?”. They agreed that the reduction in cost helped spur LED market share, but they also were cautious because low cost LEDs were poor quality, which sowed distrust with their customers about LED technology generally.
- Trade ally respondents struggled to think of sales training with Xcel Energy. They often noted training for the trade ally portal, and annual program updates, but not specific sales training.

D.3 INACTIVE TRADE ALLY INTERVIEW RESULTS

To support the process and impact evaluation of the 2018 Xcel Energy Business LED Instant Rebate Product, members of the EMI Consulting evaluation team conducted in-depth telephone interviews with inactive trade partners. The evaluation team defined inactive trade partners as those who had previously participated in the program but did not have a current participation agreement in place for the 2020 program year, or who had not yet submitted incentive applications in the 2020 program year. The evaluation team interviewed four inactive trade partners as part of this effort.

Evaluation Objectives

The inactive trade partner interview task for the Business LED Instant Rebate Product evaluation inform three research objectives of the process evaluation.

- Understand business customer variations in their decision-making processes to install efficient lighting equipment, and whether product influence varies by these differences.
- Assess product experience and satisfaction, among both customers and trade partners.
- Understand customer awareness, participation in, and perception of, related programs and products.

The inactive trade partner interviews were intended to understand why some vendors decided to stop participating in the program. To understand this, we asked questions about their role, the experience with the program, and what ultimately caused them to stop participating. Specifically, the interviews addressed the following research questions:

- What are the daily tasks, goals, and frustrations for vendors?
- What product types are sold and what proportion are LED-based, now and for next year?
- How has COVID-19 impacted efficient lighting sales, now and projected?
- How did the vendor become aware of the program?
- What other utility programs have they worked with?
- When did the vendor participate in the program and what was their experience with different program aspects?
- Has the program influenced their LED sales?

Key Takeaways

- None of the Interviewed inactive trade partners were traditional distributors: instead, they provide a range of energy efficiency services to end use

customers on projects that do not go through traditional distribution channels.

- Interviewed inactive trade partners generally have a positive view of the Business LED Instant Rebate Product. They were particularly satisfied with the support they received from program staff.
- Interviewed inactive trade partners have not recently participated in the product due to shifts in their business focus, either toward products not covered by instant rebates or geographies outside of Xcel Energy territory.
- The product's ongoing influence on inactive trade partners varies, but is generally limited given their shift in focus away from instant rebate eligible products.

Interview Findings By Research Question

This section describes the findings from the Xcel Energy Business LED Instant Rebate Product inactive trade partner interviews. The results are organized by the research question used to address each of the research objectives outlined above.

DAILY TASKS, GOALS, AND FRUSTRATIONS

- None of the interviewed inactive participants were traditional lighting or electrical distributors.
 - All work with end-use clients to provide energy efficiency services, ranging from identifying and applying for rebates to comprehensive efficiency retrofits, to providing solar and storage systems.
 - All operate across multiple states.⁸
- Interviewed inactive participants were divided regarding installation services: two offer installation while two do not.

LIGHTING PRODUCTS SOLD AND LED MARKET SHARE

- The total number of lighting products respondents reported selling in 2019 were the following: Interview 1: 100,000; Interview 2: 5,000; Interview 3: 40,000; Interview 4: 809.
- The most common lighting products interviewed inactive participants reported selling included fixtures, retrofit kits, and linear tubes.
- All the interviewed inactive participants reported exclusively selling LED lighting products.
- Two inactive participants anticipated their LED sales would increase in 2021 relative to 2019, while two anticipated their LED sales would be the same. Respondents reported these projections were based on past sales trends.

⁸ One respondent was a Colorado franchise of a company operating in multiple states.

COVID-19 IMPACTS ON LIGHTING SALES

- Most interviewed inactive participants (three of four) have experienced a large decrease in lighting sales as a result of the COVID-19 pandemic and associated business shutdowns.
 - Estimates of the decrease in sales range from 30% to more than 50%.
 - Respondents noted that, while some previously planned projects and municipal projects have continued, “as far as commercial impacts, they have been devastating.”
 - One respondent reported that projects that had been put on hold in May and June were just now moving forward.
- Interviewed inactive participants were uncertain of the lasting impacts of the COVID-19 pandemic on lighting sales.
 - Two did not believe impacts would continue through 2021, assuming there was not a resurgence in the virus and new shutdowns. One of these respondents noted that sales have recently increased.
 - One noted that changes in work and consumption patterns resulting from the pandemic could result in longer-term impacts if fewer people work in offices and shop in brick-and-mortar retailers.
 - One was more pessimistic, and did not expect commercial and industrial customers to return to normal spending on capital projects until the middle or end of 2021.

