



# Xcel Energy Colorado Commercial Refrigeration Product 2017 Evaluation

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FINAL  
REPORT



## Presented To:

Nicholas Minderman  
DSM Policy & Strategy Consultant  
Xcel Energy  
414 Nicollet Mall  
Minneapolis, MN 55401



## Presented By:

Jeremy Kraft  
Project Director  
EMI Consulting  
83 Columbia St. Suite 400  
Seattle, WA 98104



## PARTNERS

This report was produced by the evaluation team led by EMI Consulting. The evaluation team includes the following partners:



Evergreen Economics



RIDGE & ASSOCIATES

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# Executive Summary

## 2017 Commercial Refrigeration Product



### Introduction

Xcel Energy contracted with EMI Consulting to evaluate the 2017 Commercial Refrigeration Product in Colorado. The Product encourages energy efficiency among commercial customers by providing a technical audit, direct installation of low-cost measures, condenser coil cleaning, and equipment upgrade rebates. The Xcel Energy 2017-2018 Demand-Side Management Plan specified a process-only evaluation for the Commercial Refrigeration Product. As part of the evaluation, EMI Consulting assessed product satisfaction, identified paths to customer participation, assessed the effectiveness of the product at encouraging customers to move beyond direct install measures and make deep retrofits at their facilities, assessed the effectiveness of engagement with trade partners, and identified opportunities for optimization. This summary includes the key findings and recommendations from this evaluation.

### Methods

- Telephone survey (n=37)
- Trade partner interviews (n=10)
- Peer program benchmarking interviews (n=7)
- Staff interviews (n=5)

**Fielding:**  
Sept 2017 – Oct 2017

### Key Findings



Both participants and trade partners are **satisfied with the product**. 84% of participant respondents were satisfied with the product overall and trade partners were somewhat or highly satisfied with all elements discussed.



**Trade partners are not aware of the audit.** Though all interviewed trade partners were aware of the Commercial Refrigeration Product, only 2 of the 10 were aware of the audit.

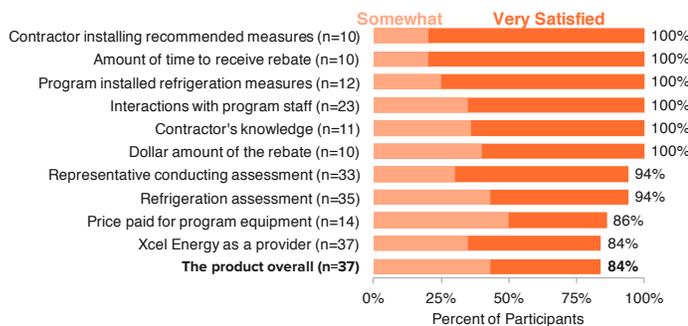


**Only a few trade partners can install all audit recommendations.** 7 of the 10 interviewed trade partners can only install some of the audit recommendations. Trade partners typically specialized in either refrigeration or lighting.



**Equipment costs remain a barrier.** About two-thirds of participant respondents reported that equipment costs were a barrier to pursuing a recommendation (60%).

### Program Satisfaction



84% of participant respondents were **somewhat or very satisfied** with Xcel Energy as an energy provider.

84% of participant respondents were **somewhat or very satisfied** with the program overall.



**Most trade partners were somewhat or highly satisfied** with rebated equipment (6/6), rebate processing (5/6) and program staff (5/6).

4 of 6 trade partners were **somewhat satisfied over rebate levels**.

### Detailed Findings

#### Path to Customer Participation



About half of **participants become aware of the product from in-person visits**, and peer utilities also mentioned this as most effective strategy (4/7).



Participants were initially motivated to receive the audit by **failing or old equipment and by reducing energy bills**.



**Most peer utilities perform high-level walk-throughs** instead of in-depth audits (5/7), and the remaining utilities did not complete any assessment (2/7).



Two peer utilities provide **increased services to “mom and pop” stores**.

#### Moving Beyond Direct Install Measures



A little more than **one-third of participants pursued audit recommendations** (37%). The most common measures were electronically commutated motors (17%) and LED refrigeration lighting (14%).



About **one-third of participants plan on pursuing upgrades** in the future (32%). Most of these participants plan to pursue upgrades within the next 2 years (10/12).



Equipment costs remained a barrier. A little more than half of participants (52%) reported that **budget cycles impacted their ability to complete upgrades**.

#### Trade Partner Engagement



**Trade partners reported specializing** in refrigeration or lighting, not both (7/10).



Both **distributors reported willingness to market product to trade partners**. Distributors mentioned often working with small contractors (1 to 2 employees) that Xcel Energy staff may not often interact with.



**Trade partners requested product and refrigeration training**. 5 trade partners requested product training (i.e. when to use lighting vs. refrigeration rebate forms, info about rebates, etc.) 2 trade partners requested refrigeration training (i.e. how to install simple refrigeration measures, etc.)

### Conclusions & Recommendations

There is a disconnect between audit and trade partners.

Costs remain a barrier for customers.

**Define the purpose of the audit** as either high-level walk-through or in-depth assessment with clear trade partner hand-off.

**Coordinate outreach with other products** as in-person visits are most effective but expensive.

**Increase outreach to other trade partners** through one-on-one meetings, trainings, and collaborations with distributors.

**Explore developing a tiered trade partner network list** for the product that includes project counts and types of measures trade partners install.

**Include equipment reliability in sales pitches.**

**Plan for participants to complete recommended upgrades over the long-term.**

**Explore diversifying rebate** options based on business type.

# 1. INTRODUCTION

Xcel Energy offers a comprehensive array of demand side management (DSM) and other energy services and products to its customers. In evaluating its 2016 products, the utility desired to improve the customer experience, to understand each product’s role in changing the marketplace, to analyze product influence on customer choices, and to ensure industry-leading product performance. In 2017, Xcel Energy contracted with EMI Consulting and its partners—Evergreen Economics, Apex Analytics, and Ridge & Associates (hereafter ‘the evaluation team’)—to undertake the evaluations of eight products offered in Colorado and Minnesota, including the Colorado Commercial Refrigeration Product discussed in this report.<sup>1</sup> This introduction includes overviews of the product and our evaluation and describes the organization of this report.

## 1.1 Product Overview

The Commercial Refrigeration Product encourages energy efficiency among commercial customers with large refrigeration loads (e.g., liquor stores, schools, groceries) by providing technical assistance, direct installation of low-cost measures, coil cleaning education, and financial incentives for equipment upgrades. The third-party implementer (Franklin Energy) initially conducts a refrigeration audit for participating customers, during which they provide a refrigeration condenser coil cleaning training. This training provides customers with the best practices for coil cleaning, helps save energy from waste heat, and extends the life of refrigeration equipment. After completing the refrigeration audit, participants receive an audit report detailing recommended upgrade measures. Common audit-recommended upgrades include: anti-sweat heater controls, reach-in electronically commutated motors (ECM), efficient reach-in case doors, evaporator fan motors and motor speed controls, night curtains for open coolers, LED reach-in case lighting, night curtains for open coolers, the retrofit of open multi-deck cases with solid glass doors, and the replacement of open multi-deck cases with efficient reach-in cases with doors. The product also covers customer commercial energy-saving refrigeration projects not included in the prescriptive rebate product via the Custom Efficiency Product. Outreach for the product is primarily provided by the implementer who recruits and provides participants with a list of Xcel Energy trade partners.

## 1.2 Evaluation Overview

The evaluation team designed a process evaluation of the Commercial Refrigeration Product to:

- Assess customer satisfaction;
- Understand the path to customer participation;
- Assess the effectiveness of the product at encouraging customers to move beyond the direct install measures and make deep retrofits at their facilities;
- Assess the effectiveness of the product’s engagement with trade partners; and
- Identify ways to optimize product delivery and customer engagement.

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<sup>1</sup> The products selected for evaluation in 2017 include: Commercial Refrigeration (CO), Cooling Efficiency (CO), Data Center Efficiency (CO), Insulation/Air Sealing (CO), Residential Heating (CO), Data Center Efficiency (MN), Commercial Refrigeration (MN), and Insulation Rebate (MN). The evaluation team prepared a separate report for each of these evaluations.

Xcel Energy staff requested the focus of this evaluation be on process issues only; as a result, the evaluation team undertook no impact evaluation activities for the Commercial Refrigeration Product. Instead, the evaluation team focused on the unique market structure and barriers that influence refrigeration equipment adoption. The evaluation team designed an approach tailored to capture useful information about this distinct customer segment (including groceries, restaurants, and convenience stores, with a high representation of chains) and its associated niche trade partners. Table 1-1 presents an overview of the research topics and data sources used in this evaluation of the Colorado Commercial Refrigeration Product. As illustrated, the data collection activities may have contributed to one or to multiple evaluation objectives.

**Table 1-1. Commercial Refrigeration Product Evaluation Framework**

<b>Evaluation objectives</b>	<b>Assess participant satisfaction</b>	<b>Understand path to customer participation</b>	<b>Assess effectiveness of moving customers beyond direct installations</b>	<b>Assess effectiveness of trade partner engagement</b>	<b>Identify ways to optimize product delivery and engagement</b>
<b>Research topics</b>	Participant satisfaction  Participant experiences with various product elements  Customer experience with coil cleaning training	Sources of participant product awareness  Motivations for initial audit participation  Customer participation paths used by other utilities	Participant pursuit of audit recommendations  Types of additional measures participants installed  Participant motivations for additional measure installation  Barriers to installation of additional measures  Customer purchase decision factors and budget cycles  Future upgrades planned by participants  Peer utility strategies for moving customers beyond direct installations	Types of trade partners involved in the product  Trade partner awareness and satisfaction  New avenues for trade partner engagement  Trade partner training opportunities	Potential product modifications which appeal to participants  Potential product modifications which appeal to trade partners  Peer utility approaches for product delivery
<b>Data sources</b>	Participant customer surveys	Participant customer surveys  Peer utility program manager interviews	Participant customer surveys  Peer utility program manager interviews	Product staff interviews  Product tracking data review  Trade partner interviews	Product staff interviews  Participant customer surveys  Trade partner interviews  Peer utility program manager interviews

## 1.3 Organization of the Report

The following chapters present process evaluation results. Chapter 2 discusses the process evaluation approach and findings related to each evaluation objective. Conclusions and recommendations are presented in Chapter 3. Evaluation plans, survey instruments, and specific data collection results can be accessed in this report's appendices.

## 2. PROCESS EVALUATION

To accomplish the research objectives, the evaluation team elicited feedback from product staff, participating customers, and trade partners in the Xcel Energy Colorado territory, as well as managers of similar programs from peer utilities. This chapter presents key findings from the process evaluation, the evaluation team's approach to conducting the process evaluation, and specific findings relating to each evaluation objective. These findings inform the conclusions and recommendations presented in the next chapter.

### 2.1 Key Findings

The evaluation team found that participants expressed satisfaction with the Commercial Refrigeration Product and that, after receiving their Commercial Refrigeration Product refrigeration audit, a third of participants pursued recommended equipment upgrades or improved their refrigeration coil cleaning practices. Participants were also satisfied with various aspects of the product, including the contractor installing their recommended measures, the amount of time it took to receive their rebate, and the installed measures themselves. Despite only a third of participants pursuing audit-recommended equipment upgrades, a similar number of participants planned to pursue audit-recommended equipment upgrades in the future.

Financial factors at customers' organizations had a strong impact on the overall success of the Commercial Refrigeration Product. Participants most often reported that initial costs were a barrier to participation despite the availability of Xcel Energy Commercial Refrigeration Product rebates. In the same vein, set annual capital budgets impacted their ability to pursue equipment upgrades. For those participants that pursued recommendations, they also tended to be motivated by financial factors—including the rebate and longer-term savings on their energy bill. Non-financial reasons also were a major motivator to participation, including improving the reliability of equipment.

Trade partners familiar with the Commercial Refrigeration Product also expressed high satisfaction with the product, though only two of the ten trade partners the evaluation team spoke with were familiar with the Xcel Energy refrigeration audits. Trade partners also reported some confusion about the appropriate product to submit rebates forms through. Additionally, the evaluation team found that most of the interviewed trade partners interviewed specialize in the installation of either lighting or refrigeration measures (not both), and therefore are not able to install all recommendations from the refrigeration audit. Both of these findings support trade partners' requests for additional product training.

### 2.2 Approach

To accomplish the evaluation objectives for the Commercial Refrigeration Product, the evaluation team completed a suite of intersecting and complementary research activities in 2017. The following discussion highlights the research topics contributed by each of the following research activities: staff interviews, participating customer surveys, trade partner interviews, and peer utility benchmarking interviews. The appendices contain more detail regarding the approach. Appendix A

presents the evaluation plan and sampling method, and Appendix B presents data collection instruments.

## Staff Interviews

As a first step to the research, the evaluation team conducted in-depth interviews with Xcel Energy personnel involved with the Commercial Refrigeration Product and key staff from the implementation contractor. The staff interviews attempted to accomplish the following objectives:

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

Appendix B.4 presents the interview guide used for these discussions. Specific findings from the staff interviews can be found in Appendix C.

The evaluation team conducted 37 telephone surveys with participating customers drawn from Xcel Energy records.<sup>2</sup> The evaluation team defined a participating customer as any customer that closed a project in 2016 or the first quarter of 2017. To prepare for survey fielding, the evaluation team reviewed the Commercial Refrigeration Product measure-level tracking data and customer contact data. The evaluation team analyzed the measure-level tracking data to characterize participation. The evaluation team then linked customer contact data to measure-level data to develop the participant survey sample.

Table 2-1 summarizes the research topics addressed by the participant survey. The participant survey is presented in Appendix B.1 and specific results are presented in Appendix D.

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<sup>2</sup> The evaluation team had targeted 70 surveys with participants but was unable to reach the desired sample size due to a smaller than anticipated valid sample and a lower than anticipated response rate (12%).

**Table 2-1. Research Topics Addressed in the Participant Survey**

Evaluation Objective	Research Topic <sup>a</sup>
Assess participant satisfaction	Participant satisfaction Participant experiences with various product elements Participant experience with coil cleaning training
Understand path to customer participation	Sources of participant product awareness Motivations for initial audit participation
Assess effectiveness of moving customers beyond direct installations	Participant pursuit of audit recommendations Types of additional measures participants installed Participant motivations for additional measure installation Barriers to installation of additional measures Customer purchase decision factors and budget cycles Future upgrades planned by participants
Identify ways to optimize product delivery and engagement	Potential product modifications which appeal to participants

a: Research topics are pulled from those described in Table 1-1 and may not reflect every research question included in the participant survey instrument.

## Trade partner Interviews

The evaluation team conducted 10 in-depth interviews with trade partners (i.e., refrigeration contractors and lighting contractors that work on refrigeration equipment). The evaluation team interviewed 4 trade partners, each of who installed at least 20 projects through the Commercial Refrigeration Product, and 6 trade partners, each of who installed one to two projects or hadn't installed any projects despite being considered trade partners for the product. Table 2-2 presents the research topics from the trade partner interviews. Appendix B.3 presents the interview guide used for the trade partner research. Appendix E presents specific results from the trade partner interviews.

**Table 2-2. Research Topics Addressed in Trade Partner Interviews**

Evaluation Objective	Research Topic <sup>a</sup>
Assess effectiveness of trade partner engagement	Types of trade partners involved in the product Trade partner awareness and satisfaction New avenues for trade partner engagement Trade partner training opportunities
Identify ways to optimize product delivery and engagement	Potential product modifications which appeal to trade partners

a: Research topics are pulled from those described in Table 1-1 and may not reflect every research question included in the trade partner interview guide.

## Benchmarking Interviews

The evaluation team interviewed program managers at seven peer utilities to benchmark the Xcel Energy product against others in the industry. The evaluation team used the in-depth interviews to identify opportunities to improve the Xcel Energy offerings based on a comparison of peer utility programs' design, delivery, and processes. In addition, benchmarking allowed the evaluation team to understand the performance of the product in context with the performance of other utilities. The evaluation team sought data points for comparison from peer utility programs, such as:

- 2016 Savings goals and results by product and for the product portfolio
- Descriptive program information, including incentives, eligible measures and customers, implementation strategies
- Program operating budget
- Participation levels for customers and trade partners
- Approaches to engagement and their effectiveness

Table 2-3 below presents the research topics from the benchmarking interviews. Appendix B.2 contains the interview guide used for the benchmarking interviews. Appendix F presents the specific benchmarking results.

**Table 2-3. Research Topics Addressed in Benchmarking Interviews**

Evaluation Objective	Research Topic <sup>a</sup>
Understand path to customer participation	Customer participation paths used by other utilities
Assess effectiveness of moving customers beyond direct installations	Peer utility strategies for moving customers beyond direct installations
Identify ways to optimize product delivery and engagement	Peer utility approaches for product delivery

a: Research topics are pulled from those described in Table 1-1 and may not reflect every specific research questions included in the benchmarking interview guide.

The remainder of this chapter presents results related to each process evaluation objective. Where possible, the evaluation team synthesized findings to help Xcel Energy interpret customer and trade partner perspectives and identify actionable opportunities for improving product operations and marketing.

## 2.3 Assess Participant Satisfaction

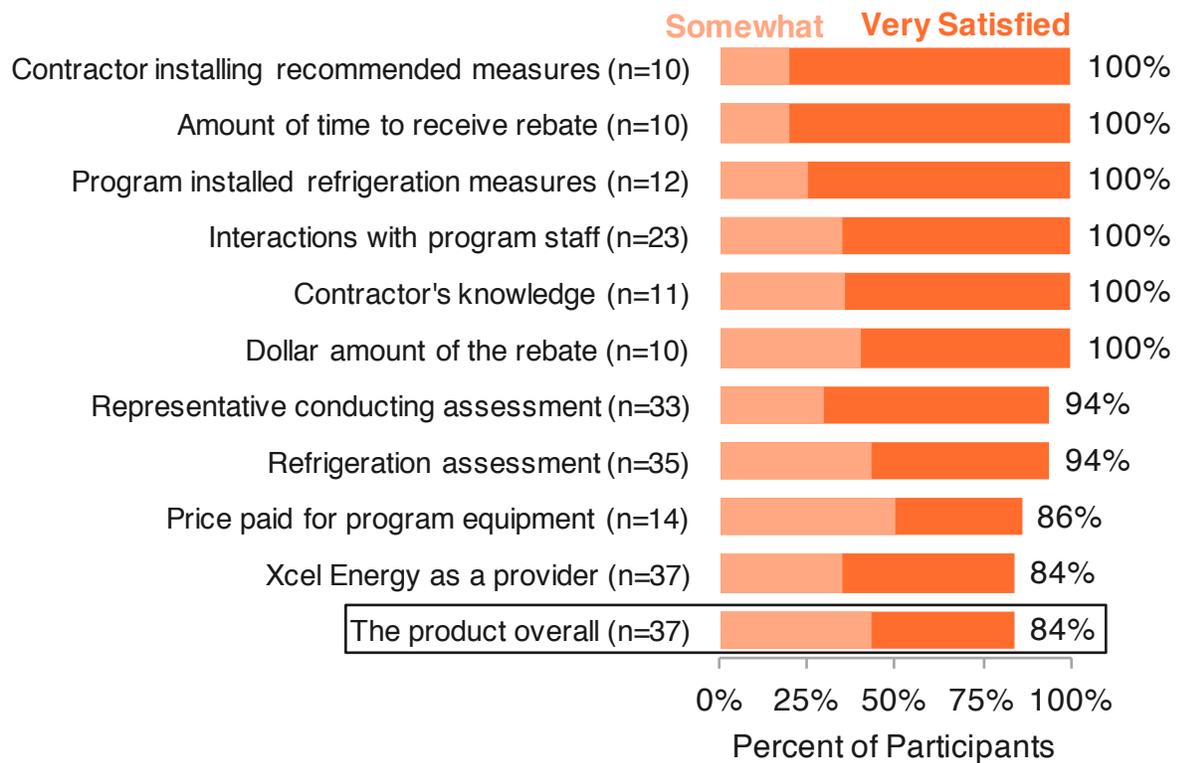
An important objective of the process evaluation was to assess participant satisfaction with the Commercial Refrigeration Product. The evaluation team found that participants were generally satisfied with the product overall, though participants rated their satisfaction with individual components of the product (contractor installing measures, installed measures themselves, etc.) at higher rates than with the product overall. The remainder of this section presents participant satisfaction results, participant experiences with product processes, and participant coil cleaning practices since receiving coil cleaning training (a specific evaluation objective for the Commercial Refrigeration Product). Table 2-4 summarizes data sources used to develop findings related to participant satisfaction.

**Table 2-4. Data Sources Used to Assess Customer Satisfaction**

Research Topic	Data Source				
	Participant survey	Trade partner interview	Peer utility program manager interview	Product tracking data review	Product staff interviews
Participant satisfaction	X				
Participant experiences with various product elements	X				
Customer experience with coil cleaning training	X			X	

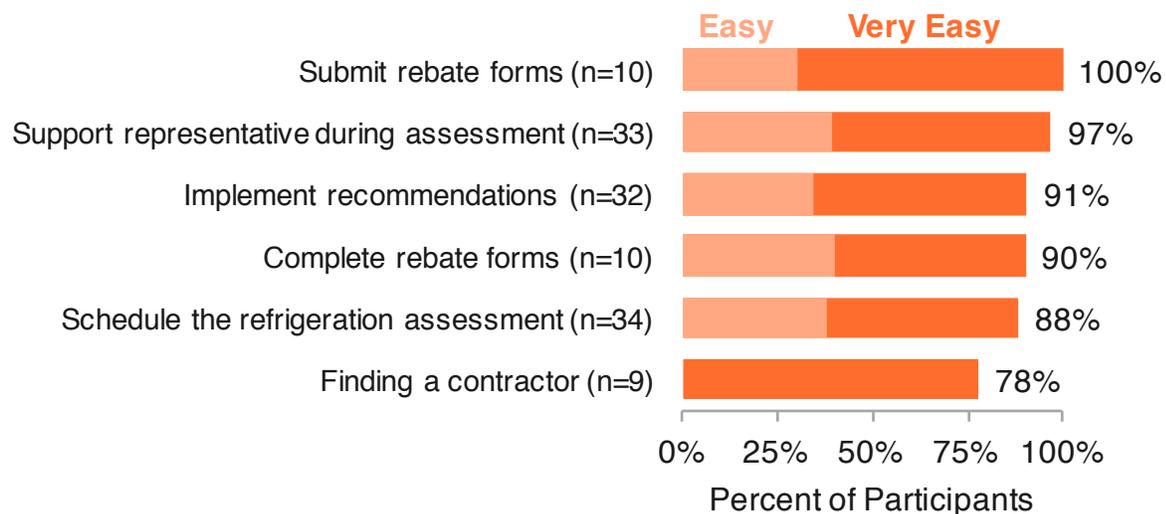
Participants were generally satisfied with all aspects of the product. As seen in Figure 2-1, participants attributed highest satisfaction scores with the contractor installing the recommended measures and the amount of time it took to receive the rebate. Although participants rated the product overall lower than the component parts of the product, the rating itself is still very high (84% rated somewhat satisfied or very satisfied).