SOURCE OF PROGRAM AWARENESS

- The two respondents who provided data on their source of program awareness indicated that the program had reached out to them directly, in one case as a newly formed business and in the other due to an existing relationship with Xcel Energy.

EXPERIENCE WITH OTHER UTILITY PROGRAMS

- All of the interviewed inactive trade partners had worked with utility programs in other jurisdictions, and some work with programs across the country.
- Most respondents had experience with other Xcel Energy efficiency products, including both lighting products and products targeting other measures.

EXPERIENCE WITH PROGRAM ASPECTS

- All the interviewed inactive trade partners emphasized that the CLEAResult staff with whom they had interacted were prompt and helpful with their responses to questions.
 - “Most everybody I worked with was top-notch on response times and stuff. I can’t think of anyone that was difficult to work with.”
 - “It’s nice to know that I have a contact there as well. If I have questions, I can go to him.”

- “The people were great and Xcel, in general, was great to work with. We had a really positive experience.”
- Inactive trade partners generally gave high ratings to the ease of program processes:
 - Inventory tracking (average difficulty rating: 8.25):⁹ No inactive trade partners described specific challenges with this process.
 - Customer screening (average difficulty rating: 9.75): Inactive trade partners generally reported customer screening was easy, with two noting that they review customers’ utility bills as part of their typical process, although one noted that the online address verification tool could be somewhat difficult as it required the address or premise number to match Xcel’s records exactly.
 - Rebate applications (average difficulty rating: 8.5): Two respondents noted some initial confusion around the online portal and the invoicing process but reported that program staff helped to resolve these issues and the process became easier as they gained experience.
- All the interviewed inactive trade partners had not recently participated in the program because they had not completed projects that included instant rebate measures in Xcel’s service area.
 - Two respondents noted that the focus of their lighting retrofits had shifted away from screw-based and linear lamps; both reported their work is currently more focused on outdoor and roadway lighting.
 - Two other respondents, who work with large, national retailers and real estate portfolio owners, reported their clients had been focused on projects outside of Colorado.
 - A fifth inactive trade partner, interviewed as part of the 2019 Lighting Efficiency Product evaluation, also noted a shift in their business to focus on new construction projects rather than retrofits given the strong construction market in Colorado.
 - Two respondents noted, as the lighting market shifted, it had become more difficult to sell projects based on instant rebate measures in Colorado, particularly without a local sales staff.

PROGRAM INFLUENCE ON LED SALES

- Inactive trade partners were divided in their assessment of the program’s ongoing influence on their LED sales. Two respondents estimated their lighting sales would be lower if the program did not exist, while two did not anticipate a change. The experience of two inactive trade partners illustrates the spectrum of responses:
 - One respondent noted that lighting equipment was typically already specified when they became involved in a project to identify and

⁹ Ratings were given on a scale from zero to ten, with zero meaning very difficult and 10 meaning very easy.

process incentives. While they would note any lighting products that did not qualify for an incentive, this advice would likely impact subsequent projects, rather than the immediate one.

- In contrast, another respondent reported that, while their business had since shifted to focus in other areas, the Xcel Energy Instant Discount lighting product played an important role in the early growth of their company. According to this respondent, “it certainly had a dramatic impact on our go-to-market strategy for a short time...that was the base of our marketing strategy, to lead with the instant rebate program.”

LED Instant Rebate Evaluation

2020 Program Evaluation: Recommendations and Responses

The Xcel Energy LED Instant Rebate offering in Colorado offers instant prescriptive rebates, through a trained distributor channel, to Xcel Energy electric business customers who install qualifying energy efficient lighting equipment in existing or new buildings. Rebates are offered to encourage commercial and industrial (C&I) customers to purchase energy efficient lighting by lowering the upfront premium costs associated with this equipment.