**Figure 2-1. Participant Respondent Satisfaction**



Participant satisfaction may have stemmed from the fact that few participants reported having difficulties with product processes. Notably, all participants who recalled submitting their own rebate forms felt that submitting the forms was either somewhat or very easy (Figure 2-2). Participants rated finding a contractor lower than other elements, yet more participants rated the element as “very easy” than any other element (78%).

**Figure 2-2. Participant Respondent Experiences with Product Processes**



Though participants were satisfied with the refrigeration audit, more than half of participants (59%) did not recall receiving the coil cleaning training during the refrigeration audit. As seen in Table 2-5, a little more than one-quarter (28%) of all participants reported that they improved their coil cleaning methods or increased the frequency of coil cleanings at their facility.

**Table 2-5. Change in Practices Since Coil Cleaning Training (n=37)**

Response	Percentage of All Participants
Do not recall training	59%
Increased frequency or improved methods	28%
Did not change practices	14%

## 2.4 Customer Participation Path

The evaluation team sought to better understand the factors and experiences that led customers to participate in the Commercial Refrigeration Product and contrasted these findings with other utilities. The evaluation team found that, like several other utilities the evaluation team spoke with, participants often learned about the product from an in-person visit from a utility representative. Though the desire to reduce energy costs often motivated participants to request an audit, they were also motivated by a desire to identify equipment reliability improvements.

The remainder of this section presents related findings including how participants first heard about the product, participant motivations to initially receive an audit, and a comparison to peer utility's customer participation paths. Table 2-6 summarizes data sources used to develop these findings.

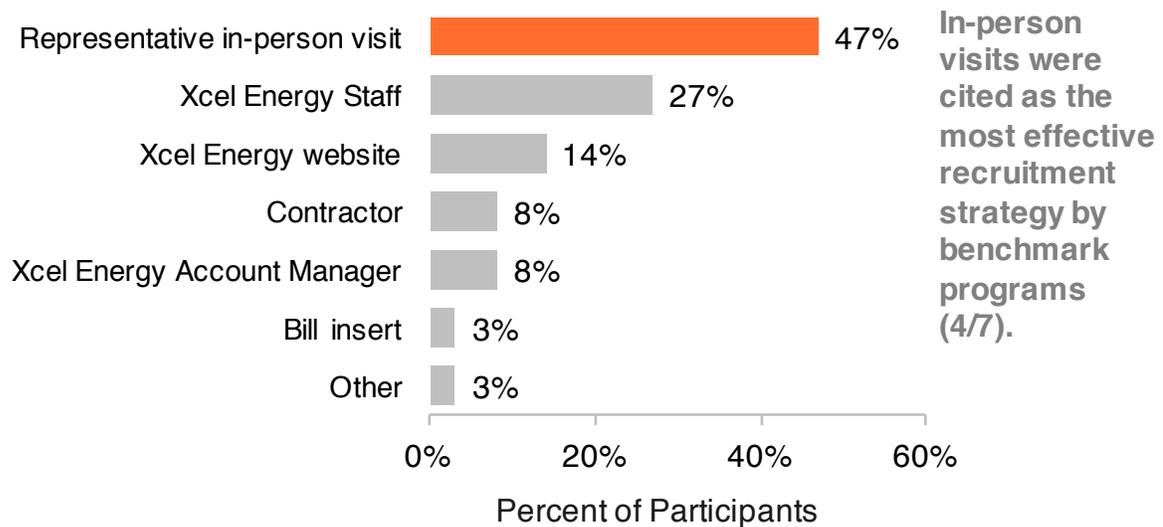
**Table 2-6. Data Sources Used to Understand Path to Customer Participation**

Research Topic	Data Source				
	Participant survey	Trade partner interview	Peer utility program manager interview	Product tracking data review	Product staff interviews
Sources of participant product awareness	X				
Motivations for initial audit participation	X				
Customer participation paths used by other utilities			X		

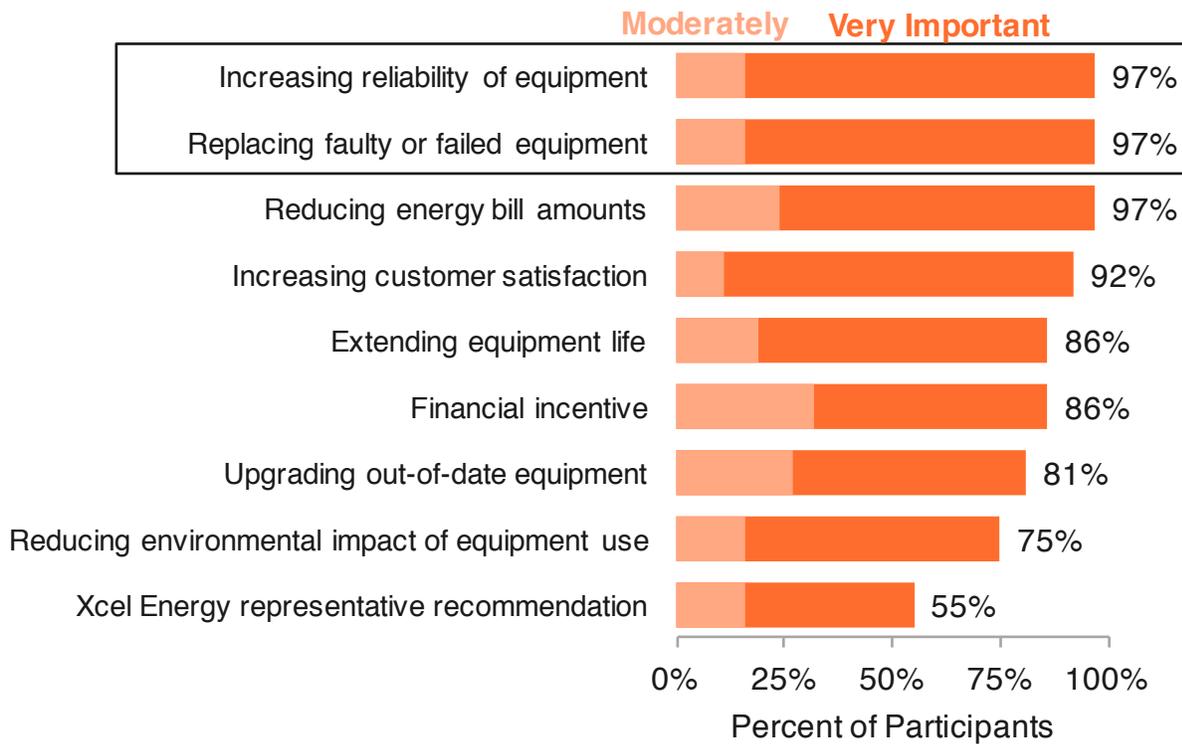
Like most peer utility programs, participants generally became aware of the product through an in-person visit from an Xcel Energy representative. This is not surprising as staff reported relying primarily on in-person visits to reach out to customers about the product. As seen in Figure 2-3, about half of all participants (47%) first heard about the product through an in-person visit. More

than half (4 of 7) peer utilities cited in-person visits as the most effective recruitment strategy. While less commonly cited, some participants did learn about the product from other sources including other Xcel Energy staff, the Xcel Energy website, a contractor, and a bill insert.

**Figure 2-3. How Participant Respondents First Heard About Product (n=37)**



Almost all participants reported either their concern regarding equipment failure or a desire to identify energy costs savings as a motivation to receive a refrigeration audit. As shown in Figure 2-4, almost all participants (97%) rated increasing the reliability of equipment and replacing faulty or failed equipment as a moderately or very important factor in their decision to receive a refrigeration audit. One trade partner characterized the motivation during an interview: “This [equipment failure] is a health inspector problem, [it’s] not just your customer having poor lighting.” Aside from ensuring equipment reliability, all participants reported a desire to reduce their energy bills as a motivation for receiving the audit.

**Figure 2-4. Participant Respondent Motivations to Receive Audit (n=37)**

Five of the seven peer program managers that we interviewed also conducted some form of refrigeration audit, though the depth of the audit varied from the Xcel Energy product, as did the outreach methods employed. Two of those utilities provided a high-level audit to only certain segments that they felt were unlikely to perform their own audits (small grocery stores, small industrial facilities, and “mom and pop” retailers). Another utility mentioned exclusively performing high-level audits.

Though most peer utilities employ outreach strategies similar to the Commercial Refrigeration Product, one peer utility employed a unique strategy and reached out to customers at the beginning of the year to discuss programmatic changes. Of the interviewed trade partners, most were unsure which product to submit their rebates through. Additional outreach or training at the beginning of the year may relieve their confusion. If not currently used by Xcel Energy, this could be something that Account Managers or Business Solutions Center representatives could incorporate into their outreach approach.

## 2.5 Moving Beyond Audit Direct Installations

Another objective of the process evaluation was to assess the effectiveness of the product in motivating participants to install measures after their energy audit was completed and to understand the best practices used by peer utilities to increase measure uptake. The evaluation team found that about a third of participants pursued installations of audit-recommended measures. Participants also reported that first costs remain the largest barrier to installing more—or any—of the recommended equipment. Peer utilities reported improving measure uptake by structuring their audits differently—by either targeting customer types and focusing on all efficiency measures; or by relying on the same

trade partner(s) to conduct the audit and installations, thereby eliminating any type of hand-off between the auditor and the installer. The following section presents these results in more detail, including participant pursuit of audit recommendations, measures upgraded by participants, participant motivations for pursuing audit recommendations, and barriers to pursuing audit recommendations. Table 2-7 summarizes data sources used to develop these findings.

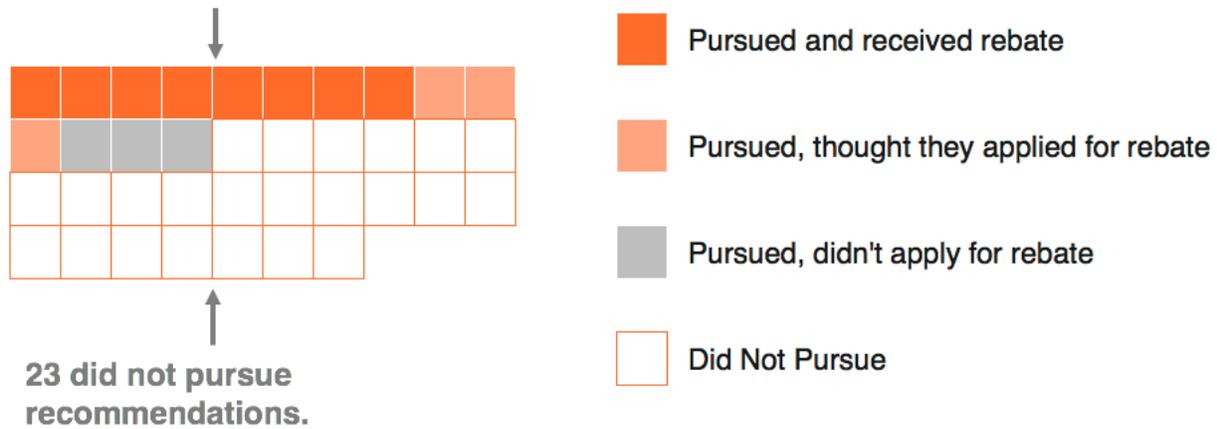
**Table 2-7. Data Sources Used to Assess Effectiveness of Moving Participants Beyond Direct Install Measures**

Research Topic	Data Source				
	Participant survey	Trade partner interview	Peer utility program manager interview	Product tracking data review	Product staff interviews
Participant pursuit of audit recommendations	X				X
Types of additional measures participants installed	X			X	
Participant motivations for additional measure installation	X				
Barriers to installation of additional measures	X				
Customer purchase decision factors and budget cycles	X				
Future upgrades planned by participants	X				
Peer utility strategies for moving customers beyond direct installations			X		

As shown in Figure 2-5, about two-thirds of survey respondents (23 of 37) did not pursue measures as a result of their refrigeration audit, but for those that did pursue an audit-recommended upgrade, most received an Xcel Energy rebate (8 of 11). Three participants reported pursuing an audit-recommended upgrade and applying for a rebate, but the product tracking data did not reflect Xcel Energy sent a rebate to these participants. Commercial Refrigeration Product staff thought it was possible that these few participants submitted their rebate through a different Xcel Energy product. The tracking data also showed that three survey participants received rebates for audit-recommended measures, but did not report pursuing any audit-recommended measures in the survey (because they did not report to pursue recommendations, these survey participants are shown in white in Figure 2-5, along with the other survey respondents who reported they did not pursue audit-recommended measures).

**Figure 2-5. Participant Respondent Pursuit of Recommendations (n=37)**

**8 pursued recommendations and received a rebate reflected in the tracking data.**



The evaluation team compared survey respondents to the total population of projects from the tracking data and found that survey respondent's pursuit of audit-recommended measures mirrored the tracking data. Within the tracking data, the evaluation team found that about two-thirds of projects did not pursue an audit-recommended upgrade (68%, as seen in Table 2-8 below), which is similar to the percent of survey respondents who pursued audit-recommended upgrades (23/37 or about 62%, as described above in Figure 2-5). Projects in the tracking data most often installed electronically commutated motors (17%) or LED lighting specific to refrigeration (14%).

**Table 2-8. Tracking Data Measures Installed (N=494)<sup>a</sup>**

Additional Measures	Percent of Projects
Installed no additional measures	68%
Electronically commutated motors	17%
LED lighting	14%
Non-calculated measure	11%
Refrigerated case night curtain	8%
Anti-sweat heater	5%
Evaporator or fan motor controller	1%
No heat case doors	1%
Medium temperature reach-in case	1%

a: Population of projects in the tracking data received on May 30, 2017. Customers may have rebated more than one measure in the database, thus, the percent of projects will sum to a value greater than 100%.

About one-third of all survey participants (12/37) were still considering performing an audit-recommended energy-efficient upgrade, and almost all of those participants planned on pursuing those upgrades within the next two years. This could indicate that participants plan to pursue audit-recommended equipment upgrades up to three and a half years after they received their refrigeration

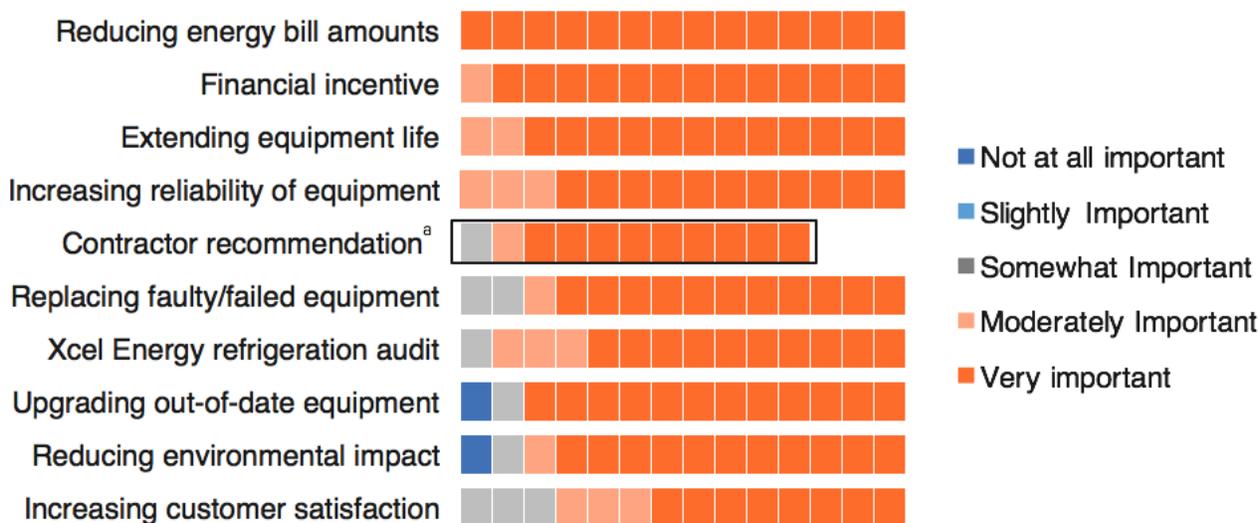
audit. About half of the customers considering pursuing upgrades were considering lighting upgrades (6/12), while fewer were considering upgrades to motors (3/12) or freezers (2/12), as seen in Table 2-9. All but two of these participants (10/12) were planning to upgrade their equipment within the next two years.

**Table 2-9. Participant Respondent Planned Upgrades (n=12)**

Planned Upgrade Measure	Count of Participants
Lighting	6
Motors	3
Freezer	2
Defroster	1
Compressor	1

All participants who reported completing audit-recommended upgrades reported financial considerations as a motivation for pursuing audit recommendations, both in terms of reducing their energy bills and because of the incentive. All participants also reported equipment reliability considerations as a motivation to pursue recommendations. As shown in Figure 2-6, the audit and contractor recommendations were also important motivating factors for many participants who pursued recommendations.

**Figure 2-6. Participant Respondent Motivation for Pursuing Audit Recommendation (n=14)**



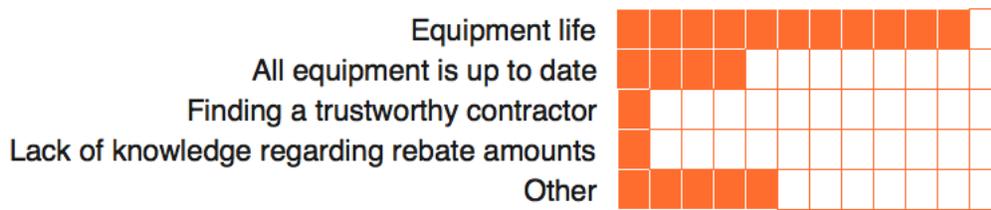
a: Reporting only those customers who had a contractor install either some or all of their audit-recommended equipment upgrades.

Participants’ relationships with their contractors played an important role in their decisions to pursue an audit-recommended upgrade, and almost all participants shared information about their Xcel Energy refrigeration audit with their contractor. Most participants who reported using a contractor to install the recommended equipment also reported discussing their Xcel Energy refrigeration audit with their contractor (9/11). Almost all of those participants who discussed the report with their

contractors also showed their contractors the refrigeration audit report itself (8/9). This finding is contradictory to what trade partners reported, as only three of active ten trade partners reported ever having seen an Xcel Energy refrigeration audit report.

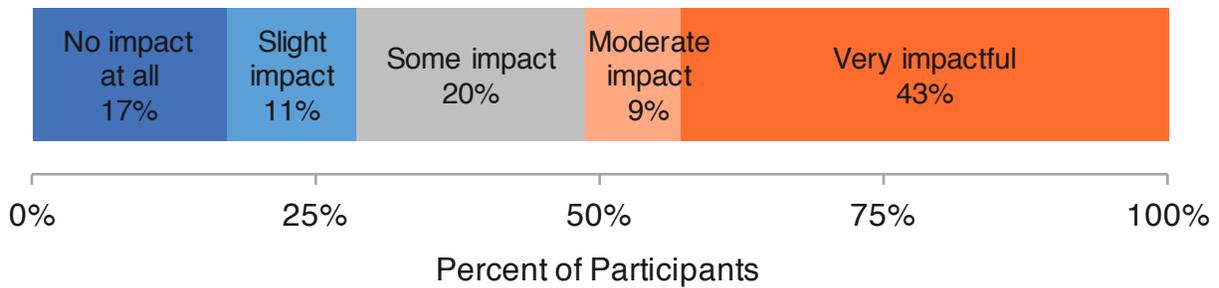
For those participants who were considering equipment upgrades but have not yet completed those upgrades, most participants (11/12) reported equipment costs to be a barrier, as seen in Figure 2-7 below. Four of the participants reported that they had not completed an upgrade because their equipment was up to date. These participants may feel that, even though the audit-recommended equipment upgrades would be more energy-efficient, their current equipment is in good working order or that upgrading isn't worth the risk of new system failure.

**Figure 2-7. Participant Respondent Barriers to Pursuing Recommendations (n=12)**



Of all survey participants, more than half reported that budget cycles have a moderate impact or were very impactful on their ability to complete refrigeration audit-recommended upgrades (52%, as reported in Figure 2-8 below). As participants are considering upgrades over a longer time horizon, product staff should plan to follow-up on audit-recommended measures two years after audit completion and potentially further in the future.

**Figure 2-8. Budget Cycle Impact on Participant Respondent Ability to Complete Upgrades (n=35)**



## 2.6 Assessing Effectiveness of Trade Partner Engagement

The evaluation team also assessed the effectiveness of trade partner outreach and engagement. The evaluation team found that trade partners were often unaware of the audits completed through the Commercial Refrigeration Product and few trade partners were qualified to install the comprehensive set of equipment upgrades identified in the audit. The remainder of the section presents related findings such as the types of contractors working in refrigeration space, trade partner awareness of the product, trade partner awareness of the Xcel Energy refrigeration audit, trade partner satisfaction and challenges with the Commercial Refrigeration Product, effective

outreach methods to reach trade partners, and trade partner requests for training. Table 2-10 summarizes the data sources used to develop these findings.

**Table 2-10. Data Sources Used to Assess Effectiveness of Product’s Engagement with Trade Partners**

Research Topic	Data Source				
	Participant survey	Trade partner interview	Peer utility program manager interview	Product tracking data review	Product staff interviews
Types of trade partners involved in the product		X		X	X
Trade partner awareness and satisfaction		X			
New avenues for trade partner engagement		X			
Trade partner training opportunities		X			

To conduct the trade partner research, the evaluation team reviewed the trade partner list to understand the population of vendors involved with the delivery of the product. Based on our review of the trade partner list, the evaluation team found a wide mix of participating organizations, including some listed trade partners that did not perform installation services. Several trade partners listed in the database were instead equipment distributors or energy consultants (including Franklin Energy and ESource). In addition, the evaluation team identified that a majority of contractors only installed specific end-uses, including the following categories:

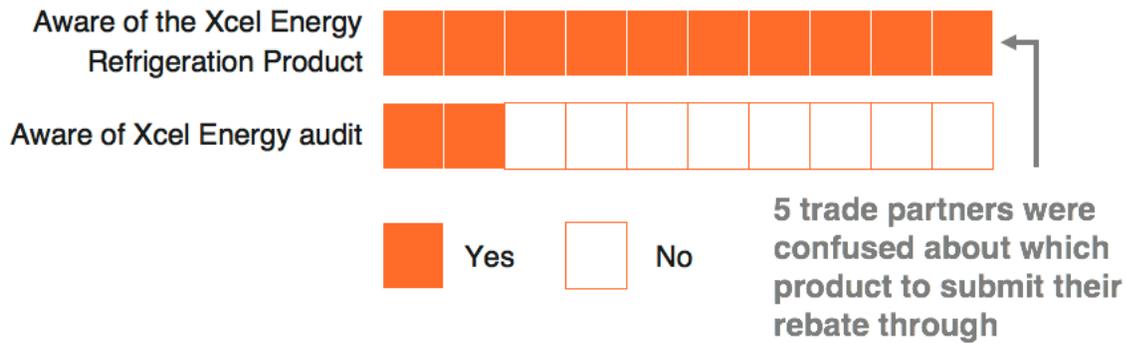
- **Lighting Contractors.** These trade partners are primarily involved with retrofitting refrigeration cases with LED lighting. Lighting contractors reported they sometimes partner with refrigeration contractors on specific projects. Lighting contractor interviewees also reported to be active in Xcel Energy lighting products.
- **Electrical Contractors.** These trade partners are required by law to handle wiring/electricity requirements of any installed measure that uses more than 38 volts, or when the project requires more extensive rewiring. Electrical contractors are not typically directly involved with refrigeration equipment, but are a subcontracted service.
- **Mechanical, Refrigeration and HVAC Contractors.** These trade partners are able to directly install refrigeration equipment eligible for Commercial Refrigeration Product rebates. They could be involved with any commercial or industrial customer regardless of their size, and contractors may focus on particular market segments (grocery, office, etc.).