Xcel Energy (“the Company”) engaged a team of researchers led by EMI Consulting and its partner Apex Analytics to conduct a process and impact evaluation of the LED Instant Rebate product. The evaluation team completed the following activities as part of that evaluation:

- Calculate the retrospective and prospective net-to-gross ratio (“NTGR”);
- Evaluate the product perceptions and awareness amongst customers and trade partners;
- Understand customer decision-making and barriers when purchasing lighting products;
- Product experience and satisfaction through customer and trader partner surveys and interviews;
- Participation in related programs was asked during trade partner interviews; and
- Benchmarking review of best practices of other similar midstream products and incentives nationally.

Based on the results of this research, the evaluation team developed key findings and recommendations for Xcel Energy.

Recommendation	Response
<p>1) a) If the product design remains the same, the evaluation team recommends using a prospective NTGR of 0.692. If Xcel Energy shifts product mix away from screw-based lamps the NTGR could increase according to the following equation:</p> $\text{Free Ridership} = 0.358 \times \text{Screw-based Units Sales Share} + 0.198$ <p>The spillover (0.2%) and market effects (4%) portions of the NTG formula are not affected by the screw-in share and remain the same as the retrospective NTG value. Thus, the NTG becomes $\text{NTG} = 1 - (0.358 \times \text{Screw-based Units Sales Share} + 0.198) + (0.002) + (0.04)$.</p> <p>b) The evaluation team recommends additional NTGR research for the additional direct-to-manufacturer channel.</p>	<p>The Company will apply a prospective NTGR of 78% to the program starting January 1, 2021.</p> <p>The 2020 evaluation examined the impacts and processes of the product using feedback from both customers and trade based on the 2019 and early 2020 program achievements. The evaluation identified a consistent difference in program attribution between trade partners that sold a high volume of screw-in lamps as compared to those who sold a lower volume.</p> <p>The share of screw-based lamps among the total units incentivized in 2020 was 18 percent. The team assessed the 2020 values as reasonable—if not conservative—estimate of the screw-in share of 2021 achievements. While easing of pandemic concerns could drive a rebound in lamp types that were not in demand in 2020, the Company is already planning to reduce screw in lamps in alignment with the CO appliance bill.</p> <p>Additional NTGR research will be conducted for the direct-to-manufacturer channel once a significant customer sample size is established as this new channel ramps up in participation.</p>

<p>2) a) Update the portal to allow for ‘fuzzy’ matching in customer eligibility search tool.</p> <p>b) Allow DLC, Energy Star, and Short and Long product codes as valid entries.</p> <p>c) Conduct a usability study of the trade ally portal to find additional technical issue and opportunities for in-portal information.</p>	<p>The Program Partner Central portal has been updated to allow DLC, Energy Star, and short and long product codes as valid entries. The product team will continue to evaluate the best enhancements for the customer look-up experience while maintaining the integrity of the validation process.</p> <p>The Company’s midstream channel delivery will assess the usability of Program Partner Central portal on a quarterly basis and roll out enhancements accordingly.</p>
<p>3) Help customers understand what to expect for their energy bill. Provide print materials, and/or train trade partners to help customers understand what to expect for their next energy bill, particularly when lighting projects are taking place before a heavy heating or cooling season.</p>	<p>The Company will continue to help customers understand what to expect for their energy bill. Educational materials will be made available for trade partners to help address how energy usage will follow seasonal trends and understanding how to analyze the annual average usage.</p>
<p>4) Continue to utilize short-term bonus periods to promote upticks in project completion.</p>	<p>The Company will continue to utilize short-term bonus periods to promote increased project completion and overall boost customer participation when needed.</p>
<p>5) a) Where possible, add more lighting types to the Business LED Instant Rebate Product, including HIDs, high/low bay lights, troffers, retrofit kits, parking garage, exteriors, controls, and integrated fixtures.</p> <p>b) Conduct an additional C&I baseline study to understand the greatest opportunities for marketing and promotion of the Business LED Instant Rebate Product. Past baseline research has indicated that certain market sectors in terms of business size and type are more transformed than others.</p>	<p>The Company will continue to evaluate and consider including fixtures and retrofit kits as part of the product offering.</p> <p>The Company will continue to pursue and conduct C&I baseline studies to inform on which market sectors have a higher propensity for participation and market the offering according to those findings.</p>