During the trade partner interviews, the evaluation team spoke with trade partners from all three segments detailed above. One trade partner reported that the trade partner landscape is changing in Colorado, and that trade partners may not fit into these same segments in the future. This trade partner shared the following insight:

*Companies [are] starting to expand so they have in-house capabilities [for electrical] and don't have to subcontract; larger companies [are] diversifying. Smaller contractors in refrigeration will know electrical no matter what; some companies won't mess with refrigeration as it involves plumbing, etc.*

Most trade partners whom the evaluation team spoke to expressed confusion with the Commercial Refrigeration Product, and few were aware of the Xcel Energy refrigeration audit. Though all trade partners were aware of the Commercial Refrigeration Product, only two trade partners were aware of the Xcel Energy refrigeration audit itself (2/10, as seen in Figure 2-9 below).<sup>3</sup> This is in stark contrast to the rate at which participants reported showing the Xcel Energy audit report to their contractors (8/11). The reason behind this discrepancy is unclear, however it could be because a small number of contractors perform the majority of installations and we spoke with a number of contractors that had either installed a few or no equipment through the product.

**Figure 2-9. Trade Partner Awareness**



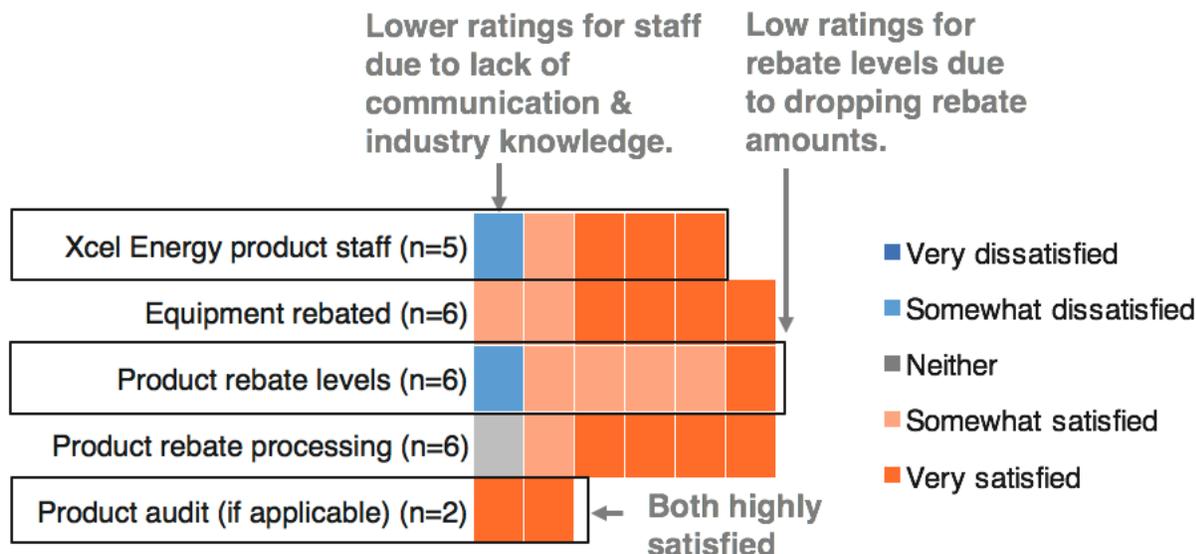
One trade partner also mentioned that instead of relying on the Xcel Energy audit, they completed their own audit to establish a relationship with their customer. This trade partner in particular straddled end-use categories and focused primarily on lighting measures but also had refrigeration experience. The trade partner reported that they typically complete their own audit and then refer customers to apply for rebates through the Commercial Refrigeration Product. This trade partner mentioned previously working with Commercial Refrigeration Product implementation staff to help them understand what technologies and measures worked best for customers. Through interactions with the implementer, the trade partner felt his company’s staff improved their capabilities over time. This trade partner also indicated they did not consistently install all audit-recommended measures, because he felt measures were at times inappropriate for the facility. One example the trade partner cited was audit-recommended anti-sweat heater controls when he felt they would not be applicable given the facility’s characteristics.

Of those trade partners the evaluation team spoke with, most were satisfied with the Commercial Refrigeration Product. One trade partner commented that Xcel Energy should “keep doing a good job of putting rebates out there that incentivize customers to make changes.” Both trade partners who were aware of the Xcel Energy refrigeration audit reported they were very satisfied with the refrigeration audit itself (Figure 2-10). For those trade partners who report low satisfaction in any category, they attributed their dissatisfaction to lack of communication from Xcel Energy product staff, lack of industry knowledge on the part of implementation staff, and decreasing rebate amounts. Half of trade partners also expressed confusion about which Xcel Energy product to

<sup>3</sup> One trade partner had seen the Xcel Energy refrigeration audit report, but was not aware that it was related to the Commercial Refrigeration Product until the interview with the evaluation team.

submit their rebates through, as lighting measures can be submitted through at least two Xcel Energy products.

**Figure 2-10. Trade Partner Satisfaction<sup>a</sup>**



a: The trade partner satisfaction numbers contain responses from only six trade partners because two listed on the trade partner list were distributors; one trade partner “hasn't heard from Xcel Energy in 15 to 16 months” and didn't feel comfortable talking about their current satisfaction with the product; and another trade partner hasn't applied for anything through Commercial Refrigeration Product to date as they haven't had a project in which Commercial Refrigeration Product “would be applicable”.

The evaluation team also asked trade partners about outreach methods. Half of trade partners had heard about the Commercial Refrigeration Product from a utility representative; other sources varied for each trade partner. When asked how they prefer to hear about product offerings, eight of nine trade partners reported their preferred communication method was email. Contractors also mentioned personal contact techniques including phone calls, visits by staff, seminars, and lunch & learns. They reported to especially like personal contact when Xcel Energy wants a quick response or wants to convey more significant product changes. One trade partner said: “Emails are ok, [I] prefer a call and will respond quicker.” Another trade partner added: “...a lunch & learn on what is available and how sales people could use it as a tool for customers [is good].”

Trade partners also mentioned distributors and trade organizations as potential avenues for disseminating product information. The two refrigeration distributors the evaluation team spoke with requested further trainings on Xcel Energy products and expressed a willingness to distribute information to the large number of small refrigeration and HVAC contractors with whom they regularly interact. Other trade partners reported that they followed specific trade organizations, though no two trade partners mentioned following the same trade organization, making it unclear whether partnering with trade organizations would be an effective outreach tool. Interviewees identified the following trade organizations:

- Energy Efficiency Business Coalition
- U.S. Green Building Council, Local Chapter
- Association of Energy Engineers, Local Chapter
- Denver Office of Energy Efficiency
- Rocky Mountain Association of Energy Engineers
- Governor’s Council of Energy Efficiency
- HVACR Business Magazine
- Rocky Mountain Institute
- EPA Green Chill
- Contracting Business
- Mechanical Service Contractors of America
- Electrical Construction & Maintenance (EC&M) Magazine
- National Association of independent Lighting Distributors

Five trade partners requested training on the Commercial Refrigeration Product itself and another two trade partners requested training on refrigeration equipment from Xcel Energy. Generally, trade partners requesting product training were unsure which product they should submit lighting rebate forms to and desired to learn more about the Xcel Energy refrigeration audit process. The two trade partners requesting refrigeration equipment training typically specialized in lighting measures, but felt that, with some training, they may be able to install some of the less-complicated refrigeration measures.

## 2.7 Identifying Ways to Optimize Product Delivery and Engagement

The final objective of the process evaluation was to identify opportunities to improve product delivery, increase the installation of audit-recommended measures, and optimize customer engagement. Trade partners requested more training surrounding both the Commercial Refrigeration Product rebates and refrigeration measures themselves. Peer program managers reported combining programs to maximize in-person outreach and conduct more frequent meetings and/or hold events with trade partners to regularly educate them about updates to the program.

Note that this section presents specific recommendations identified by participants, trade partners, peer programs, and product staff while Chapter 3 provides recommendations developed by the evaluation team. Table 2-11 summarizes data sources used to collect these findings.

**Table 2-11. Data Sources Used to Identify Ways to Optimize Product Delivery and Customer Engagement**

Research Topic	Data Source				
	Participant survey	Trade partner interview	Peer utility program manager interview	Product tracking data review	Product staff interviews
Identify product recommendations	X	X	X		X

Participants generally felt that Xcel Energy effectively executed the Commercial Refrigeration Product; however, four participants reported the following recommendations:

- Two participants felt that in-person visits could be better timed to coincide with operating hours least likely to be busy.
- One participant requested that Xcel Energy consolidate outreach to a single point of contact
- One participant requested that Xcel Energy provide a warranty for direct installation measures.<sup>4</sup>

Trade partners also expressed satisfaction with the product but commonly expressed a desire for more communication and/or collaboration with product staff. Trade partners identified the following recommendations:

- Two trade partners mentioned that they would like more frequent communication to understand changes to the product. They reported they hadn't spoken to Xcel Energy or the implementer in years. One trade partner reported that they need more information on the incentives and how that impacts customer costs and payback.
- One trade partner reported that it would help if the implementer could provide leads directly to the trade partners.  
*We are generating our own business and haven't seen many leads from Franklin Energy...would like more if possible; if more audits came from Xcel Energy—this would help the program.*
- One trade partner requested that the implementer provide leads trade partners in a more transparent way than what they are doing now.  
*It feels like there is preference for certain contractors within the programs; it doesn't feel like it is a random process related to who receives the referrals.*

As for effective strategies employed by peer utilities, program managers attempted to perform more in-person outreach with contractors through streamlined program delivery methods and a diversified set of in-person outreach activities.

- Five of the seven selected peer utilities have combined their refrigeration program with a larger commercial program to streamline the delivery of the program. For these programs, combining programs was an attempt to maximize personal outreach to contractors and to customers to drive participation.
- Peer utilities also mentioned conducting quarterly or yearly meetings for trade partners, hosting lunch events for customers, and attending trade organization events to engage with the trade partner community.
- Two peer utilities also utilized a larger set of direct installation measures to generate greater savings, thereby eliminating a need to hand-off the audit to a contractor.

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<sup>4</sup> Commercial Refrigeration Product staff reported that Xcel Energy cannot provide warranties for direct installation measures.

The evaluation team also asked product staff and trade partners about additional refrigeration measures they would like to see added to the product. Table 2-12 presents recommendations on additional measures that Xcel Energy could incent in the future.

**Table 2-12. Requested Measures to Add to Product Measure Mix**

Measure Group	Measure
Optimization	<ul style="list-style-type: none"> <li>• Refrigeration optimization</li> </ul>
Controls	<ul style="list-style-type: none"> <li>• Defrost controls</li> <li>• Beverage &amp; snack machine controls</li> <li>• Floating head pressure controls</li> </ul>
Doors/curtains	<ul style="list-style-type: none"> <li>• Auto door closers</li> <li>• Strip curtains</li> </ul>
Lighting	<ul style="list-style-type: none"> <li>• Case light occupancy sensors</li> <li>• Horizontal LED case lights in open multi-deck cases</li> </ul>
Refrigeration equipment	<ul style="list-style-type: none"> <li>• Energy Star rated refrigerators, freezers and ice machines</li> <li>• Air conditioners and roof top units for high refrigeration temperatures</li> </ul>

## 3. CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the evaluation team’s key findings and associated recommendations regarding the Colorado Commercial Refrigeration Product. 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.

The evaluation team found that participants are generally satisfied with the Commercial Refrigeration Product and customer engagement strategies largely mirror those used by peer utilities. Specific findings and recommendations follow.

- **There is a disconnect between the audit itself and contractors completing audit recommended equipment upgrades.** Participants were generally satisfied with the audit they received, but only one-third of participants completed audit-recommended upgrades, the majority of which were lighting measures. These participants often reported showing contractors their audit reports, however few trade partners reported seeing these audit reports. Trade partners also frequently reported that if they performed an installation, they did not know whether to apply for a rebate from the Commercial Refrigeration Product or from a lighting product. Trade partners tended to specialize in specific types of equipment and it was unclear whether this was a barrier for participants to follow through with all recommendations. Also, the trade partner list distributed by the implementer did not indicate the number of projects the trade partner completed through the product. Customers may contact a trade partner who infrequently participates in the product and the energy savings resulting from the project may be lost.
  - **Recommendation 1: Define the purpose of the audit.** As only a third of participants installed audit-recommended measures—and the majority of these installations were only lighting—Xcel Energy should revisit the reasoning behind what it wants the audits to produce. If the audit is to be used to introduce customers to energy efficiency, then Xcel Energy could conduct a more high-level audit and provide follow-up support for specific measures, such as refrigeration. If Xcel Energy wants to continue the audit to focus on refrigeration equipment uptake, then it needs to improve processes to hand off the audit to trade partners to ensure refrigeration contractors receive and pursue audit recommendations for their customers.
  - **Recommendation 2: Coordinate outreach with other products.** Because in-person visits are the most effective outreach strategy as well as the costliest to complete, the evaluation team recommends Xcel Energy investigate coordination strategies between various commercial products. Consider contacting customers for multiple product offerings through a single representative. Improved coordination between products up through the rebate processing stage could help trade partners more easily submit applications for the right product.
  - **Recommendation 3: Increase outreach to other trade partners through one-on-one meetings, trainings, and collaborations with distributors.** Engage trade partners in one-on-one meetings and provide open trade partner training sessions about the product. Include information about the audit, such as what is assessed and how implementers develop recommendations. Trainings can also be used as an

opportunity to stress how the recommendations can improve equipment reliability and reduce energy costs over time. Additionally, provide trainings for refrigeration distributors so they can disseminate information about the product to smaller trade partners.

- **Recommendation 4: Explore developing a tiered trade partner list for the product.** To better facilitate a handoff from the auditor to an installer, Xcel Energy may consider developing a tiered trade partner list that includes the trade partner’s specialization and sorts trade partners by the number of projects completed through the product. While such a list requires staff effort to maintain, it would allow an unbiased means to connect customers to active trade partners with the appropriate specialization.
- **Costs remain a barrier to pursuing refrigeration equipment. However, participants are motivated to pursue upgrades for financial and non-financial factors and can include future refrigeration costs in long-term financial plans.** Participants report that costs continue to be the largest barrier to completing audit-recommended upgrades despite the Xcel Energy incentives. At the same time, participants who did pursue recommendations reported to be motivated to install the equipment for financial reasons (including reducing their energy bills and the incentive) and for non-financial reasons, such as equipment reliability. This indicates that effective marketing of the non-financial benefits to replacing equipment could help overcome the first-cost barriers that remain for some customers. The evaluation team also found that while costs remained a barrier to pursue recommendations, about one-third of participants still planned to pursue equipment upgrades up to three and half years after the audit took place. This extended amount of time could be because customers reported that their budget cycles impacted their ability to complete recommendations.
  - **Recommendation 5: Include equipment reliability in sales pitches.** Participants are motivated to participate in the product to increase the reliability of their equipment and to replace faulty or failing equipment. Capitalize on this motivation in marketing materials by discussing the consequences of failed equipment (e.g. melting ice-cream, spoiled meat, wilted lettuce, etc.).
  - **Recommendation 6: Plan for participants to complete audit-recommended upgrades over the long-term.** Because budget cycles impact the timeline of equipment upgrades, plan to follow up with customers on regular intervals about upgrades even two years after they received an audit.
  - **Recommendation 7: Explore diversifying rebate options based on business type.** Some small businesses, such as “mom and pop” retailers, have little capital and may be unable to upgrade their equipment at the same price point as businesses with more capital. Providing increased rebate amounts for these customers may motivate them to pursue additional upgrades.

# APPENDIX A: EVALUATION PLANNING DOCUMENTS

## A.1 Evaluation Plan

To support the process and impact evaluation of the 2016 Xcel Energy efficiency programs, members of the evaluation team will be conducting a process evaluation of the Xcel Energy Commercial Refrigeration product. This memo provides an updated plan for the 2016 Xcel Energy Commercial Refrigeration evaluation based on the original scope of work, staff feedback during the evaluation kick-off meetings, and staff interview findings.<sup>1</sup> This evaluation plan includes the following sections:

- Product overview
- Study objectives
- Approach
- Next steps

## Product Overview

The Commercial Refrigeration product encourages energy efficiency among commercial customers with large refrigeration loads (e.g., groceries, restaurants, convenience stores). The product provides technical assistance, direct installation of low-cost measures, coil cleaning education, and financial incentives for equipment upgrades. Common upgrades include: anti-sweat heater controls, reach-in electronically commutated motors (ECM), efficient reach-in case doors, evaporator fan motors and motor speed controls, night curtains for open coolers, LED reach-in case lighting, night curtains for open coolers, retrofitting open multi-deck cases with solid glass doors, and replacing open multi-deck cases with efficient reach-in cases with doors. The product also covers customer commercial energy-saving refrigeration projects not included in the prescriptive rebate program via the Custom Efficiency program. Outreach for the product is primarily provided by a third-party implementer (Franklin Energy) who recruits participants and coordinates upgrades with Xcel Energy trade partners.

## Study Objectives

Commercial refrigeration is a specialized application that is a mission critical business function for groceries, restaurants, and convenience stores. These segments are defined by niche trade allies and a high prevalence of chains and national accounts which can create unique barriers to product participation. Xcel Energy requested that the Commercial Refrigeration product only receive a process evaluation in 2017. As such, no impact activities are included. **Objectives of the process evaluation** of the Commercial Refrigeration product is to:

- Understand the path to customer participation
- identify ways to optimize product delivery and customer engagement
- Assess customer satisfaction
- Assess effectiveness of outreach materials and recruitment strategies at encouraging customers to move beyond the direct install measures to make deep retrofits at their facilities.

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<sup>1</sup> The original scope of work is included in the evaluation team's contract with Xcel Energy for the 2017-2018 DSM evaluations.

## Approach

To address these objectives, the evaluation team will conduct interviews with utility and implementation staff and online surveys with participating customers to explore the participation process, barriers to participation, awareness of other Xcel Energy products, and the influence of the product's assistance. Given the unique challenges of reaching decision makers at commercial refrigeration retail customer locations, the evaluation team proposes conducting online participation surveys in place of telephone surveys. The evaluation team will use this feedback to recommend opportunities for increasing the reach of the Commercial Refrigeration product and streamlining its operation. In addition, the evaluation team will benchmark the product against six peer utilities, assessing product design and delivery and key performance indicators.

Table 1 below summarizes the data collection and research associated with the Commercial Refrigeration product evaluation. The table includes an additional task, which was not included in the approved scope of work but which the evaluation team considers to be valuable to conduct based on feedback from staff. The additional task is to conduct in-depth interviews with both participating and non-participating trade partners. This research will explore the effectiveness of the support Xcel Energy provides to trade partners and identifying if additional training is needed. In addition, this research will explore how the product has impacted their sales strategies and assess if there are any barriers prohibiting increased engagement with the Commercial Refrigeration product.

**Table 1. Commercial Refrigeration Research Summary**

Research Task	Sample Size <sup>a</sup>	Objectives
Product Staff Interviews	5 Xcel Energy & implementation staff	<ul style="list-style-type: none"> <li>Assess the extent to which the product design supports product objectives and customer service/satisfaction objectives.</li> <li>Assess the degree to which product resources are sufficient to conduct product activities with fidelity to the implementation plan</li> <li>Collect staff feedback on implementation successes and challenges</li> <li>Identify themes and issues for possible revisions to the evaluation plan</li> </ul>
Participant Surveys	70 online surveys	<ul style="list-style-type: none"> <li>Explore how to best present product benefits to customers so that the product is easily understood.</li> <li>Identify customer budget cycles and decision making processes related to capital funds required for efficiency upgrades.</li> <li>Better understand the barriers to customers' willingness to and ability to follow-through with recommended efficiency upgrades.</li> <li>Learn more about the cost and payback factors that most impact customer decisions to pursue efficiency upgrades.</li> </ul>
Utility Benchmarking	6 peer utilities	<ul style="list-style-type: none"> <li>Compare product to peer utility programs.</li> </ul>
Additional Task 1: Trade partner interviews	5 participating TA 5 non-participating TA	<ul style="list-style-type: none"> <li>Identify the potential to increase the number of refrigeration contractors that could participate in the product.</li> <li>Determine whether contractors could benefit from additional training.</li> <li>Better understand the barriers to increasing trade ally product participation.</li> </ul>

a. Final sample sizes will be determined following an analysis of product data and relevant peer utilities.

## Next Steps

The evaluation team plans to conduct the following next steps:

- Finalize this evaluation plan by reviewing the additional task, shown in Table 1, with the Xcel Energy evaluation lead to determine feasibility of completing it.
- Develop data collection instruments, sampling plans, and analysis plan. These documents will present the evaluation team's methods to conducting the tasks identified in Table 1.
- Finalize peer utility interviewees and develop the benchmarking KPIs.

Following approval of all data collection instruments, the evaluation team will conduct all approved research and provide Xcel Energy with interim findings from each data collection effort. The evaluation team will synthesize findings from each data collection effort and present all findings within a summative report. The evaluation team expects to present the draft report to Xcel Energy on November 1<sup>st</sup>, 2017.

## A.2 Sampling Plan

To support the process and impact evaluation of the 2016 Xcel Energy energy efficiency programs, the EMI Consulting evaluation team will be conducting a process evaluation of the Commercial Refrigeration Product in Colorado. The evaluation objectives are to:

- Explore how to best present product benefits to customers so that the product is easily understood.
- Identify customer budget cycles and decision making processes related to capital funds required for efficiency upgrades.
- Better understand the barriers to customers' willingness to and ability to follow-through with recommended efficiency upgrades.
- Learn more about the cost and payback factors that most impact customer decisions to pursue efficiency upgrades.
- Compare product to peer utility programs.
- Identify the potential to increase the number of refrigeration contractors that could participate in the product.
- Determine whether contractors could benefit from additional training.
- Better understand the barriers to increasing trade ally product participation.

To conduct the evaluation, the evaluation team will be surveying participating customers, interviewing relevant trade partners, and interviewing peer utilities. This memorandum presents our sampling approach to conducting the participant and trade partner data collection efforts. It first presents the customer sampling plan and then the trade partner sampling plan.

## Participating Customer Characteristics and Sample Design

The evaluation team defined a participating customer as any customer that closed a project in 2016 or the first quarter of 2017. Using an abstract from the Xcel Energy program database, the evaluation team identified 452 participating customers during this timeframe. As shown in Table 2, 385 customers had contact information that could be used to conduct phone surveys. The initial participant sample was 452 participants, however, 46 of these were for liquor stores that needed to be removed for another study. The remaining sample of 405 of which 8 customers had a “do not contact” flag, bringing the total down to 397. Then any customers without contact information were removed, providing a final sample of 385 for the phone surveys. To ensure that customers are not contacted twice during the evaluation period, the evaluation team will also identify any customers who are present in multiple datasets across the entire portfolio evaluation, and will prioritize their inclusion in the sample with the fewest available records.

Based on the available population of participants with which to sample, the evaluation team expects to survey a total of 70 participants for the Commercial Refrigeration Product. This sample size provides a 90% level of confidence with a minimum of +/- 10% relative precision in our results at the Commercial Refrigeration Product level. Table 2 below presents sample and population sizes for the survey.

**Table 2: Participant Sample Design**

Total Participation	Participant Population excluding liquor	Participant Population with Contact Information	Expected Number of Completed Surveys
452	405	385	70

The evaluation team plans to randomize the available sample without stratifying by specific participant characteristics because the team will likely need to exhaust the entire sampling frame to collect data from the targeted 70 participants. Even without stratification, achieving 70 responses from a pool of 385 customers represents an ambitious target, but achievable 18 % response rate. As the evaluation team’s data collection efforts progress, this target may need to be adjusted depending upon the responsiveness the participant population to the evaluation team’s recruitment efforts. Even though the sample will not be formally stratified, the research team will strive to achieve a diverse sample of customer segments (e.g., restaurants, convenience stores, groceries, schools) and will report relevant findings but customer segments.

### Trade Partner Sampling Plan

As part of the process evaluation, the evaluation team plans to conduct interviews with 8-10 trade partners. The trade partner interview results will be used for the process evaluation and to provide qualitative information on market effects. The evaluation team will work with staff to review available data and determine the most useful sampling approach, however it expects to conduct 4-5 interviews with trade partners with high participation in the program and 4-5 interviews with trade partners with low participation in the program.

### Risks to Sample Plan

With any purposeful sample, interview or survey results are subject to biases, some of which may be proactively addressed. For those that cannot be addressed, EMI Consulting will exercise caution in correctly interpreting the results with these potential sources of bias in mind.

Respondents that choose to participate in the interviews or surveys may be systematically different than those that do not participate. We may miss gathering information due to these “unknown” differences in experiences between participants in the study and those who decline. If there is a high response rate, the likelihood of non-response bias is smaller. To reduce non-response bias, the evaluation team will provide \$25 incentives to participant and trade partner respondents. The evaluation team will also use available data to compare non-respondents and respondents. Any meaningful differences between these groups will be considered in interpreting the final results.

## A.3 Benchmark Scope and Peer Utility List

To support the process and impact evaluation of the 2016 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. The intent of this memo is to identify the primary benchmarking data points and the list of recommended peer utilities that the evaluation team will contact for the Commercial Refrigeration program.

## Benchmarking Data

To understand how Xcel Energy compares with its peers, the evaluation team will collect data on the following key indicators of program performance and supporting context that program staff can use to better understand key indicators results.

- **Key Indicators**
  - **Program energy savings goals** – The evaluation team will determine peer program energy savings goals (e.g. MWh and Mcf) and the program’s savings as a percentage of the total energy efficiency portfolio goal. This data can inform the size of the program and its relative importance to the peer utilities’ portfolio.
  - **Program budget cost of acquisition** – This metric will include the program budget divided by the total gross energy savings for each peer program (e.g. \$/MWh, \$/Mcf). Cost of acquisition is a common industry metric that provides insight into the cost effectiveness of efforts implemented by peers.
  - **Customer Participation Levels** – This metric will include both the number of completed audits (if applicable) and the number of incentive applications submitted in a given year.
- **Supporting Context**
  - **Program description** – Description of the overall program objective, implementation strategies, and targeted customer types. This description will also include context related to the utility, such as the relative size, ownership structure, and density of its customers.
  - **Customer engagement practices** – Methods the program implements to engage customers.
  - **Trade ally engagement practices** – Methods the program implements to engage trade allies.
  - **Measure types and incentives** – List of measures offered through the program and the incentive levels/structures.
  - **Program marketing practices** – Methods used to increase program awareness to new and existing customers.

To conduct this research, the evaluation team will initiate the research by performing a review of publically available documents available from utility websites, regulatory filings, and data available from the U.S. Energy Information Administration (EIA). The evaluation team will then conduct 30-60 minute telephone interviews with program managers from specified peer utilities to collect any missing information and contextual data to support the analysis. We will rely on Xcel Energy staff as well as industry networking channels to identify program manager contact information for each peer program.

## Peer Utilities

To develop the list of peer utilities, the evaluation team asked Xcel Energy product staff for recommendations. The evaluation team received one recommendation, for Power Stream, from the implementation program manager. The evaluation team performed secondary research to identify additional utilities that offered commercial refrigeration programs. The following table provides a list of recommended utility peer programs and reasons why they were included.

Appendix A: EVALUATION PLANNING DOCUMENTS

Utility	Program Name	Reason for Inclusion
Utility #1	Business Refrigeration Incentives	Implementation program manager recommendation; Known for best practices
Utility #2	Commercial Refrigeration Program	Similar measures rebated
Utility #3	Commercial and Industrial Energy Efficiency Program	Similar customer base; similar measures rebated; similar implementer
Utility #4	Commercial Refrigeration Rebate Program	Similar customer base; similar measures rebated
Utility #5	Commercial Refrigeration Program	Similar program design; similar measures rebated
Utility #6	Commercial Energy Efficiency Program: Food Service and Grocery Equipment	Similar customer base and service territory; similar measures rebated

# APPENDIX B: DATA COLLECTION DOCUMENTS

## B.1 Participant Survey Guide

### Introduction

To support the process and impact evaluation of the 2016 Xcel Energy energy efficiency programs, the EMI Consulting evaluation team will conduct telephone surveys with Commercial Refrigeration product participants. The Commercial Refrigeration product encourages energy efficiency among commercial customers with large refrigeration loads (e.g., groceries, restaurants, convenience stores). The product provides technical assistance, direct installation of low-cost measures, coil cleaning education, and financial incentives for equipment upgrades. Common upgrades include: anti-sweat heater controls, reach-in electronically commutated motors (ECM), efficient reach-in case doors, evaporator fan motors and motor speed controls, night curtains for open coolers, LED reach-in case lighting, retrofitting open multi-deck cases with solid glass doors, and replacing open multi-deck cases with efficient reach-in cases with doors. The product also covers customer commercial energy-saving refrigeration projects not included in the prescriptive rebate program via the Custom Efficiency program. Outreach for the product is primarily provided by a third-party implementer (Franklin Energy) who recruits participants and coordinates upgrades with Xcel Energy trade partners.

The remainder of the introduction provides the research questions which the participant survey is designed to address, a description of the sample variables to support programming the survey, and fielding instructions for the survey house.

### Evaluation Objectives

The following table presents the link between the overall Commercial Refrigeration evaluation objectives to the survey questions in this participant guide.

Appendix B: DATA COLLECTION DOCUMENTS

Evaluation Objective	Research Question	Survey Question Number(s)
Understand the path to customer participation.	How do business customers learn about the opportunities available to save money on refrigeration related energy costs?	Gen8, A1
Explore how to best present product benefits to customers so that the product is easily understood.	What motivates customers to participate in the program? What are the business characteristics of participating Commercial Refrigeration customers?	A2 Gen 1-Gen 7
Learn more about the factors that most impact customer decisions to pursue efficiency upgrades- i.e. cost, payback, budget cycles.	What factors do customers consider when deciding to make efficiency upgrades?	B2, C2, D2
Identify ways to optimize product delivery and customer engagement	What are business customer experiences working with the product?	A3-A6, B1-B12, C1, C3
Assess customer satisfaction	How satisfied are customers with a range of Commercial Refrigeration Product components?	D1
Better understand the barriers to customers' willingness to and ability to follow-through with recommended efficiency upgrades.	What are customer barriers to pursuing recommended efficiency upgrades?	B10, B11, C1a, C2
Assess effectiveness of outreach materials and recruitment strategies at encouraging customers to move beyond the direct install measures to make deep retrofits at their facilities.	What are customer barriers to pursuing recommended efficiency upgrades?	B10, B11, C1a, C2
Compare product to peer utility programs.	NA (benchmarking task)	
Identify the potential to increase the number of refrigeration contractors that could participate in the product.	NA (trade partner task)	
Determine whether contractors could benefit from additional training.	NA (trade partner task)	
Better understand the barriers to increasing trade ally product participation.	NA (trade partner task)	

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.

Sample Variable	Variable Description	Potential Codes
Interviewer Name	Name of interviewer from Ewald and Wasserman	e.g. Donna Whitsett
Organization	Organization name	e.g. EMI Consulting
Contact	Contact at organization	e.g. Katie Cary
Role	Role within the organization	e.g. Store Manager
Month	Month customer completed project through program	e.g. May
Year	Year customer completed project through program	e.g. 2016
Phone	Phone number for contact at organization	e.g. 555-555-5555
Measures	A list of the measures that the customer received rebates for through the Xcel Energy Commercial Refrigeration program.	e.g. Electrically Commutated Motors

## Fielding Instructions

Update this section based on project characteristics. The current instructions below are based on commercial calling. For residential calling, switch calling hours.

- Attempt each record six times on different days of the week and at different times.
- 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.
- The survey is considered complete when Close1 is answered.
- After completing 10 interviews, hold calling and output a preliminary SPSS dataset and recordings of the pretest interviews. Resume calling after EMI Consulting checks the data (usually with 1-2 working days).
- Monitor at least 10 percent of the interviews to ensure proper interview protocols (e.g., reading questions verbatim, proper probing, accurate data entry).
- Calling hours are 9 AM to 5 PM MT, unless respondent requests to be called back at specified time.

## Survey Sections

- Intro. Introduction and Screening
- Gen. Firmographics and Operations
- Refrigeration Assessment
- Refrigeration Assessment Recommendations
- Barriers to Energy Efficiency
- Satisfaction

- 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. I'm hoping to speak to someone at your organization who would be familiar with your participation in the Xcel Energy Commercial Refrigeration program in <MONTH> <YEAR>. Our records show that you received an energy assessment and during that assessment you may have received items such as a restroom faucet aerator or a refrigerator coiling cleaning. You may also have received a rebate to install energy efficient refrigeration equipment through this program. May I speak with <CONTACT>?

1. Yes, that would be me.
2. Yes, let me transfer you to the correct person [IF NAME GIVEN, ENTER AS <CONTACTNEW>; REPEAT QUESTION INTRO1 WITH NEW RESPONDENT]
3. No, they are not available right now.
4. No, they are no longer employed by this organization.
5. No, other reason (SPECIFY).
88. DON'T KNOW [TERMINATE]
99. Prefer not to answer [TERM]

[ASK IF INTRO1=1 OR 5]

Intro2. Are you the person at <ORGANIZATION> who is most familiar with your participation in the Xcel Energy Commercial Refrigeration program, or at least as familiar as anyone else there?

1. Yes.
2. No, they are not available right now.
3. No, that's someone else.
4. No, that person no longer works here.
5. Not applicable – this organization did not participate in any such program. [TERMINATE]
88. DON'T KNOW [TERMINATE]
99. Prefer not to answer [TERM]

[ASK IF INTRO 2=1]

Intro2A. Did your organization receive an energy assessment, sometimes referred to as an energy audit, of your facility's refrigeration equipment through the Excel Energy Commercial Refrigeration program in <YEAR>?

1. Yes
2. No
88. I'm not sure

[ASK IF INTRO2=4 OR INTRO2A= 2, 88]

Intro3. Is there someone else that is knowledgeable about your participation in the Commercial Refrigeration program and the energy audit?

1. Yes
2. No [TERMINATE]
88. DON'T KNOW [TERMINATE]
99. Prefer not to answer [TERM]

[ASK IF INTRO2=2-3 OR INTRO3=1]

Intro4. What is this person's name?

1. [RECORD CORRECT PERSON'S NAME AS <CONTACTUPDATED>]
88. DON'T KNOW [TERMINATE]
99. Prefer not to answer [TERM]

[ASK IF INTRO4=1]

Intro5. 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 UPDATED>) [THANK AND TERMINATE; REDIAL NEW SAMPLE CASE]
88. DON'T KNOW [TERMINATE]
99. Prefer not to answer

PROGRAMMER NOTE: Only those for whom Intro1=1 or Intro2=1 should get to this screen; the rest would end at Intro5 as they will need to be made into new sample cases and called back at a later time.

[ASK IF INTRO1=1 OR INTRO2A=1]

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 Commercial Refrigeration 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 gift card that you will receive after completing the survey. 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 AND RESCREEN AS NECESSARY]

## Section Gen: Firmographics and Operations

In this first section, I'm going to ask you some broad questions about your business to orient the rest of the survey and then we discuss your experiences with the refrigeration assessment and energy efficiency equipment.

Gen1. Which of the following best describes your line of business?

1. Grocery Store
2. Convenient Store
3. Gas Station
4. Hotels and Motels
5. Liquor Store
6. Restaurants
7. Bar
8. School
9. Government
10. Retirement or Nursing Home
11. Retail Store
12. Other \_\_\_\_\_
88. Don't know

99. Prefer not to answer

Gen2. Which of the following most accurately describes your occupational title within your company?

1. Owner
2. Manager
3. Facilities Manager
4. Energy Manager
5. Other \_\_\_\_\_
88. Don't know
99. Prefer not to answer

Gen3. Approximately how much is the annual revenue of your company?

1. Less than \$500,00
2. \$500,000 to \$1 million
3. \$1 million - \$ 2.5 million
4. \$2.5 million - \$5 million
5. \$5 million - \$10 million
6. \$10 million or more
88. DON'T KNOW
99. Prefer not to answer

Gen4. Does your organization have multiple locations in Colorado?

1. Yes (How many \_\_\_\_\_?)
2. No [skp Gen5]
88. DON'T KNOW [skp Gen5]
99. Prefer not to answer [skp Gen5]

Gen4a [If Gen4 = 1].

Have all of your business locations participated in the Xcel Energy Commercial Refrigeration program?

Yes (How many \_\_\_\_\_?)

2. No
88. DON'T KNOW
99. Prefer not to answer

Gen5. [If Gen4 > 1] Approximately how many full-time equivalent (FTE) employees does your organization currently have in the state of Colorado?

[If Gen4 =1] Approximately how many full-time equivalent (FTE) employees does your organization currently have in the state of Colorado, at each location on average?

1. 5 or less
2. 6 – 10
3. 11 - 25
4. 26 - 50
5. > 50
88. DON'T KNOW
99. Prefer not to answer

Gen6. Does your organization own or lease your facility?

1. Own [skp Gen7]

2. Lease / Rent
3. Other \_\_\_\_\_ [skp Gen7]
88. Don't know [skp Gen7]
99. Prefer not to answer [skp Gen7]

Gen6a [If Gen6 = 2]. Do you pay your Xcel energy bill, or does someone else (e.g., a landlord or building manager)?

1. Pay own
2. Other pays
88. DON'T KNOW
99. Prefer not to answer

Gen7. Other than the Xcel Energy Refrigeration Program, has your facility participated in any other energy efficiency programs through Xcel Energy?

1. Yes [specify]
2. No
88. DON'T KNOW
99. Prefer not to answer

Gen8. What is your preferred method for Xcel Energy to communicate energy efficiency opportunities to your business?

1. Email
2. Phone
3. In-person
4. Mail
5. Web (chat or help form submission?)
88. Don't know
99. Prefer not to answer

## Section A: Refrigeration Assessment

A1. How did you first hear about the refrigeration assessment offered by Xcel Energy?

1. Xcel Energy representative – phone call
2. Xcel Energy representative – in-person visit
3. Xcel Account manager
4. Contractor
5. Colleague
6. Bill insert
7. Xcel Energy Website
8. Other \_\_\_\_\_
88. Don't know
99. Prefer not to answer

A2. On a scale from 1 to 5, where 1 is not at all important and 5 is very important, please rate the importance of the following in terms of your decision to receive a refrigeration assessment:

1. Not at all important
2. Slightly important
3. Somewhat important
4. Moderately important

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- 5. Very important
- 77. Not applicable
- 88. Don't know
- 99. Prefer not to answer

- A2a. Reducing environmental impact of (equipment) use
- A2b. Upgrading out-of-date equipment
- A2c. Replacing faulty or failed equipment
- A2d. Increasing customer satisfaction
- A2e. Increasing reliability of equipment
- A2f. Extending equipment life
- A2g. Financial incentive
- A2h. Reducing energy bill amounts
- A2i. Xcel Energy representative recommendation
- A2j. Other \_\_\_\_\_

A3. On a scale from 1 to 5, where 1 is not at all useful and 5 is extremely useful, how would you rate the usefulness of the refrigeration assessment Xcel Energy completed for your business?

- 1. Not at all useful
- 2. Slightly useful
- 3. Somewhat useful
- 4. Very useful
- 5. Extremely useful
- 77. Not applicable
- 88. Don't know
- 99. Prefer not to answer

A4. Did the Xcel Energy representative provide refrigeration coil cleaning training when they conducted the assessment?

- 1. Yes
- 2. No
- 88. Don't know
- 99. Prefer not to answer

A5. Prior to the Xcel Energy refrigeration assessment, had your organization cleaned the refrigeration coils?

- 1. Yes
- 2. No
- 88. Don't Know
- 99. Prefer not to answer

A6 [Ask if A4=1]. Since the Xcel Energy representative conducted the cleaning during the assessment, has anyone in your organization cleaned the refrigeration coils?

- 1. Yes [skp A6b]
- 2. No
- 88. Don't Know [skp B1]
- 99. Prefer not to answer [skp B1]

A6a [If A6=2]. What prevented your organization from cleaning the refrigeration coils? [Select all that apply]  
Have not remembered to clean the refrigeration coils.

1. Have not prioritized time to clean the refrigeration coils.
  2. Do not remember how to clean the coils.
  3. Have not needed to clean the refrigeration coils yet.
  4. Other [Specify]
  88. DON'T KNOW
  99. Prefer not to answer
- [SKP B1]

A6b [Ask If A6=1]. Since receiving the coil cleaning training, how have any of your coil cleaning practices changed? [Select all that apply]

1. The training did not change our coil cleaning practices.
2. The training encouraged us to increase the frequency of coil cleaning.
3. The training improved our methods of coil cleaning.
4. Other [Specify]
88. DON'T KNOW
99. Prefer not to answer

## Section B: Refrigeration Assessment Recommendations

B1. Did you pursue any of the refrigeration assessment recommendations?

1. Yes
2. No [Skip to B5b]
88. Don't Know [skp b5b]
99. Prefer not to answer [skp B5b]

B2. On a scale from 1 to 5, where 1 is not at all important and 5 is very important, please rate the importance of the following in terms of your decision to pursue refrigeration assessment recommendations:

1. Not at all important
2. Slightly important
3. Somewhat important
4. Moderately important
5. Very important
77. Not applicable
88. Don't know
99. Prefer not to answer

B2a. Reducing environmental impact of (equipment) use

B2b. Upgrading out-of-date equipment

B2c. Replacing faulty or failed equipment

B2d. Refrigeration assessment

B2e. Increasing customer satisfaction

B2f. Increasing reliability of equipment

B2g. Extending equipment life

B2h. Financial incentive

B2i. Reducing energy bill amounts

B2j. Contractor recommendation

B2k. Other \_\_\_\_\_

B3 [If B1=1 AND 1 MEASURE IN SAMPLE]. The Xcel Energy records show that you received a rebate for installing %MEASURE1%. Is that correct?

1. Yes
2. No
88. Don't Know
99. Prefer not to answer

B3\_2 [If B1=1 AND 2 MEASURES IN SAMPLE]. The Xcel Energy records show that you received a rebate for installing %MEASURE1% & %MEASURE2% Is that correct?

1. Yes
2. No
3. For some measures in the list, but not others (Specify which measures did not receive rebates):  
[OPEN END]
88. Don't Know
99. Prefer not to answer

B4. Did you install any other energy efficient refrigeration equipment? [SELECT ALL]

1. Anti-Sweat Heater Controls
2. Efficient Reach-In Case Doors
3. Reach-in Electronically Commutated Motors
4. Motor Speed Controls
5. Night Curtains for Open Coolers
6. Replacing Open Multideck Cases with Efficient Reach-In Cases with Doors
7. Retrofitting Open Multideck Cases with Solid Glass Doors
8. LED Reach-In Case Doors Lighting
9. Other Refrigeration Equipment
10. NONE
88. DON'T KNOW
99. Prefer not to answer

B5 [If B1=1]. Did you have a contractor install the recommended refrigeration equipment from the refrigeration assessment?

1. Yes, a contractor installed all of the equipment
2. A contractor installed some of the equipment [skp B5b]
3. No, we installed the equipment our self [skp B6]
88. DON'T KNOW [skp B6]
99. Prefer not to answer [skp B6]

B5a [If B5= 1]. Did the Xcel Energy Representative completing the refrigeration assessment help connect you with a contractor to install the recommended refrigeration equipment?

1. Yes
2. No
88. DON'T KNOW
99. Prefer not to answer

B5b. What are the names of the contractor firms that you use for refrigeration services? [OPEN END, 88-Don't know, 99- Refused]

[if B1 > 1] skp B7a

B5c [IF B5=1 OR B5=2]. Did you mention the energy audit to your contractor when you hired them to install equipment identified in the refrigeration assessment?

1. Yes
2. No [skp B6]
88. (Don't know) [skp B6]
99. (Refused) [skp B6]

B5d [IF B5c=1]. Did you show the audit results and recommendations to your contractor?

1. Yes
2. No
88. (Don't know)
99. (Refused)

B6 [If B4 <10]. Did you receive an Xcel Energy rebate for the other energy efficient refrigeration equipment you installed?

1. Yes, for all equipment installed [skp B7]
2. Yes, but only for some of the equipment installed
3. No
88. DON'T KNOW [skp B7]
99. Prefer not to answer [skp B7]

B6a [If B6 > 1]. Why didn't you pursue a rebate through Xcel Energy for the refrigeration equipment? (Select all that apply)

1. Not aware of the rebate
2. Rebate process took too long
3. Equipment was not eligible for a rebate
4. Too much paperwork
5. Other (Specify)
88. DON'T KNOW
99. Prefer not to answer

B7. On a scale from 1 to 5, where 1 is very difficult and 5 is very easy, how difficult or easy would you say it was to complete the following tasks associated with the Commercial Refrigeration program:

(1) Very difficult, (2) Difficult, (3) Neither difficult nor easy, (4) Easy, (5) Very easy, (77) Not applicable, (88) Don't know, (99) Prefer not to answer

B7a. Schedule the refrigeration assessment

B7b. Support the Xcel Energy representative when they conducted the refrigeration assessment

B7c. [If B5=1] Find a contractor to install recommended equipment

B7d. Implement recommendations from the refrigeration assessment

B7e. [If B3=1 or B6=2 or 3] Complete rebate forms

B7f. [If B3=1 or B6 < 3] Submit rebate forms

[For any B7 < 4]

B7\_1. Please provide a sentence or two describing why it was not easy to...

- 
88. Don't know
  99. Prefer not to answer

B8. [If B3=1 or B6 < 3] About how long did it take to receive your rebate after completing and submitting the necessary paperwork?

1. 1 week or less
2. More than a week, but less than 1 month
3. 1 month or more
77. Have not received rebate yet
88. DON'T KNOW
99. Prefer not to answer

B9. [If B3=1 or B6 < 3] How did you receive rebate forms once enrolled in the Commercial Refrigeration program? [Select all that apply]

1. From my contractor
2. From the Xcel Energy representative that conducted the refrigeration assessment
3. From another Xcel Energy representative
4. Other
5. Website
88. Don't know
99. Prefer not to answer

B10 [If B3=1 or B6= < 3]. Did you experience any unexpected delays in pursuing the refrigeration recommendations?

1. Yes [Please explain]
2. No
88. Don't know
99. Prefer not to answer

B11 [IF B1=1]. From the time work started to project completion, did the project take less or more time than you expected to complete?

1. Much less time than expected
2. Somewhat less time than expected
3. About as much time as expected
4. Somewhat more time than expected
5. Much more time than expected
77. Project has not been completed yet
88. DON'T KNOW
99. Prefer not to answer

B12. Do you have any recommendations for improving the Commercial Refrigeration program?

1. Yes
2. No [skp C1]
88. DON'T KNOW [skp C1]
99. Prefer not to answer [skp C1]

B12a. [IF B12=1] Please provide any recommendations you have for improving the Commercial Refrigeration program: \_\_\_\_\_

88. Don't know
99. Prefer not to answer

## Section C: Barriers to Energy Efficiency

C1 [IF B1=1]. Did you complete all measures recommended in the refrigeration assessment completed by Xcel Energy?

1. Yes
2. No
88. DON'T KNOW
99. Prefer not to answer

[If C1 = 2 or B1=2]

C1a. Which of the following best describes your reason for not pursuing recommended upgrades?

1. Equipment costs
2. Impact on marketing efforts
3. Impact on customer experience
4. Lack of knowledge regarding rebate amounts
5. Amount of time it takes to install equipment
6. Getting upgrades approved by management and/or corporate representatives
7. Finding a trustworthy contractor
8. Amount of paperwork
9. Program requirements
10. Other \_\_\_\_\_
88. Don't know
99. Prefer not to answer

C2. On a scale from 1 to 5 where 1 is no impact at all and 5 is very impactful, to what extent do your businesses budget cycles impact your ability to complete the recommended upgrades?

1. No impact at all
2. Slight impact
3. Some impact
4. Moderate impact
5. Very impactful
77. Not applicable
88. Don't know
99. Prefer not to answer

C3. Since receiving the refrigeration assessment, did you consider making any additional energy efficiency upgrades beyond those recommended through refrigeration assessment?

1. Yes
2. No [skp D1]
88. DON'T KNOW [skp D1]
99. Prefer not to answer [skp D1]

[If C3 = 1]

C3a. What else did you consider having done? \_\_\_\_\_

88. Don't know
99. Prefer not to answer

C3b. Have you or will you pursue these energy efficiency upgrades within the next two years?

1. No
2. Yes

- 88. DON'T KNOW
- 99. Prefer not to answer

## Section D: Satisfaction

Next, I'm going to ask you to rate your satisfaction with a variety of aspects with the Commercial Refrigeration Program at Xcel Energy.

D1. On a scale of 1 to 5, where 1 is very dissatisfied, and 5 is very satisfied, how would you rate your satisfaction with:

- 1. Very Dissatisfied
- 2. Somewhat Dissatisfied
- 3. Neither Satisfied Nor Dissatisfied
- 4. Somewhat Satisfied
- 5. Very Satisfied
- 77. Not applicable
- 88. Don't know
- 99. Prefer not to answer

- D1a. The program overall
- D1b. The Xcel Energy representative who conducted the refrigeration assessment
- D1c. The refrigeration assessment you received
- D1d. [IF B5=1 OR B5=2] The contractor who installed the recommended measures
- D1e. [IF B5=1 OR B5=2] The contractor's knowledge
- D1f. [IF B1=1] The refrigeration measures installed through the program
- D1g. Xcel Energy as an energy provider
- D1h. [IF B3=1 OR B6=1] The amount of time it took to receive your rebate
- D1i. [IF B3=1] The dollar amount of the rebate
- D1j. Interactions with program staff
- D1k. [IF B1=1] The price you paid for the equipment installed through the program

[Experience series, in data]

D2. Did you experience any of the following as a result of your participation in the program?  
(1) Yes, (2) No, (77) Not applicable, (88) Don't know, (99) Prefer not to answer

- D2a. Financial savings
- D2b. Energy savings
- D2c. Reduced maintenance
- D2d. Increased workplace comfort
- D2e. Improved equipment performance
- D2f. Increased customer comfort
- D2g. Improved 'green' image
- D2h. Improved equipment appearance

D3. [IF ANY D2a-h=1] How influential was the program in helping you achieve the following:

- 1. Slightly influential
- 2. Somewhat influential
- 3. Very influential
- 77. Not applicable

- 88. Don't know
- 99. Prefer not to answer

- D2a. Financial savings
- D2b. Energy savings
- D2c. Reduced maintenance
- D2d. Increased workplace comfort
- D2e. Improved equipment performance
- D2f. Increased customer comfort
- D2g. Improved 'green' image
- D2h. Improved equipment appearance

## Section CLOSE: Closing

CLOSE1. These are all the questions I have. As a thank you for your input, we'd like to send you a \$25 Amazon gift card. Let me ask the information we need to email your gift card instructions to the intended recipient—this could be you, personally, or anyone else of your choosing.

[IF RESPONDENT REFUSES OR DECLINES GIFT CARD, PLEASE WRITE "REFUSED" IN NAME BOX AND CLICK NEXT]

T: 10 5

Name of recipient:

Email address of recipient:

## B.2 Peer Program Benchmarking Guide

### Introduction

To support the process and impact evaluation of the 2016 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 Commercial Refrigeration Product peer utilities interviews. Interview will be conducted with six of Xcel Energy's peer utilities detailed in Table 3 below. Target respondents are managers of Commercial Refrigeration energy efficiency programs.

**Table 3: List of Peer Utilities**

Utility	Program Name
Power Stream (Alectra)	Business Refrigeration Incentives
Focus on Energy	Commercial Refrigeration Program
Georgia Power	Commercial Energy Efficiency Program: Food Service and Grocery Equipment
Duquesne Light Co.	Commercial and Industrial Energy Efficiency Program
Eugene Water & Electric Board (EWEB)	Commercial Refrigeration Rebate Program
Toronto Hydro	Commercial Refrigeration Program

Table 4 identifies the interview questions related to each key performance indicator. Table 5 identified the interview questions related to each contextual theme.

**Table 4: Mapping of interview questions to indicators**

Key Performance Indicator	Data Needed	Interview Question
Program energy savings goals	<ul style="list-style-type: none"> <li>2016 program energy savings goals (MWh)</li> <li>2016 program's savings (MWh)</li> <li>2016 total energy efficiency portfolio goal (MWh)</li> </ul>	B2, B3, B4
Program budget cost of acquisition (e.g. \$/MWh, \$/Mcf)	<ul style="list-style-type: none"> <li>2016 program budget</li> <li>2016 total gross energy savings for each peer program</li> </ul>	B5
Customer Participation Levels	<ul style="list-style-type: none"> <li>Number of incentive applications submitted 2016</li> <li>Number of completed audits 2016</li> </ul>	B1

**Table 5: Mapping of interview questions to contextual themes**

Contextual themes	Data Needed	Interview Question
<b>Program description</b>	<ul style="list-style-type: none"> <li>Overall program objectives, implementation strategies, customer types targeted for participation</li> <li>Program staffing, the length of time of program operation, any recent changes that have been made to the program, and future outlook.</li> </ul>	A1, A2, C1
<b>Customer engagement practices</b>	<ul style="list-style-type: none"> <li>Methods used to engage customers</li> </ul>	C1
<b>Trade partner engagement practices</b>	<ul style="list-style-type: none"> <li>Methods to engage trade partners</li> </ul>	C2
<b>Measure types and incentives</b>	<ul style="list-style-type: none"> <li>List of measures and their efficiency levels, incentive levels</li> </ul>	A3
<b>Program marketing practices</b>	<ul style="list-style-type: none"> <li>Methods used to increase program awareness to new and existing customers</li> </ul>	C1

## 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.

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 Commercial Refrigeration 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 EMI Consulting 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 Commercial Refrigeration energy efficiency programs. As part of this study, we are reaching out to leaders of Commercial Refrigeration programs to learn about innovative programs and best practices in the field.  
We would like to include UTILITY in this study, as your Commercial Refrigeration program has been identified as an [innovative/peer] program. We would like to spend some time [add estimated time once final/tested] talking with you about your Commercial Refrigeration program's design and implementation, as well as your successes and challenges with the Commercial Refrigeration program.  
**[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]**

### Section A: KPIs/Program Design

- A1. First, we'd like to talk through the basic design and organization of your program. **[ASK/CONFIRM BASED ON HOLES IN BACKGROUND RESEARCH ON PROGRAM]**  
Can you describe your program at a high level?  
What are the program's overall objectives?  
Is your program run by utility staff or a third-party implementer? (*ex: Franklin Energy, DNVGL, Clear Result*)  
How many PROGRAM STAFF OR IMPLEMENTER STAFF members support the program? (*ex: Prog. Manager, Field Rep., engineer, others? %FTE on this program?*)  
Have there been any recent changes to the program?  
What will the program be like in the near future?
- A2. Can you describe the implementation strategies used by STAFF OR IMPLEMENTER? (*Audits? Direct install?*)  
What is the typical length of a project? (*from initial contact through installation*)
- A3. Next, I'd like to talk about your program's efficiency incentives. **[ASK/CONFIRM BASED ON HOLES IN BACKGROUND RESEARCH ON PROGRAM]**  
What types of measures do you offer? **[PROBE: Prescriptive, Custom, Design]**  
What specific measures are offered? (*ex: equipment upgrades, maintenance, retrocommissioning i.e. re-tuning old equipment, etc.*)

What are the incentive levels for each measure?

## Section B: Savings goals/cost

Next, I'd like to talk about the participation and energy savings achieved through the program in 2016.  
**[ASK/CONFIRM BASED ON HOLES IN BACKGROUND RESEARCH ON PROGRAM]**

- B1. How many projects were completed in 2016?  
**(If applicable)** How many audits were completed in 2016?  
 How many incentive applications were submitted in 2016?
- B2. What were the program's energy savings goals in 2016? (MWh)?  
*(ex: electricity in KW or KWh)*
- B3. How much gross energy savings did the program report in 2016?  
*(Net OK too, but need gross)*
- B4. What was the total energy efficiency portfolio goal in 2016?  
*(all programs, not just refrigeration)*
- B5. We'd like to know more about the budget or total operating costs of your program to get a sense of the utility cost of energy savings. Ideally, this includes program incentives, salaries of program staff (including support staff who may not work on the project full-time), marketing, consulting, and other overhead.
- a. What is the program's total operating budget?
  - b. If sub-programs exist, how does this break down between sub-programs?

## Section C: Program Participation

Next, I'd like to talk about program outreach and marketing. **[ASK/CONFIRM BASED ON HOLES IN BACKGROUND RESEARCH ON PROGRAM]**

- C1. What steps does the utility take to engage potential program participants?  
**Probe as needed:** What marketing practices do you use to increase customer awareness of the program?  
**Probe as needed:** What steps does the utility take to support customers that receive an audit to follow-through with implementing recommendations?  
 What has been the most effective?  
 Do you target certain customer types? *(E.g., grocery stores, traits, etc.)*
- C2. Next, I'd like to talk about the program's trade allies *(HVAC, lighting, distributors, etc.)*.  
 Approximately how many trade allies are active in the program?  
 What types of companies typically serve as the primary trade ally contact? *(Electrical contractors, HVAC contractors, manufacturers, etc.)*  
 What activities do program staff conduct to engage trade allies?  
**Probes:** Provide training?  
 Require registration?  
 Support connections between contractors and customers?

What have you found to be the most effective ways of engaging trade allies to drive participation in the program?

What roles do trade allies play in driving customer participation in the program?

Do trade allies see/use audits? **Probe:** How do audits inform their work?

Do you engage distributors? How? Why?

## Section D: Closing

D1. 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?

## B.3 Trade Partner Interview Guide

### Introduction

To support the process and impact evaluation of the 2016 Xcel Energy energy efficiency programs, the EMI Consulting evaluation team will conduct telephone interviews with Commercial Refrigeration Trade Partners.

The Commercial Refrigeration product encourages energy efficiency among commercial customers with large refrigeration loads (e.g., groceries, restaurants, convenience stores). The product provides technical assistance, direct installation of low-cost measures, coil cleaning education, and financial incentives for equipment upgrades. Common upgrades include: anti-sweat heater controls, reach-in electronically commutated motors (ECM), efficient reach-in case doors, evaporator fan motors and motor speed controls, night curtains for open coolers, LED reach-in case lighting, retrofitting open multi-deck cases with solid glass doors, and replacing open multi-deck cases with efficient reach-in cases with doors. The product also covers customer commercial energy-saving refrigeration projects not included in the prescriptive rebate program via the Custom Efficiency program. Outreach for the product is primarily provided by a third-party implementer (Franklin Energy) who recruits participants and coordinates upgrades with Xcel Energy Trade Partners.

The remainder of the introduction provides the evaluation objectives and research questions which the Trade Partner Interview Guide is designed to address, along with fielding instructions for the EMI research team.

### Evaluation Objectives

Interviews with trade partners is an additional task added to the original scope of work that will explore the effectiveness of the support Xcel Energy provides to trade partners and identify if additional training is needed. In addition, this research will explore how the product has impacted their sales strategies and assess if there are any barriers prohibiting increased engagement with the Commercial Refrigeration product. The following table presents the link between the evaluation objectives for this trade partner interview task and the interview questions guide.

Evaluation Objective	Research Question	Interview Question Number(s)
Identify the potential to increase the number of refrigeration contractors that could participate in the product.	<p>What type of trade partners work with refrigeration related equipment?</p> <p>Are there recommended upgrades that only some certain trades can install?</p> <p>How do trade partners learn about the Commercial Refrigeration Product Opportunities?</p> <p>How accurate is the audit at recommending all potential energy savings refrigeration upgrades?</p>	A1 – A6, B1 – B4, B2, C4, C5, C8, D1, E1 – E2
Determine whether contractors could benefit from additional training.	<p>What does the process look like for submitting applications after the audit is completed?</p> <p>Do trade partners need assistance completing applications for equipment?</p> <p>Is training needed to help trade partners effectively sell refrigeration opportunities to customers?</p>	C1 – C3, D2 – D5,
Better understand the barriers to increasing trade ally product participation	<p>Are trade partners able to install all potential measures included in the Commercial Refrigeration Product?</p> <p>Are there specific changes to the Product offering that would increase trade partner involvement?</p>	C6 – C7, D6, F1 – F3

### Fielding Instructions

The following fielding guidelines should be used for participant recruiting and interviews:

- Attempt to reach participants six times on different days of the week at different times.
- 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.
- Trade partner calling hours will range from 7 AM to 5 PM.
- Record interviews
- Definitions: COMPANY NAME = Update COMPANY NAME with Trade Partner's company name

### Recruiting Dialog/Message Script

**WHEN LEAVING A VOICE MESSAGE:** Hi, this is **NAME** from EMI Consulting, calling on behalf of Xcel Energy. We're contacting Trade Partners who have participated in the Commercial Refrigeration

Product to better understand how Xcel Energy can improve the Product to best suit Trade Partners like you. I'd appreciate the opportunity to schedule a half-hour interview with you to discuss your experience. Please give me a call back to schedule a time to talk. My name is **NAME** and my phone number is **PHONE NUMBER**. If I don't hear back in a few days, I will give you a try back. Thank you! Goodbye.

## Survey/Interview

### Section A: Screener/Introduction

- A1. To confirm, our records show you participated in the Xcel Energy Commercial Refrigeration Product, is this correct?  
**[IF NO, END CALL]**

Thank you for agreeing to talk with me today. EMI Consulting is an independent third-party contractor hired by Xcel Energy to evaluate their Commercial Refrigeration Product. I expect this conversation to take about half an hour. We will not associate your responses with your name or your firm's name. To help me capture your responses accurately, is it okay if I record this call? The recording will be used for my note-taking purposes only. It won't be shared with Xcel Energy.

Do you have any questions before I start? First, I want to take 5 minutes to better understand your role and set the stage for the rest of the questions.

- A2. What is your title or role at COMPANY NAME **[PROBE: Owner, contractor, distributor, service representative, etc.]**
- A3. What are your primary responsibilities at COMPANY NAME?
- A4. Can you briefly describe your company's work? **[PROBE: Specific specialties such as lighting, HVAC, building shell, motors, compressors, etc.]**
- A5. What types of Commercial Refrigeration customers does COMPANY NAME typically serve?  
**[PROBE: In general, do you serve nursing/motels, gas-stations, liquor stores, convenient stores?]**
- A6. Do you have experience with other energy efficiency programs at Xcel? Which ones?  
Do you have experience working with other utility programs that are not Xcel? Which utilities?

### Section B: Awareness

Great, that overview of your company helps me frame the rest of my questions. Next, I'd like to ask you a few questions about your experience with the Commercial Refrigeration Product.

- B1. How long have you been a registered trade partner?
- B2. How did you become involved with the Commercial Refrigeration Product?  
Did a customer contact you about it or did you learn about it from Xcel Energy?

**[IF CONTACTED BY CUSTOMER:]**

Did the customer reach out to you in response to an audit performed by an Xcel Energy Representative?

Was the customer referred to you by an Xcel Energy Representative?

**[IF CONTACTED BY XCEL ENERGY:]**

How did Xcel Energy contact you or reach out to you about this opportunity?

- B3. What is the most effective form of communication for Xcel Energy to use to keep you informed about new opportunities? **[POSSIBLE PROBES:** emails, website, in-person training, lunch & learns, etc.]
- B4. Are there specific trade organizations or newsletters that you follow?  
**[IF YES:]** Which ones?

Section C: Program Interaction

- C1. Did you fill out the application for the Commercial Refrigeration Product on behalf of the customer?  
**[IF YES:]** What program information was most useful to you when you were applying? **[PROBE:** incentive levels, materials, application process, deadlines.]
- C2. Were you the main point of contact with Xcel Energy Staff for the project?  
**[IF YES:]** Did you feel like you had all the information you needed to successfully help the customer with the program application?  
**[IF NO:]** What information would have been useful for you to know?
- C3. Did the incentives go directly to the customer or were they sent to you?  
**[IF SENT TO CONTRACTOR:]** Were there any unexpected delays in receiving the incentives?  
**[IF CONTACTED BY CUSTOMER AFTER AUDIT:]**
- C4. Did all the projects you completed for the Commercial Refrigeration Product include an audit?
- C5. For the projects where a refrigeration audit was completed, what were your perceptions of the audit? How useful was the audit in helping to identify energy efficiency opportunities related to refrigeration equipment?
- C6. Did your company install all of the measures recommended in the audit?  
**[IF NO:]** What are the reasons why?
- C7. Are there measures that your company is not capable of installing, but may be included as a recommended measure in the audit?
- C8. Were any additional measures installed that you believe the audit missed?  
**[IF YES:]** What were the additional measures installed?  
**[IF YES:]** Were the additional measures eligible for an incentive through other Xcel Energy product offerings?

Section D: Trade Partner Marketing/Program Interaction

- D1. What type of trade allies work on refrigeration equipment? **[PROBE:** HVAC, electrical, refrigeration manufacturers/distributors, etc.]  
Are there differences in the type of equipment that each trade ally would work on?

- D2. What sales techniques do you use to attract new Commercial Refrigeration customers? [**PROBE:** brochures, cold calls, ads, door to door, referral, word or mouth, repeat]
- D3. Do rebates/incentives ever come up in sales discussions with these customers?  
[**IF YES:**]  
When in the conversation are rebates/incentives typically mentioned [**PROBE:** introduction, discussion of costs, etc.]?  
Who typically brings up rebates/incentives [**PROBE:** customer or contractor]?
- D4. Now that you participated in the Commercial Refrigeration Product, are you more likely to recommend the refrigeration program to other clients?  
[**IF YES:**] What about the program do you highlight to your customers?  
[**IF NO:**] What are the reasons why you would not be likely to sell this his refrigeration program other customers?  
[**IF NEEDED FOR EXPLANATION, USE THE LIST OF PROBES:**]  
[Changed our business or market focus]  
[Application is too difficult or time consuming]  
[Need support from Xcel Energy]  
[Lack of customer interest]  
[Rebates too low]  
[Internal challenges]  
[Not useful program]  
[Other challenges/ reasons, SPECIFY]  
[Too time consuming]  
[Not aware]
- D5. Are there any aspects of the Commercial Refrigeration Product offering that training would help make clearer?  
Are there any additional training needs that you have related to Commercial Refrigeration?
- D6. Is there anything if changed or improved would likely increase your engagement with the Commercial Refrigeration program? [**PROBE IF NEEDED:** bigger rebates, better communication, updated application process, training, etc.]  
If so, what and why?

## Section E: Evolving Market Place

- E1. What do you see as new or emerging energy efficiency opportunities for Commercial Refrigeration customers?
- E2. Are there any Commercial Refrigeration technologies not offered through the program that you think should be included?

## Section F: Satisfaction

- F1. Thinking about the projects you have put through the Commercial Refrigeration in the past, please rate your **overall satisfaction** with following aspects on a 1 to 5 scale where 1 is not satisfied and 5 is extremely satisfied? [**Probe for reasons why** on any response 3 or less.]  
**Xcel Energy Commercial Refrigeration staff**

**Equipment rebated by Commercial Refrigeration Product**  
**Commercial Refrigeration rebate levels**  
**Commercial Refrigeration rebate processing**  
**Commercial Refrigeration audit (if applicable)**

- F2. Is there anything the Commercial Refrigeration is doing well and that they should keep doing?  
If so, what and why?
- F3. How likely would you be to recommend the program to another business customer where 1 is very unlikely and 5 is extremely likely?  
What are the reasons why?

Section G: Closing

- G1. Is there anything we didn't cover that you'd like to mention or discuss about your experiences with the Commercial Refrigeration program?
- G2. Thank you. Those are all the questions I have today.  
**[THANK AND TERMINATE]**

## APPENDIX C: STAFF INTERVIEW FINDINGS

To support the process and impact evaluation of the 2016 Xcel Energy efficiency programs, the EMI Consulting evaluation team conducted telephone interviews with key staff managing and implementing the Commercial Refrigeration Product. The interview objectives were to collect staff feedback on product experiences and evaluation priorities. Members of the EMI Consulting evaluation team interviewed the following key staff managing and implementing the Commercial Refrigeration Product:

- Product Manager
- Account Manager
- Business Solutions Center Representative
- Engineer
- Implementer Product Manager and Field Engineer

This memo contains a summary of the key takeaways, a description of the product, an inventory of the product's strengths and barriers, and feedback on evaluation priorities.

### C.1 Key Takeaways

The following bullets present the evaluation team's understanding of the product based on staff interview results and review of available program documentation.

- The Commercial Refrigeration Product is a mature program and program staff reported it is running smoothly.
- Removing the audit participation goal in 2017 is allowing staff to more cost effectively pursue projects that are most likely to be implemented.
- The most challenging hurdle the program faces is getting customers who received the audit to move forward with installing the recommended upgrades.
- Implementers rely on a hands-on approach which includes efficiency audits and direct installation of small measures. The hands-on approach contributes to the program's success by building customer trust in the potential for energy savings opportunities.
- When deciding which recommended measures to pursue, customers must assess the trade-off between energy cost savings and potential negative impacts to customer shopping behaviors.
- The Commercial Refrigeration Product could benefit from additional measures, assuming the measures are cost effective. These measures include optimization opportunities and refrigeration measures for high temperatures.

### C.2 Product Description

The following bullets present the evaluation team's understanding of the product based on staff interview results and review of available program documentation.

- The Commercial Refrigeration product encourages energy efficiency among big and small commercial customers with large refrigeration loads (e.g., groceries, restaurants, convenience stores, liquor stores). The product provides technical assistance, direct installation of low-cost measures, coil cleaning education, and financial incentives for equipment upgrades.

- Common upgrades include: anti-sweat heater controls, reach-in electronically commutated motors (ECM), efficient reach-in case doors, evaporator fan motors and motor speed controls, night curtains for open coolers, LED reach-in case lighting, night curtains for open coolers, retrofitting open multi-deck cases with solid glass doors, and replacing open multi-deck cases with efficient reach-in cases with doors.
- The product also covers customer commercial energy-saving refrigeration projects not included in the prescriptive rebate program via the Custom Efficiency program. Outreach for the product is primarily provided by a third- party implementer (Franklin Energy) who recruits participants and coordinates upgrades with Xcel Energy trade partners.
- The current 2017 program savings goals are set at 5.3 GWh annually, a reduction from 10MWh target in 2016.
- New measures added to the program include demand control, kitchen ventilation, and direct install screw-in LED lighting.

### C.3 Product Strengths and Barriers

During interviews, staff identified the following strengths and barriers to implementing this product. Strengths include factors that product staff identified as supporting the success of the product; barriers include factors that product staff identified as preventing the product from reaching its goals.

#### Strengths

- Overall, interviewees reported that the Commercial Refrigeration Program is a mature program that is running efficiently and was even cost effective in 2016 despite the high administrative costs of audits.
- Interviewees mentioned that communication between the utility, implementer, and other key parties is progressing well.
- One of the key strengths of the program mentioned during the staff interviews, is the importance of the program staff themselves. Specifically, having an Xcel Energy representative at customers' sites provides customers with the confidence that the recommendations for efficiency upgrades are genuinely beneficial to their business. Customers view the utility representative as a trusted third-party.
- Another strength of the program is that the implementer is actively involved in providing the best customer experience possible. Interviewees mentioned that the implementers were very willing to work with customer scheduling needs to conduct the energy audits.
- One successful program element specifically mentioned was the cleaning of condenser coils during the free direct install of LEDs in walk-in coolers. During the cleaning, the implementer teaches customers how to clean the condenser themselves and will leave behind a coil cleaning brush, which helps the implementer build good will with the customers.
- The audits can be a particularly effective tool for small business customers with extensive refrigeration equipment because they help customers who typically do not have time to focus on energy efficiency with customized recommendations.
- The application process is streamlined, allowing implementers to process all recommended measures within a single application despite multiple installation timelines.

#### Barriers

Interviewees also reported barriers facing the Colorado Commercial Refrigeration product. The evaluation team categorized these barriers as being either programmatic or customer-based.

### Programmatic Barriers

- The primary challenge mentioned by staff is getting customers to commit to move forward with the recommended energy efficiency upgrades after the energy audit is completed. Staff reported that it was particularly challenging for customers to pursue recommended larger electric projects.
- Interviewees mentioned a need to train more traditional refrigeration contractors to expand the program's reach – there are still eligible refrigeration trade allies that are not actively participating in the program.
- The implementer interviewed also mentioned a desire to include more measures related to high refrigeration temperatures in the program, including RTUs and ACs – currently, most of these measures fall under the cooling efficiency program. Additionally, they agreed with an Xcel engineer's recommendation to add optimization measures. The implementer reported that optimization opportunities are timely because Xcel recently canceled a retrocommissioning refrigeration product. Specific recommendations for additional measures include the following:
  - Refrigeration optimization
  - Defrost controls
  - Auto door closers
  - Beverage & snack machine controls
  - Case light occupancy sensors
  - Energy Star rated refrigerators, freezers and ice machines
  - Horizontal LED case lights in open multi-deck cases
  - Strip curtains
  - Floating head pressure controls
- Staff reported some challenge with customers not following program processes. Specific examples included installing non-qualifying equipment or installing equipment before they receive a pre-installation approval.
- Customers who have multiple facility locations require a separate application for each location, which can greatly increase the time and effort required to participate.

### Customer Barriers

- Customers have limited staff availability to assess and explore energy efficiency upgrades– the ability of the implementer to proactively complete energy audits helps to alleviate some of this concern.
- Customers can be reluctant to participate in the program because of the process and time required to complete the audit.
- Staff reported that many customers face challenges in pursuing audit recommendations.
  - Some customers might not be receiving enough support or information to feel confident with moving forward would be helpful.
  - For larger customers, interviewees explained that long and/or drawn out funding cycles can impact the ability to move forward with efficiency recommendations in a specific time frame.
  - Upfront costs remain a barrier for some customers.

## C.4 Feedback on Evaluation Priorities

During interviews, staff identified research topics they would like the evaluation to address. The following bullets compile these topics along with additional topics that the evaluation team identified based on staff interview findings. The evaluation team will consider these research topics when prioritizing portfolio-wide evaluation needs and as able, incorporate them into the final evaluation plan for the 2016 Commercial Refrigeration Product. The EMI Consulting team will deliver this plan in May.

- Identify the potential to increase the number of refrigeration contractors that could participate in the program and determine whether these contractors could benefit from additional training.
- Better understand barriers related to (1) non-registered trade ally participation in the program, and (2) customers' willingness and ability to follow-through with recommended efficiency upgrades.
- Learn more about the cost and payback factors that most impact big and small customer decisions to pursue efficiency upgrades and explore how best to present program benefits to customers in a way that is easily understood and addresses any concerns.
- Better understand big and small customer budget cycles and decisions making processes related to capital funds needed for efficiency upgrades. Who makes the decision, when, and what is the business cycle?

# APPENDIX D: PARTICIPATION RESULTS

## D.1 Introduction

To support the process and impact evaluation of the 2016 Xcel Energy energy efficiency programs, the EMI Consulting evaluation team conducted telephone surveys with Commercial Refrigeration product participants. This appendix presents analysis results from each of the survey research questions.

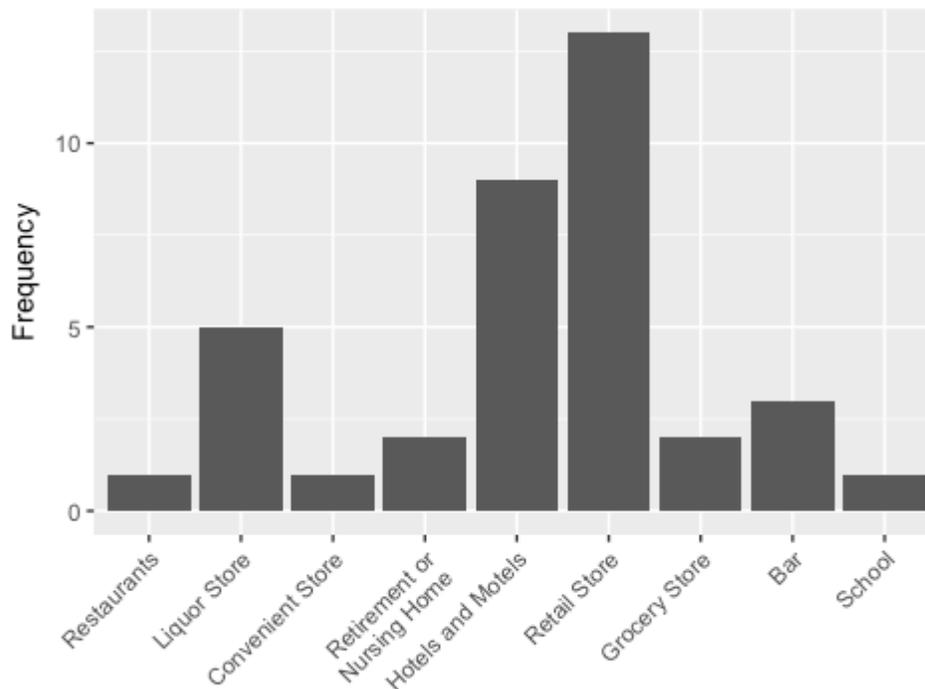
## D.2 Analysis

### Section Gen: Firmographics and Operations

Gen 1: Which of the following best describes your line of business?

	Frequency	Percent
Restaurants	13	35.14
Liquor Store	9	24.32
Convenient Store	5	13.51
Retirement or Nursing Home	3	8.108
Hotels and Motels	2	5.405
Retail Store	2	5.405
Grocery Store	1	2.703
Bar	1	2.703
School	1	2.703
Total	37	100

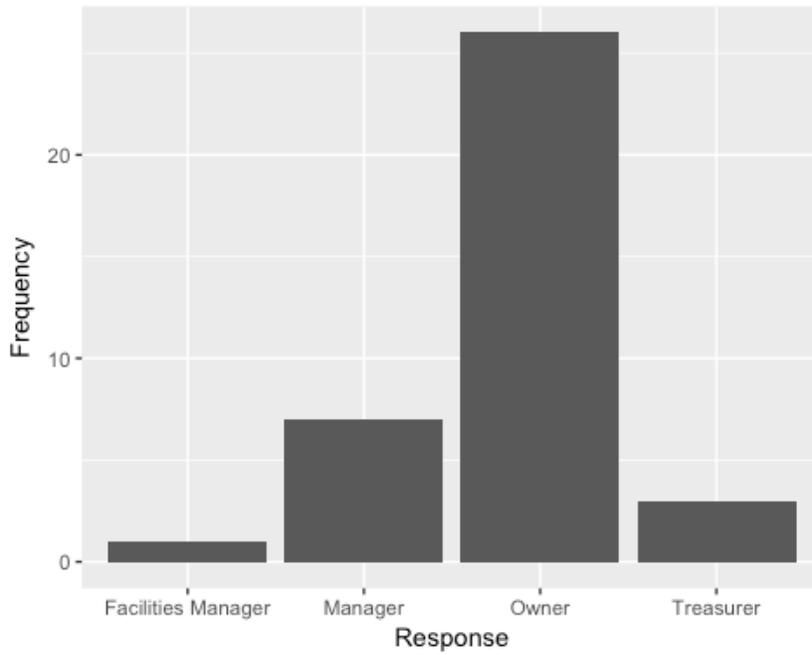
Bar Chart 1.1



Gen 2: Which of the following most accurately describes your occupational title within your company?

	Frequency	Percent
Owner	26	70.27
Manager	7	18.92
Treasurer	3	8.108
Facilities Manager	1	2.703
Total	37	100

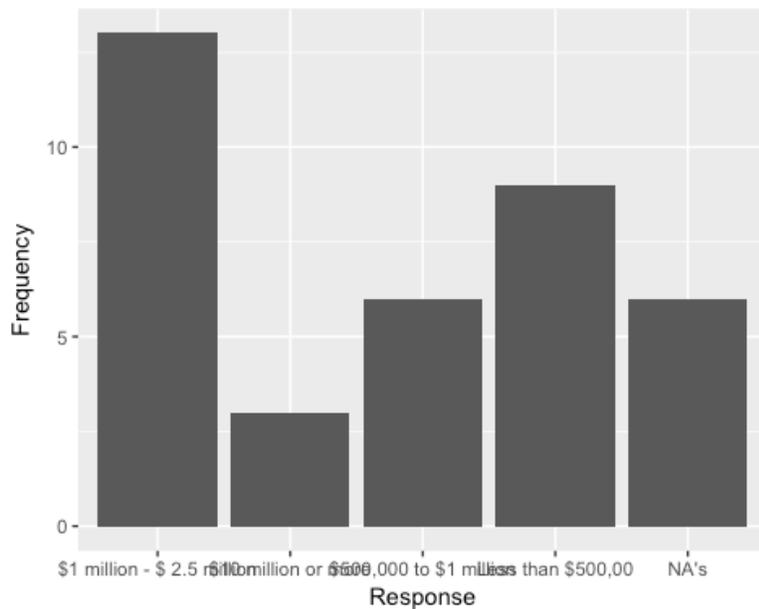
Bar Chart 1.2



Gen 3: Approximately how much is the annual revenue of your company?

	Frequency	Percent	Valid Percent
Less than \$500,00	9	24.32	29.03
\$500,000 to \$1 million	6	16.22	19.35
\$1 million - \$ 2.5 million	13	35.14	41.94
\$10 million or more	3	8.108	9.677
NA's	6	16.22	NA
Total	37	100	100

Bar Chart 1.3



Gen 4: Does your organization have multiple locations in Colorado?

	Frequency	Percent
Yes	8	21.62
No	29	78.38
Total	37	100

Gen 4a: Have all of your business locations participated in the Xcel Energy Commercial Refrigeration program?

	Frequency	Percent	Valid Percent
Yes	2	5.405	40
No	3	8.108	60
NA's	32	86.49	NA
Total	37	100	100

Respondents who answered yes stated they had the following amount of businesses participant in the Xcel Energy Commercial Refrigeration program: 2(2), 3, 5, 9, 15, 18, 40

Gen 5: Approximately how many full-time equivalent (FTE) employees does your organization currently have in the state of Colorado?

	Frequency	Percent
5 or less	24	64.86
6 - 10	2	5.405
11 - 25	6	16.22
26 - 50	1	2.703
>50	3	8.108
Don't Know	1	2.703
Total	37	100

Gen 6: Does your organization own or lease your facility?

	Frequency	Percent
Lease	23	62.16
Own	14	37.84
Total	37	100

Gen 6a: Do you pay your Xcel energy bill, or does someone else (e.g., landlord or building manager)?

	Frequency	Percent	Valid Percent
Pay own	22	59.46	95.65
Other pays	1	2.703	4.348
NA's	14	37.84	NA
Total	37	100	100

Gen 7: Other than the Xcel Energy Refrigeration Program, has your facility participated in any other energy efficiency programs through Xcel Energy?

	Frequency	Percent
Yes	11	29.73
No	26	70.27
Total	37	100

Other energy efficiency programs include: Lighting upgrades, fan/cooler programs, solar rewards, faucet replacement, and fridge upgrades.

Gen 8: What is your preferred method for Xcel Energy to communicate energy efficiency opportunities to your business?

	Frequency	Percent
Email	26	70.27
Phone	7	18.92
Mail	3	8.108
In-person	1	2.703
Total	37	100

## Section A: Refrigeration Assessment

A1. How did you first hear about the refrigeration assessment offered by Xcel Energy?

	Frequency	Percent
Xcel Energy representative – in-person visit	14	37.84
Xcel Energy representative – phone call	10	27.03
Xcel Energy Website	5	13.51
Xcel Account manager	3	8.108
Contractor	3	8.108
Bill insert	1	2.703
Other	1	2.703
Total	37	100

Appendix D: PARTICIPATION RESULTS

Other ways respondents heard include:

“Email”

“Friend in the lighting industry”

“I called them for something”

A2. On a scale from 1 to 5, where 1 is not at all important and 5 is very important, please rate the importance of the following in terms of your decision to receive a refrigeration assessment:

*Reducing environmental impact of (equipment) use*

mean: 4.27

	Frequency	Percent
Not at all important	1	2.703
Slightly important	1	2.703
Somewhat important	7	18.92
Moderately important	6	16.22
Very important	22	59.46
Total	37	100

*Upgrading out-of-date equipment*

mean: 4.32

	Frequency	Percent
Slightly important	1	2.703
Somewhat important	6	16.22
Moderately important	10	27.03
Very important	20	54.05
Total	37	100

*Replacing faulty or failed equipment*

mean: 4.76

	Frequency	Percent
Slightly important	1	2.703
Moderately important	6	16.22
Very important	30	81.08
Total	37	100

*Increasing customer satisfaction*

mean: 6.92

	Frequency	Percent	Valid Percent
Slightly important	2	5.405	5.556
Somewhat important	1	2.703	2.778
Moderately important	4	10.81	11.11
Very important	29	78.38	80.56
NA's	1	2.703	NA
Total	37	100	100

*Increasing reliability of equipment*

mean: 4.78

	Frequency	Percent
Somewhat important	1	2.703
Moderately important	6	16.22
Very important	30	81.08
Total	37	100

*Extending equipment life*

mean: 6.43

	Frequency	Percent	Valid Percent
Not at all important	1	2.703	2.778
Somewhat important	4	10.81	11.11
Moderately important	7	18.92	19.44
Very important	24	64.86	66.67
NA's	1	2.703	NA
Total	37	100	100

*Financial incentive*

mean: 4.35

	Frequency	Percent
Not at all important	1	2.703
Somewhat important	4	10.81
Moderately important	12	32.43
Very important	20	54.05
Total	37	100

*Reducing energy bill amounts*

mean: 4.7

	Frequency	Percent
Somewhat important	1	2.703
Moderately important	9	24.32
Very important	27	72.97
Total	37	100

## Xcel Energy representative recommendation

mean: 16

	Frequency	Percent	Valid Percent
Slightly important	3	8.108	9.677
Somewhat important	11	29.73	35.48
Moderately important	5	13.51	16.13
Very important	12	32.43	38.71
NA's	6	16.22	NA
Total	37	100	100

Below is a list of what others reported as 'very important' or 'extremely important' to them:

"Updating old equipment"

"Value"

"Rebate in front"

"Financial savings - cost"

"Only been in contact with the sales guy. I didn't see the value"

"Upgrading out of date equipment"

"The cost"

"Having a warranty"

"Cost"

"Everything up to date"

"Assessments are important"

"Very important. I was unaware of some of the old units"

Appendix D: PARTICIPATION RESULTS

- “Contact me "ONCE" for all incentives and rebates”
- “More information about lowering bills for incentives ft rates”
- “Any product that Xcel tells me to upgrade”
- “Having someone come and check quarterly”
- “How everything looks in the store”
- “Want to make sure equipment is working properly”

A3. On a scale from 1 to 5, where 1 is not at all useful and 5 is extremely useful, how would you rate the usefulness of the refrigeration assessment Xcel Energy completed for your business?  
 mean: 4.5

	Frequency	Percent	Valid Percent
Slightly useful	2	5.405	5.556
Somewhat useful	10	27.03	27.78
Very useful	15	40.54	41.67
Extremely useful	9	24.32	25
NA's	1	2.703	NA
Total	37	100	100

A4. Did the Xcel Energy representative provide refrigeration coil cleaning training when they conducted the assessment?

	Frequency	Percent
Yes	15	40.54
No	18	48.65
Don't know	4	10.81
Total	37	100

A5. Prior to the Xcel Energy refrigeration assessment, had your organization cleaned the refrigeration coils?

	Frequency	Percent
Yes	27	72.97
No	9	24.32
Don't know	1	2.703
Total	37	100

A6. Since the Xcel Energy representative conducted the cleaning during the assessment, has anyone in your organization cleaned the refrigeration coils?

	Frequency	Percent	Valid Percent
Yes	15	40.54	100
NA's	22	59.46	NA
Total	37	100	100

A6a. What prevented your organization from cleaning the refrigeration coils?

	Frequency	Percent	Valid Percent
Have not remembered to clean the refrigeration coils	5	13.51	33.33
Have not prioritized time to clean the refrigeration coils	5	13.51	33.33
Do not remember how to clean the refrigeration coils	5	13.51	33.33
NA's	22	59.46	NA
Total	37	100	100

A6b. Since receiving the coil cleaning training, how have any of your coil cleaning practices changed?

	Frequency	Percent	Valid Percent
The training did not change our coil cleaning practices	5	13.51	33.33
The training encouraged us to increase the frequency of coil cleaning	5	13.51	33.33
The training improved our methods of coil cleaning	5	13.51	33.33
NA's	22	59.46	NA
Total	37	100	100

## Section B: Refrigeration Assessment Recommendations

B1. Did you pursue any of the refrigeration assessment recommendations?

	Frequency	Percent
Yes	14	37.84
No	21	56.76
Don't know	2	5.405
Total	37	100

B2. On a scale from 1 to 5, where 1 is not at all important and 5 is very important, please rate the importance of the following in terms of your decision to pursue refrigeration assessment recommendation

*Reducing environmental impact of (equipment) use*  
mean: 4.5

	Frequency	Percent	Valid Percent
Not at all important	1	2.703	7.143
Somewhat important	1	2.703	7.143
Moderately important	1	2.703	7.143
Very important	11	29.73	78.57
NA's	23	62.16	NA
Total	37	100	100

*Upgrading out-of-date equipment*  
mean: 4.57

	Frequency	Percent	Valid Percent
Not at all important	1	2.703	7.143
Somewhat important	1	2.703	7.143
Very important	12	32.43	85.71

Appendix D: PARTICIPATION RESULTS

NA's	23	62.16	NA
Total	37	100	100

*Replacing faulty or failed equipment*  
mean: 4.64

	Frequency	Percent	Valid Percent
Somewhat important	2	5.405	14.29
Moderately important	1	2.703	7.143
Very important	11	29.73	78.57
NA's	23	62.16	NA
Total	37	100	100

*Refrigeration assessment*  
mean: 4.64

	Frequency	Percent	Valid Percent
Somewhat important	1	2.703	7.143
Moderately important	3	8.108	21.43
Very important	10	27.03	71.43
NA's	23	62.16	NA
Total	37	100	100

*Increasing customer satisfaction*  
mean: 4.36

	Frequency	Percent	Valid Percent
Somewhat important	3	8.108	21.43
Moderately important	3	8.108	21.43
Very important	8	21.62	57.14
NA's	23	62.16	NA
Total	37	100	100

*Increasing reliability of equipment*  
mean: 4.79

	Frequency	Percent	Valid Percent
Moderately important	3	8.108	21.43
Very important	11	29.73	78.57
NA's	23	62.16	NA
Total	37	100	100

*Extending equipment life*  
mean: 4.93

	Frequency	Percent	Valid Percent
Moderately important	2	5.405	14.29
Very important	12	32.43	85.71
NA's	23	62.16	NA
Total	37	100	100

*Financial incentive*  
mean: 4.93

	Frequency	Percent	Valid Percent
Moderately important	1	2.703	7.143
Very important	13	35.14	92.86
NA's	23	62.16	NA

Total 37 100 100  
*Reducing energy bill amounts*  
 mean: 5

	Frequency	Percent	Valid Percent
Very important	14	37.84	100
NA's	23	62.16	NA
Total	37	100	100

*Contractor incentive*  
 mean: 4.43

	Frequency	Percent	Valid Percent
Very important	10	27.03	100
NA's	27	72.97	NA
Total	37	100	100

B3\_1: The Xcel Energy records show that you received a rebate for installing %MEASURE1%. Is that correct?

	Frequency	Percent	Valid Percent
Yes	3	8.108	100
NA's	34	91.89	NA
Total	37	100	100

B3\_2: The Xcel Energy records show that you received a rebate for installing %MEASURE1% & %MEASURE2% Is that correct?

	Frequency	Percent	Valid Percent
Yes	8	21.62	88.89
No	1	2.703	11.11
NA's	28	75.68	NA
Total	37	100	100

B4: Did you install any other energy efficient refrigeration equipment?

Response	Frequency	Percent
Anti-Sweat Heater Controls	1	6
None	4	25
Efficient Reach-In Case Doors	1	6
Reach-in Electronically Commutated Motors	1	6
LED Reach-In Case Doors Lighting	4	25
Other Refrigeration Equipment	5	31
Total	16	100

n = 14

B5: Did you have a contractor install the recommended refrigeration equipment from the refrigeration assessment?

	Frequency	Percent	Valid Percent
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Appendix D: PARTICIPATION RESULTS

Yes, a contractor installed all of the equipment	9	24.32	69.23
A contractor installed some of the equipment	2	5.405	15.38
No, we installed the equipment our self	2	5.405	15.38
NA's	24	64.86	NA
Total	37	100	100

B5a: Did the Xcel Energy Representative completing the refrigeration assessment help connect you with a contractor to install the recommended refrigeration equipment?

	Frequency	Percent	Valid Percent
Yes, a contractor installed all of the equipment	9	24.32	69.23
A contractor installed some of the equipment	2	5.405	15.38
No, we installed the equipment our self	2	5.405	15.38
NA's	24	64.86	NA
Total	37	100	100

B5b What are the names of the contractor firms that you use for refrigeration services?

Responses include:

- “Palo LLC”
- “Hawkins”
- “JG mechanical”
- “Front range”
- “Eco lab”
- “GSI”
- “One Source Lighting”
- “Denver Electric”
- “Marvs refrigeraton”
- “A plus odd jobs”
- “Evans”
- “World Wide”
- “Power down”
- “Small time contractors without company names”
- “Malcoms”
- “XCEL Nick Anderson”
- “Used a family friend”
- “Ed’s Mechanical”
- “Scotts Refrigeration”
- “Denver cutlery”

B5c: Did you mention the energy audit to your contractor when you hired them to install equipment identified in the refrigeration assessment?

	Frequency	Percent	Valid Percent
Yes	9	24.32	81.82
No	2	5.405	18.18
NA's	26	70.27	NA
Total	37	100	100

B5d: Did you show the audit results and recommendations to your contractor?

	Frequency	Percent	Valid Percent
Yes	8	21.62	100
NA's	29	78.38	NA
Total	37	100	100

B6: Did you receive an Xcel Energy rebate for the other energy efficient refrigeration equipment you installed?

	Frequency	Percent	Valid Percent
Yes, for all equipment installed	4	10.81	50
Yes, but only for some of the equipment installed	2	5.405	25
No	2	5.405	25
NA's	29	78.38	NA
Total	37	100	100

B6a\_1: Why didn't you pursue a rebate through Xcel Energy for the refrigeration equipment? Select all that apply.

Response	Frequency	Percent
Not aware of the rebate	1	20
Equipment was not eligible for a rebate	2	40
Did not think I would qualify	2	40
Total	5	100

B7. On a scale from 1 to 5, where 1 is very difficult and 5 is very easy, how difficult or easy would you say it was to complete the following tasks associated with the Commercial Refrigeration program:

*Schedule the refrigeration assessment*

mean: 4.38

	Frequency	Percent	Valid Percent
Neither difficult nor easy	4	10.81	11.76
Easy	13	35.14	38.24
Very easy	17	45.95	50
NA's	3	8.108	NA
Total	37	100	100

Reasons why respondents found the scheduling process difficult

“The hours they send people out are very busy for the store”

“Finding a compatible day open and not busy is difficult”

Appendix D: PARTICIPATION RESULTS

*Support the Xcel Energy representative when they conducted the refrigeration assessment*  
 mean: 4.52

	Frequency	Percent	Valid Percent
Difficult	1	2.703	3.03
Easy	13	35.14	39.39
Very easy	19	51.35	57.58
NA's	4	10.81	NA
Total	37	100	100

Reasons why respondents found supporting the Xcel Energy representative difficult  
 “Nobody followed up”

*Find a contractor to install recommended equipment*  
 mean: 4.56

	Frequency	Percent	Valid Percent
Neither difficult nor easy	2	5.405	22.22
Very easy	7	18.92	77.78
NA's	28	75.68	NA
Total	37	100	100

Reasons why respondents found it difficult to find a contractor to install recommended equipment  
 “Remote store locations, so it’s hard to get contractors out there”  
 “Was a bit challenging”

*Implement recommendations from the refrigeration assessment*  
 mean: 4.44

	Frequency	Percent	Valid Percent
Difficult	1	2.703	3.125
Neither difficult nor easy	2	5.405	6.25
Easy	11	29.73	34.38
Very easy	18	48.65	56.25
NA's	5	13.51	NA
Total	37	100	100

Reasons why respondents found it difficult to implement recommendations from the refrigeration assessment  
 “Cost”

*Complete rebate forms*  
 mean: 4.4

	Frequency	Percent	Valid Percent
Neither difficult nor easy	1	2.703	10
Easy	4	10.81	40
Very easy	5	13.51	50
NA's	27	72.97	NA
Total	37	100	100

*Submit rebate forms*  
mean: 4.7

	Frequency	Percent	Valid Percent
Easy	3	8.108	30
Very easy	7	18.92	70
NA's	27	72.97	NA
Total	37	100	100

B8. About how long did it take to receive your rebate after completing and submitting the necessary paperwork?

	Frequency	Percent	Valid Percent
More than a week, but less than 1 month	6	16.22	54.55
1 month or more	1	2.703	9.091
Have not received rebate yet	1	2.703	9.091
Don't know	3	8.108	27.27
NA's	26	70.27	NA
Total	37	100	100

B9. How did you receive rebate forms once enrolled in the Commercial Refrigeration program?

	Frequency	Percent	Valid Percent
From my contractor	7	18.92	63.64
From the Xcel Energy representative that conducted the refrigeration assessment	1	2.703	9.091
From another Xcel Energy representative	1	2.703	9.091
Don't know	2	5.405	18.18
NA's	26	70.27	NA
Total	37	100	100

B10. Did you experience any unexpected delays in pursuing the refrigeration recommendations?

	Frequency	Percent	Valid Percent
No	11	29.73	100
NA's	26	70.27	NA
Total	37	100	100

B11. From the time work started to project completion, did the project take less or more time than you expected to complete?

	Frequency	Percent	Valid Percent
Much less time than expected	3	8.108	21.43
Somewhat less time than expected	3	8.108	21.43
About as much time as expected	5	13.51	35.71
Somewhat more time than expected	2	5.405	14.29
Much more time than expected	1	2.703	7.143
NA's	23	62.16	NA
Total	37	100	100

B12. Do you have any recommendations for improving the Commercial Refrigeration program?

	Frequency	Percent
Yes	7	18.92
No	29	78.38
Don't know	1	2.703
Total	37	100

Other recommendations include:

“Actually doing it”

“Very happy”

“More information for the rebates in emails”

“Qualify for the newer products - helping to save energy”

“Upgrading”

“I think they should spend more time looking at all the equipment and not just one level. We had a 30 year old air conditioner”

## Section C:

C1. Did you complete all measures recommended in the refrigeration assessment completed by Xcel Energy?

	Frequency	Percent	Valid Percent
Yes	9	24.32	64.29
No	5	13.51	35.71
NA's	23	62.16	NA
Total	37	100	100

C1a. Which of the following best describes your reason for not pursuing recommended upgrades?

	Frequency	Percent	Valid Percent
Equipment costs	11	29.73	42.31
Other	5	13.51	19.23
Everything is up to date	4	10.81	15.38
Don't know	4	10.81	15.38
Lack of knowledge regarding rebate amounts	1	2.703	3.846
Finding a trustworthy contractor	1	2.703	3.846
NA's	11	29.73	NA
Total	37	100	100

Other responses include:

“Costs”

“Energy savings”

“Contractor is coming back”

“Upgrades happen every 10 years”

C2. On a scale from 1 to 5 where 1 is no impact at all and 5 is very impactful, to what extent do your businesses budget cycles impact your ability to complete the recommended upgrades?

mean: 3.49

	Frequency	Percent
No impact at all	6	16.22
Slight impact	4	10.81
Some impact	7	18.92
Moderate impact	3	8.108
Very impactful	15	40.54
Not applicable	1	2.703
Don't know	1	2.703
Total	37	100

C3. Since receiving the refrigeration assessment, did you consider making any additional energy efficiency upgrades beyond those recommended through refrigeration assessment?

	Frequency	Percent
Yes	12	32.43
No	25	67.57
Total	37	100

Customers considered completing:

“Lighting (6)”

“Replacing older equipment”

“Replacing a freezer”

“Motor replacers and defrosters”

“Going to EC motors in walk-in refrigerator”

C3b. Have you or will you pursue these energy efficiency upgrades within the next two years?

	Frequency	Percent	Valid Percent
Yes	10	27.03	83.33
Don't know	1	2.703	8.333
Prefer not to answer	1	2.703	8.333
NA's	25	67.57	NA
Total	37	100	100

## Section D:

D1. On a scale of 1 to 5, where 1 is very dissatisfied, and 5 is very satisfied, how would you rate your satisfaction with:

The program overall

mean: 4.14

	Frequency	Percent
Very dissatisfied	1	2.703
Somewhat dissatisfied	2	5.405
Neither satisfied nor dissatisfied	3	8.108
Somewhat satisfied	16	43.24
Very satisfied	15	40.54
Total	37	100

Appendix D: PARTICIPATION RESULTS

The Xcel Energy representative who conducted the refrigeration assessment  
mean: 4.58

	Frequency	Percent	Valid Percent
Neither satisfied nor dissatisfied	2	5.405	6.061
Somewhat satisfied	10	27.03	30.3
Very satisfied	21	56.76	63.64
NA's	4	10.81	NA
Total	37	100	100

The refrigeration assessment you received  
mean: 4.4

	Frequency	Percent	Valid Percent
Very dissatisfied	1	2.703	2.857
Neither satisfied nor dissatisfied	1	2.703	2.857
Somewhat satisfied	15	40.54	42.86
Very satisfied	18	48.65	51.43
NA's	2	5.405	NA
Total	37	100	100

The contractor who installed the recommended measures  
mean: 4.8

	Frequency	Percent	Valid Percent
Somewhat satisfied	2	5.405	20
Very satisfied	8	21.62	80
NA's	27	72.97	NA
Total	37	100	100

The contractor's knowledge  
mean: 4.64

	Frequency	Percent	Valid Percent
Somewhat satisfied	4	10.81	36.36
Very satisfied	7	18.92	63.64
NA's	26	70.27	NA
Total	37	100	100

The refrigeration measures installed through the program  
mean: 4.75

	Frequency	Percent	Valid Percent
Somewhat satisfied	3	8.108	25
Very satisfied	9	24.32	75
NA's	25	67.57	NA
Total	37	100	100

Xcel Energy as an energy provider  
mean: 4.27

	Frequency	Percent
Somewhat dissatisfied	2	5.405
Neither satisfied nor dissatisfied	4	10.81
Somewhat satisfied	13	35.14
Very satisfied	18	48.65
Total	37	100

The amount of time it took to receive your rebate  
mean: 4.8

	Frequency	Percent	Valid Percent
Somewhat satisfied	2	5.405	20
Very satisfied	8	21.62	80
NA's	27	72.97	NA
Total	37	100	100

The dollar amount of the rebate  
mean: 4.6

	Frequency	Percent	Valid Percent
Somewhat satisfied	4	10.81	40
Very satisfied	6	16.22	60
NA's	27	72.97	NA
Total	37	100	100

Interactions with program staff  
mean: 4.65

	Frequency	Percent	Valid Percent
Somewhat satisfied	8	21.62	34.78
Very satisfied	15	40.54	65.22
NA's	14	37.84	NA
Total	37	100	100

The price you paid for the equipment installed through the program  
mean: 4.07

	Frequency	Percent	Valid Percent
Very dissatisfied	1	2.703	7.143
Neither satisfied nor dissatisfied	1	2.703	7.143
Somewhat satisfied	7	18.92	50
Very satisfied	5	13.51	35.71
NA's	23	62.16	NA
Total	37	100	100

D2. Did you experience any of the following as a result of your participation in the program?

Financial savings

	Frequency	Percent	Valid Percent
Yes	17	45.95	62.96
No	10	27.03	37.04
NA's	10	27.03	NA
Total	37	100	100

Energy savings

	Frequency	Percent	Valid Percent
Yes	18	48.65	64.29
No	10	27.03	35.71
NA's	9	24.32	NA
Total	37	100	100

## Appendix D: PARTICIPATION RESULTS

### Reduced maintenance

	Frequency	Percent	Valid Percent
Yes	18	48.65	66.67
No	9	24.32	33.33
NA's	10	27.03	NA
Total	37	100	100

### Increased workplace comfort

	Frequency	Percent	Valid Percent
Yes	11	29.73	44
No	14	37.84	56
NA's	12	32.43	NA
Total	37	100	100

### Improved equipment performance

	Frequency	Percent	Valid Percent
Yes	19	51.35	67.86
No	9	24.32	32.14
NA's	9	24.32	NA
Total	37	100	100

### Increased customer comfort

	Frequency	Percent	Valid Percent
Yes	13	35.14	52
No	12	32.43	48
NA's	12	32.43	NA
Total	37	100	100

### Improved 'green' image

	Frequency	Percent	Valid Percent
Yes	14	37.84	53.85
No	12	32.43	46.15
NA's	11	29.73	NA
Total	37	100	100

### Improved equipment appearance

	Frequency	Percent	Valid Percent
Yes	18	48.65	75
No	6	16.22	25
NA's	13	35.14	NA
Total	37	100	100

D3. How influential was the program in helping you achieve the following:

Financial savings

mean: 2.42

	Frequency	Percent	Valid Percent
Slightly influential	3	8.108	27.27
Very influential	8	21.62	72.73

NA's	26	70.27	NA
Total	37	100	100

Energy savings  
mean: 2.08

	Frequency	Percent	Valid Percent
Slightly influential	6	16.22	46.15
Very influential	7	18.92	53.85
NA's	24	64.86	NA
Total	37	100	100

Reduced maintenance  
mean: 2.36

	Frequency	Percent	Valid Percent
Slightly influential	3	8.108	27.27
Somewhat influential	1	2.703	9.091
Very influential	7	18.92	63.64
NA's	26	70.27	NA
Total	37	100	100

Increased workplace comfort  
mean: 2.5

	Frequency	Percent	Valid Percent
Slightly influential	2	5.405	25
Very influential	6	16.22	75
NA's	29	78.38	NA
Total	37	100	100

Improved equipment performance  
mean: 2.29

	Frequency	Percent	Valid Percent
Slightly influential	4	10.81	28.57
Somewhat influential	2	5.405	14.29
Very influential	8	21.62	57.14
NA's	23	62.16	NA
Total	37	100	100

Increased customer comfort  
mean: 2.3

	Frequency	Percent	Valid Percent
Slightly influential	3	8.108	30
Somewhat influential	1	2.703	10
Very influential	6	16.22	60
NA's	27	72.97	NA
Total	37	100	100

Appendix D: PARTICIPATION RESULTS

Improved 'green' image  
mean: 2.22

	Frequency	Percent	Valid Percent
Slightly influential	3	8.108	33.33
Somewhat influential	1	2.703	11.11
Very influential	5	13.51	55.56
NA's	28	75.68	NA
Total	37	100	100

Improved equipment appearance  
mean: 2.14

	Frequency	Percent	Valid Percent
Slightly influential	5	13.51	35.71
Somewhat influential	2	5.405	14.29
Very influential	7	18.92	50
NA's	23	62.16	NA
Total	37	100	100

## APPENDIX E: TRADE PARTNER RESULTS

To support the process and impact evaluation of the 2016 Xcel Energy efficiency products the EMI Consulting evaluation team conducted telephone interviews with four participating and six non-participating trade partners associated with the Commercial Refrigeration Product.<sup>2</sup> Non-participating trade partners are defined as submitting less than 20 projects since 2015. The nonparticipants consisted of two distributors, one ESCO, one large HVAC company and two contractors that had installed two or less projects through the program at the time of the interview. The interview objectives were:

- Identify the potential to increase the number of refrigeration contractors that could participate in the Commercial Refrigeration Product.
- Determine whether contractors could benefit from additional training.
- Better understand the barriers to increasing trade partner participation in the Commercial Refrigeration Product.

This memo contains a summary of the key takeaways, a description of the product, an inventory of the product's strengths and barriers, and feedback on evaluation priorities.

### E.1 Key Takeaways

The following bullets present the evaluation team's understanding of the key take aways from the trade partner interviews. These findings are organized by the three interview objectives.

- Identify the potential to increase the number of refrigeration contractors that could participate in the Commercial Refrigeration Product.
  - Contractors that focus solely on refrigeration are most likely a small and specialized group. One contractor indicated that “[there is a] small niche that do all of the equipment listed on the form.” Only two of the contractors interviewed indicated this was their specialty.
  - However, there is a larger group when considering HVAC, Mechanical and Lighting contractors in the mix. Lighting contractors are already participating at a fairly high level according to the interviews conducted. There is likely to be an opportunity to increase the number of contractors participating in the product. In fact, one of the refrigeration equipment distributors provided the following:
    - *I would say around 500 [HVAC and Mechanical contractors] would be a good number. I believe most of the contractors out there besides the larger mechanical contractors are not using the program. There are a ton of small, one man companies that do a ton of refrigeration work throughout the front-range. It they are in the HVAC business they do refrigeration too. Almost always.*
- Determine whether contractors could benefit from additional training.
  - Only two of nine contractors that were asked whether they needed additional training on commercial refrigeration in general responded yes. However, the number increased to five contractors when asked about product training. Relevant information paraphrased from contractors include:
    - We would like training for the sales staff at our company regarding rebates and programs.

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<sup>2</sup> One participant's records indicate only one project; however, he indicated more than that. It is uncertain how many go through refrigeration program and how many go through lighting program given they only do LED lighting in relation to refrigeration. This trade partner also reported being a long-term active participant in Xcel Energy products.

- Targeted meetings with end users that have large refrigeration loads could help...so touch users directly and possibly do this in partnership with contractors.
- No, CLEAResult and Franklin Energy really help you understand the programs.
- Additional informational sessions provided as a refresher course on the program specifics would be helpful.
- Better understand the barriers to increasing trade partner participation in the Commercial Refrigeration Product.
  - One barrier is that other than a few larger trade partner companies, the majority of companies in the refrigeration space are smaller and harder to reach. This makes it a challenge to increasing trade participation. One way to overcome this barrier is to work with the refrigeration equipment distributors as an avenue for reaching a wider audience of contractors.
  - Another potential barrier is lack of awareness on how the product operates. The majority of the contractors were not familiar with the audit process or report produced that is shared with customers. For example, one contractor indicated: “Look at [the audit] if sent by Franklin; they haven't given them any referrals or jobs in quite a while...in years actually...Customers never give audit report to them either.” If it is possible to share this more readily with contractors as a lead generator that could increase the number of trade partners participating in the product.
  - In addition to confusion directly with the product, contractors were also confused on how LED lighting for refrigeration fits into the overall program structure. Trade allies that install LED lighting weren't clear as to whether they were participating in the lighting product or refrigeration product.
- One distributor added: “Instead of focusing on the contractors, focus on manufacturing sector...when the only options from manufacturers are for ECMs and LEDs then contractors and customers will always do it.” ...This distributor also reported that any new installation must have ECMs, according to state law, but that nobody enforces it and so no one installs the ECMs.

## E.2 Interview Results

### Program Awareness

The below bullets present results related to program awareness:<sup>3</sup>

- All but one trade partner expressed that they had more than 5 years of experience installing refrigeration equipment. The one trade partner that had started a new business indicated he has only been participating for 10 months in the program (installed LED lighting only).
- Trade partners heard about the program from multiple sources primarily related to Xcel Energy as a source with the three top methods of discovery being:
  - Trade partner manager or Business Solutions Center
  - Franklin Energy presentation on program
  - Heard about it through participation in another Xcel Energy Program (typically lighting)
- Three trade partners heard about the program through their own initiative primarily by talking with other trade partners.

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<sup>3</sup> One of the distributors occasionally installed refrigeration measures for large customers so responded to a few questions that were designed primarily for installation contractors.

- None of the trade partners mentioned hearing about it first from a customer. Interesting information paraphrased from the trade partners includes:
  - “I reached out to Xcel Energy to learn more after talking with colleague.”
  - “Met with one of the Trade Ally Managers once a while back...probably 2 years ago; I haven't heard from Xcel Energy in a long time.”
  - “Mechanical Services Contractors Associations...Xcel Energy presented at one of the monthly meetings (usually present once a year).”
- Trade partners indicated a few methods of preferred communication including:
  - Email is the most frequently method mentioned (eight of nine indicated this with one adding that he can overwhelmed by email so better if use multiple channels of communication).
  - Personal contact including phone calls, visits by staff, seminars, and lunch & learns were also brought up by contractors. They especially liked the personal contact if Xcel Energy wanted a quick response or to convey more significant program changes. One trade ally said: “Emails are ok, [I] prefer a call and will respond quicker.” Another trade ally added: “...a lunch & learn on what is available and how sales people could use it as a tool for customers [is good].”
- Seven of nine trade partners indicated that they followed specific organizations or newsletters for refrigeration or program-related information. There wasn't a repeat source and sources include:
  - Energy Efficiency Business Coalition (local source)
  - USGBC, AEE, including local chapters of both
  - Mechanical Service Contractors of America
  - Electrical Construction Maintenance Magazine
  - Facilitator Magazine
  - HVACR Business Magazine
  - Contracting Business (website and publication)
  - Lighting publications in general (didn't remember specific names)
  - DOE
  - EPA Green Chill
  - National Association of Innovative Lighting Distributors

## Program Interaction

- Contractors that are listed as a trade partners, but are considered nonparticipants, were asked if they are aware that Xcel Energy offers rebates for energy-efficient commercial refrigeration equipment. All of them indicated yes. Reasons given for not participating included:
  - Distributor that only sells equipment (one distributor did help with install on largest customers like Coors Field—lighting and ECM focused).
  - Doesn't have command of the program yet (newer participant that primarily does lighting and would like to learn more about refrigeration equipment).
  - Most of our business is in PRPA service area so haven't had an eligible project with Xcel Energy's service area yet.
  - Refrigeration equipment is not our core business so only suggest to customers that might need it. Person requested a refresher of information on the product and to be sent a new brochure with the person trade partners need to contact.
- All four participating trade partners complete applications for the customer. The following sub-bullets provide additional detail on their experiences with the application process.
  - “Application is good enough; rebates are on there and can use this information in his own proposals.”

- “Customers don't do it if left to own devices; I typically use just the application itself as it is clear and concise; I'll call Xcel Energy if I need additional help.”
- “I check off and use all the boxes and fill out [the form]...form itself is all that is needed.”
- All but one of the trade partners indicated that they were the main project contact. The six responding yes also indicated they received all the information they needed in relation to the product. The person responding no said it would be typically one of his staff members and that he just needed to be kept informed about changes to the product and rebate amounts.
- The interviewees indicated a mix response when it came to whether their firm was designated the alternate recipient for the rebate. Two trade partners indicated it almost always went to the customer; however three others mentioned it was a mix. For example, one trade partner said: “[it can go] both ways...if [customer] can't afford to put all the money out then we fill out the alternate rebate recipient section.....so about 50% of the time we wait or the customer waits [for the rebate].”
- The only challenge indicated with receiving the rebate is there are delays in December/January when Xcel Energy shuts down rebate processing.
- The trade partners interviewed have very little familiarity with the refrigeration audit process that is conducted by Franklin Energy. This could be due in part due to five of the trade allies primarily focusing on lighting measures. Useful insights gleaned from the discussion on the audit process include:
  - One trade partner indicated that they haven't received any referrals or jobs from Franklin Energy in quite a while...in years actually. This trade partner also indicated that the customers never give audit reports to them either.
  - Another trade partner indicated that Franklin Energy sends them the audit and then he contacts the customer; only one customer contacted him before he reached out.
  - There is confusion for trade partners participating in the refrigeration product when it involves lighting. One trade partner indicated that he hasn't seen the audit and doesn't deal directly with Franklin Energy. In fact, he indicated that he only fills out the lighting rebate forms and indicates it is for refrigeration. His understanding is that the Franklin Energy and/or CLEAResult must designate which product receives credit for the lighting savings.
- Two trade partners who were aware of the audit provided feedback.
  - One was primarily a lighting trade partner that also has some past refrigeration experience. He indicated that he typically did his own audits and then he would refer the customer to the program. He worked with Franklin Energy early on to help them understand what technologies/measures worked best. The staff listened and improved their capabilities over time. The trade ally also indicated he doesn't always install everything listed on the audit primarily because his field experience would override what was included as a recommendation in the audit. An example is audit staff sometimes recommend anti-sweat heater controls in instances that he would determine were not applicable in that given situation.
  - The other trade ally indicated their specialty is refrigeration equipment and they had some experience with the auditing process. She indicated that the audit was easy and helpful to the customer. She also added:
    - “We occasionally get leads from Franklin Energy but I don't think that all our projects have had an audit...[at least] no one told her if so regarding the audit. I am aware of a few times that Franklin did an audit and I went to them a couple of times and gave them a lead in which they did an audit without me.”

## Trade Partner Marketing/ Program Interaction

- There are several key groups of trade partners involved with the successful installation of a commercial refrigeration project including:
  - Lighting Contractors – primarily involved with retrofitting cases with LED lighting. Sometimes partners with refrigeration contractors on projects.
  - Electrical Contractors – required by code to handle wiring/electricity requirements if greater than 38 volts or wiring goes back to panel. Typically, they are subcontractors and not directly involved with customers specifically involving refrigeration equipment.
  - Mechanical, Refrigeration and HVAC contractors all could directly install refrigeration equipment eligible for rebates within the product. They could be involved with any commercial or industrial customer regardless of their size and each might have certain market segments in which they focus.
  - One trade partner added: “...companies are starting to expand so they have in-house capabilities [for electrical] and don't have to subcontract; larger companies are diversifying; smaller contractors in refrigeration will know electrical no matter what; some companies won't mess with refrigeration as it involves plumbing, etc.”
- While there are many methods of generating sales utilized by the trade partners, all of them mentioned referrals as being very important. Relationships among trade partners and customers are also important for generating sales. The below sub-bullets present comments that illustrate this:
  - “Networking is important: sometimes we just walk in; [we] also ask existing customers for referrals; [we] network with other contractors; and we help each other out- we collaborate among contractors that offer other service types.”
  - “[Sometimes] service contracts are in place and [service contractors are] trying to expand [their] product/service portfolio with [their] existing customer base; then [they will] use the rebate program to go for this opportunity.”
- All of the trade partners indicated the rebates are mentioned during the sales process with the vast majority mentioning it early in the process...typically the first sales call.
- All of the trade allies responded that they are more likely to recommend the product now that they have participated. When asked what they would highlight about the product, three of the trade partners indicated the rebate. However, responses were informative and diverse and as paraphrased include:
  - “I leverage the credibility of the Xcel Program by showing how my energy calculations match or are close to what is shown on the rebate form...that way Xcel Energy is telling the customer this is what you are going to save.”
  - “I talk about how the ambiance and clarity of product display with LEDs improves...also mention rebates. We don't use the Franklin Energy audit...we use our own and do use it as a tool to close sale.”
  - “I wouldn't recommend the audit because I never hear from the Franklin Energy guys; if they actively work with his company this could change.”
  - “It would help if I had additional program information...I would engage Franklin for audit if know more that I can share with customer.”
  - “I mention the audit and rebates if I get a retrofit project; audit is important if it is not a new project and trying to upgrade older existing equipment; 18 months ago, I attended workshop--Franklin Energy was there and showed example audit at presentation.”
  - “I participate in multiple programs...cooler lights fit into lighting and refrigeration program...I take the program with the best rebate.”
- Only two trade partners felt like they needed additional training related to commercial refrigeration technology. While they didn't specify any specific type of equipment, one trade partner indicated

that training on any technologies that line up with the program would be helpful. One trade partner mentioned that the reason it wouldn't be helpful is there are too many variables involved with all of the technologies involved in a refrigeration project.

- With respect to additional training related to the product, the responses were mixed. Five trade partners indicated a need for additional training for trade partners with one additional respondent indicating it would be good to offer training/presentation to businesses with a large amount of refrigeration load. Pertinent comments related to training include:
  - “CLEAResult/Franklin Energy really help you understand the programs.”
  - “We would like Franklin Energy to come and present on the program so he and his staff better understand current offerings.”
  - “Targeted meetings with end users that have large refrigeration loads could help...so touch users directly and possibly do this in partnership with contractors....could do this as a presentation/workshop format...present to owners and help discover ways to pay for the upgrades.”
  - “It would be helpful to train the sales staff at his company regarding rebates and programs.”
  - “An additional informational session on the program specifics would be helpful.”
- Contractors were also asked what changes might increase their engagement with the program and responses included:
  - “Could participate more on custom efficiency opportunities if I had the time to do go through the custom efficiency program process...there are larger customers with large refrigeration loads that could use help.”
  - “Better communication with contractors to help us promote the program more; if the program is out of sight, it is out of mind.”
  - “Additional training for sure...we need to know more about the program before offering to our customers on regular basis...this includes a better understanding on incentives and whether they are high enough to help customers make decision on a project...what are paybacks, costs etc.”
  - “Competitive lease rate financing to make it easier for more customers to participate when they don't have the upfront capital to do investment...this could help increase participation as it would have more credibility if backed by Xcel Energy.”

## Evolving Market Place

- A few of the trade allies suggested refrigeration technologies that Xcel Energy might want to include in the program:
  - The one technology that was suggested by more than one trade partners is refrigeration controls, including sensors, motion controls, wireless technologies and monitoring. One contractor added that this is also a public education opportunity for Xcel Energy as many of their customers don't understand the benefits of control technologies.
  - Other technologies mentioned were Horizontal LED lighting VFDs, replacement case efficiency rebates (plug in new efficiency compared to old efficiency and rebate on the difference in energy use), EMS, VAV boxes and Freon replacement (contractor mentioning this said there is a 20 to 25% energy savings opportunity).

## Satisfaction

Overall, trade allies are satisfied with the product but would like better communication and a stronger relationship with Xcel Energy and the third-party implementers that they hire.

Seven trade allies gave a score as to whether they would recommend this to other business customers and all but one indicated a score of five. One contractor gave a rating of a three. Comments as to why they provided their score include:

- Good program overall and helps the customer.
- Adds value and makes sales easier.
- Money saving, energy saving, cost-effective, ambiance improving process...everyone wins in this situation.
- Take advantage of rebate for customer.
- Use rebate programs if applicable to help your customers; help make sales.
- Need better communication regarding the program (scored a 3).

## Trade Partner Recommendations

The evaluation team closed the interview by asking trade partners about which product aspects work well and whether they had recommendations for improvement.

Comments related to what is currently working well within the product include:

- “99% of time I deal with Tim Bartels out of Wisconsin who is stellar and helps with all of his applications...really good...he is very helpful and deserves kudos.”
- “Franklin Energy’s staff member Cam is very helpful; since Cam came on, more leads and better communication with staff.”
- “Keep doing a good job of putting rebates out there that incentivize customers to make changes.” (Another trade partner said something similar.)
- “The letter sent to customers is helpful, clear and concise...I really like it.”

Comments made in the closing that could suggest improvements to the product include:

- “We haven’t heard from Xcel Energy or Franklin Energy in 15 to 16 months; lack of communication is evident.”
- “We are generating our own business; haven't seen many leads from Franklin Energy...would like more if possible; if more audits came from Xcel Energy--this would help the program.”
- “Perhaps Xcel can do a better job of advertising.”
- “Projects initially referred to us by Franklin Energy, but [projects] that we completed with CLEAResult through the Lighting Program must have been credited to Commercial Refrigeration Program because initial introduction was from Franklin Energy. We have no direct referrals recently from Franklin Energy on refrigeration...my understanding is that my company is a lighting trade ally and didn’t realize we were also listed for commercial refrigeration.”
- “There is a snowball effect...they refer a project to us and if a project goes well, then we receive more referrals. It feels like there is preference for certain contractors within the programs (mentioned lighting and refrigeration); it doesn’t feel like it is a random process related to who receives the referrals.”
- “Experience with Account Managers is kind of all over the place as far as how much they help...about 50/50 on whether it is a good experience.”
- “The only thing overall with Xcel Energy is there is frustration why certain things are omitted from the program and then show up later...make changes to the program that are not always better for contractors and aren't necessarily explained that well; never know what to expect in relation to the programs...we are frontline and need to know more to help customers.”

## APPENDIX F: BENCHMARKING RESULTS

To support the process evaluation of the 2016 Commercial Refrigeration Product, the EMI Consulting evaluation team conducted telephone interviews with seven program managers of refrigeration energy efficiency programs across North America. These results can inform staff on how the Refrigeration Product performs compared to its peers. These results are organized as follows:

- Key findings
- Key performance indicator results
- Contextual themes

### F.1 Key Findings

The following bullets present key findings from the peer program benchmarking analysis.

- **Limited existence of stand-alone refrigeration programs.** Three of seven sampled utilities have stand-alone commercial refrigeration programs. Two of the four utilities that do not have stand-alone refrigeration programs cited low ROI on refrigeration measures as being a driving factor for low levels of focus on this class of measures. Other utilities are simply structured differently.
- **Personal outreach drives participation.** Like the Xcel Energy product, personal outreach (e.g. phone calls, meetings, lunch events) was believed to be an important part of driving participation in any commercial program for both customers and trade allies.
- **Audits are not universally used tools.** Of the utilities that offer any type of audit (five utilities), all audits are described as being closer to a “high level assessment” or “walk-through” than anything in-depth. The majority of these utilities (three of five) offer audits only as immediate precursors to direct installation of measures.

### F.2 Key Performance Indicator Results

Table 6 presents key performance indicators for each of the seven utilities included in the benchmarking analysis. All values are for 2016 refrigeration programs unless specified. Note that the evaluation team could not collect data on all key performance indicators for all programs. Table 6 presents all available data.

**Table 6. Key performance indicators of seven refrigeration programs.**

Indicators	Utility #1	Utility #2	Utility #3	Utility #4	Utility #5	Utility #6	Utility #7
Savings Goals (MWh)	Did not provide	No goal for refrigeration	Commercial programs: 10,115 MWh, 1,132 kW	No goal for refrigeration	Did not provide	Did not provide	480
Energy Savings (MWh)	Did not provide	Refrigeration measures: 29,159 MWh 2.723 MW  EE portfolio: 9,491,293 MWh 88.712 MW	Commercial programs: 10,457 MWh, 1,042 kW	NA <sup>3</sup>	Did not provide	Did not provide	2,638
Total EE Portfolio Goal (MWh)	Did not provide	Four-year (2015-2018) goal: 2,261,492 MWh  Divided by four = 565,373 MWh	C&I, Government, Non-profit, Residential: 93,599 MWh  C&I, Government, Non-profit: 43,855 MWh	1.6	Did not provide	Did not provide	75,800
Program Budget	Did not provide	Not tracked for refrigeration. Refrigeration incentives paid: \$1,377,010	Commercial \$1,836,428 = \$939,855 incentives + \$896,573 admin	Declined	Did not provide	Did not provide	\$135,610 <sup>1</sup>
Cost of Acquisition (\$/MWh)	Did not provide	NA	\$175/MWh commercial overall	NA	Did not provide	Did not provide	\$51.41/MWh
Incentive applications	0 <sup>2</sup>	749 C&I applications included refrigeration	210 with refrigeration measures	<10	0 <sup>2</sup>	Did not provide	33
Projects completed	Did not provide	1,667 C&I refrigeration measure incentives paid	210 with refrigeration measures	<10	Did not provide	Did not provide	33
Audits complete	Did not provide	Not available	0	0	Did not provide	Did not provide	0

<sup>1</sup> Value presented in US Dollars converted from Canadian Dollars using Google.

<sup>2</sup> All measures installed using free direct installation program

<sup>3</sup> Utility does not track this metric for refrigeration (EWEB said they are “right on target” for portfolio overall)

## F.3 Contextual Themes

This section presents findings as they relate to the following contextual themes explored in the interviews:

- Program description
- Customer engagement practices and program marketing practices
- Trade partner engagement practices
- Measure types and incentives

### Program description

To understand how the peer programs compared to the Xcel Energy Commercial Refrigeration Product, the evaluation team asked peers a series of questions about their programs. This section presents summative results about key program descriptors.

#### Implementation strategies

- Utilities offering measures that are:
  - Prescriptive – 6/7 (Prescriptive measures are preferred by some program staff and customers for their clarity surrounding incentive levels.
  - Custom – 5/7
  - Direct installation 4/7
  - Some utilities offer difference strategies to different customer groups, most notably direct installation for "mom and pop" size stores that wouldn't likely have the capacity to pursue measures on their own.
- Audits - 5/7 utilities offer high-level, walkthrough assessments
  - Multiple respondents emphasized that these are not in-depth audits – one respondent further elaborated that they used to conduct in-depth assessments and found their conversion rate to meaningful installations to be lower (45%) than the effort was worth. "You do an audit with a customer and they don't move forward with anything."
  - Three of these five conduct assessments as precursors to direct installation. One of these three discussed a trial shift away from formal assessments of any sort and into a simultaneous outreach and direct installation only program: "I don't think we need an assessment at all, I think we need a door knocker who goes in, and we've been getting the contractor to do this... [a staff member who wasn't a refrigeration contractor] would go in and take a look at stuff, but... couldn't open the panels or check things or anything like that. Now... we've streamlined the process and so the contractor's going in to do some door to door knocking, they're getting a signed [participant agreement] and also they're minimizing the risk of the customer not being basically satisfied with the offering... You've got to get in and get out. It's a very small program, you're doing like two grand worth of work"

#### Staffing

- Six of the seven utilities use a third-party implementer. One of these six use an implementer only for large (>300kW) customers and work with smaller customers using in-house staff.
- Staff levels varied. Examples include:
  - 1 in-house staff member devoted 20% of his time to refrigeration.
  - 3 in-house staff devoted a third of their time to refrigeration, plus 5-10 implementer staff who support the program at less than full-time.
  - 7 staff in commercial programs overall with "very little" spent on refrigeration specifically.

- 3 in-house + 80 implementer staff for commercial programs overall spending "5%, if that" of their time on refrigeration.

## Changes (past and anticipated)

The evaluation team asked peers about whether their programs experienced and changes recently or anticipate any changes.

Changes made in the recent past:

- 3/6 respondents report no recent changes
- 1/6 respondents asked switched to direct installation to streamline operation and reduce costs.
- 1/6 respondents removed unused and low-ROI measures from their catalog; notes that they switched many lighting measures to offering only prescriptive measures to make it easier for contractors to sell services with incentives included.
- 1/6 down-sized commercial energy efficiency staffing from 12 to 7 people.

Anticipated changes:

- 1 respondent reported it is likely their stand-alone refrigeration program will merge into larger C&I program.
- Multiple respondents indicated that they were paying attention to changes in new baseline efficiency measures and adapting their incentive catalogs and programs to fit - they want to be sure they're only incentivizing additional measures.

## Customer engagement practices & program marketing practices

The evaluation team asked peers a series of questions about customer engagement and marketing practices. This section presents information gathered about the types of customers targeted and engagement practices.

### Customer types targeted

Targeted customer types included largely grocery and convenience stores. Some programs also targeted restaurants, warehouses, florists.

### Practices

Two of the seven respondents reported doing no active outreach for refrigeration at all. The refrigeration elements of these two programs were very small.

Other respondents identified a variety of successful practices related to customer engagement and program marketing.

- Personal outreach to customers
  - Personal outreach and continuing contact was often mentioned as valuable across customer sizes. This include program (or implementer) staff reaching out to customers via phone, in-person visits, or personal emails.
  - "It's just kind of continuing to foster these relationships that we have with the customers. Individual meetings at the beginning of the year saying how the program has changed, what the updates are in terms of incentive, but also throughout the year working with them to track their projects...And our team, I would say, at least once a week, has some sort of call

with at least one or two of their major accounts if not more. Sometimes it's bi-weekly, or monthly."

- Access local facilities via Corporate headquarters
  - When engaging franchises, starting contact with corporate headquarters can be productive.
  - "We've gone to the corporates, got them to buy into the program and then they send out these mass emails or whatever to reach out to all the franchisees so then when we go talk to them basically we can point and say here's a letter, the head office is buying into it, opening a lot of doors that way."
- Public events
  - Some utilities leverage their presence at public events (e.g. Chamber of Commerce) and trade events (e.g. Green Building Alliance) to promote the program.
- Trade ally references
  - Trade allies refer customers to the program (and/or suggest incentivized measures to customers when proposing work)

## Trade partner engagement practices

The degree to which utilities actively cultivate relationships with trade allies varies. On one end of the spectrum, one utility makes no outreach effort at all toward refrigeration trade allies. Other utilities offer regular training events (note: some of these events are for C&I programs overall, not only refrigeration).

Approaches to trade ally engagement include

- No active engagement at all due to low ROI (note: this is the utility that puts very minimal effort into any facet of their refrigeration efficiency opportunities)
- Events including "lunch and learn" training, annual kick-off event showcasing program updates.
- Utilities relying on direct installation tend not to conduct as much trade ally outreach – the primary trade ally involved in the program is already involved via contract.
- During an initial phase of the C&I efficiency program, this utility offered trade allies monetary incentives for bringing certain quantities of projects into the program.
- "We do try to maintain a personal touch with our registered trade allies. We do some more of the bulk emailing, promotions, new promotions, things like that, but we have definitely found that the personal touch really goes a lot further than the email that doesn't get read or goes to a junk folder."

## Measure types and incentives

The remaining tables provide the measure types and incentives for each peer.

**Table 7. Measure types and incentives of seven refrigeration programs.**

Measure Category	Measure Type	Utility #1	Utility #2	Utility #3	Utility #4	Utility #5	Utility #6	Utility #7
Anti-sweat	anti-sweat dedicated ASHC device low temp (below 0° F)				\$32/foot			
	anti-sweat dedicated ASHC device medium temp (1° F - 35° F)				\$30/foot			
	anti-sweat heat controls based on humidity			\$200				
	Anti-sweat heater controls (for "Business Incentives" program)		\$30/door					
	Anti-sweat heater controls (for "Small Business Incentives" program)		\$95/door					
	Anti-sweat heater humidistat controls							\$30/door
	Anti-sweat heater controls for coolers or freezers					\$610		
Gaskets	gasket for low temp reach-in glass door				\$20			
	gasket for low temp walk-in main door				\$50			
	gasket for med temp reach-in glass door				\$20			
	gasket for med temp walk-in main door				\$20			
	gasket for walk-in cooler or freezer					\$5/foot		
Case lighting	LED, horizontal case lighting, replacing or instead of linear fluorescent (for "Business Incentives")		\$4/foot					

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program)							
LED, vertical case lighting, replacing or instead of linear fluorescent (for "Business Incentives" program)		\$20/ door					
LED, horizontal case lighting, replacing or instead of linear fluorescent (for "Small Business Incentives" program)		\$6/ foot					
LED, vertical case lighting, replacing or instead of linear fluorescent (for "Small Business Incentives" program)		\$40/ door					
T12 reach-in case to LED, 4 to 7.5 watts/retrofit				Custom			
T12 reach-in case to LED, ≤ 4 watts/ft retrofit				Custom			
T8 reach-in case to LED, 4 to 7.5 watts/retrofit				Custom			
T8 reach-in case to LED, ≤ 4 watts/ft retrofit				Custom			
New reach-in case to LED, 4 to 7.5 watts/retrofit				Custom			
New reach-in case to LED, ≤ 4 watts/ft retrofit				Custom			
T8 open case to LED, 4.5 to 8.5 watts/ft retrofit				Custom			
T12 open case to LED, 4.5 to 8.5 watts/ft retrofit				Custom			
T8 open case to LED, ≤ 4.5 watts/ft retrofit				Custom			
T12 open case to LED, ≤ 4.5				Custom			

	watts/ft retrofit							
	New open case to LED, 4.5 to 8.5 watts/ft retrofit				Custom			
	New open case to LED, ≤ 4.5 watts/ft retrofit				Custom			
	Refrigerated display case LED lighting retrofit							\$30/ fixture
	LED A19 bulb, walk-in cooler or freezer					\$25		
	LED display case lighting					\$140		
	Vertical/horizontal display case with doors, low temperature, retrofit							\$100/ foot
	Vertical/horizontal display case with doors, medium temperature, retrofit							\$50/ foot
	2-foot LED linear lamp			\$2.50				
	3-foot LED linear lamp			\$3				
	4-foot LED linear lamp			\$3.50				
	8-foot LED linear lamp			\$7				
	Various other lighting measures that could apply (but not refrigeration specific)				See rebate catalog			
Lighting motion sensors	Led manual control to 4-7 watts/ft with motion sensor				Custom			
	Led manual control to ≤ 4 watts/ft with motion sensor				Custom			
	Occupancy Sensor, LED refrigerated case lights (for "Business		\$5/ door					

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	Incentives" program)						
	Occupancy Sensor, LED refrigerated case lights (for "Small Business Incentives" program)		\$15/ door				
	Night curtain, open multideck-style cases (for "Business Incentives" program)		\$7/ foot				
	Night curtain, open multideck-style cases (for "Small Business Incentives" program)		\$12/ foot				
	Night cover for open refrigerated display case			\$9/ foot			
	Night cover for open freezer case			\$9/ foot			
	Night cover for display cases				\$170		\$5/ foot
Night covers and strip curtains	Strip curtain, walk-in freezers and coolers (for "Business Incentives" program)		\$7/ foot				
	Strip curtain, walk-in freezers and coolers (for "Small Business Incentives" program)		\$15/ foot				
	Strip curtain, walk-in freezers and coolers				\$195		\$2/ square foot
	Strip curtains, walk-in cooler, supermarket			\$3/ sq foot			
	Strip curtains, walk-in cooler, convenience store			\$3/ sq foot			
	Strip curtains, walk-in cooler, restaurant			\$3/ sq foot			
	Strip curtains,			\$3/ sq			

	walk-in freezer supermarket			foot				
	Strip curtains, walk-in freezer convenience store			\$3/ sq foot				
	Strip curtains, walk-in freezer restaurant			\$3/ sq foot				
	Strip curtains, refrigerated warehouse			\$3/ sq foot				
Other	Chilled Unit Energy Saver (CUES) thermostat upgrade				\$115			
	Clean condenser coils, cooler				\$20			
	Clean condenser coils, freezer				\$27			
	Junction box				\$15			
	Insulation on existing bare refrigeration suction pipes			\$2/ foot				
	Reach-In Refrigerated Case with Doors replacing or instead of Open Multideck Case (for "Business Incentives" program)		\$80					
	Reach-In Refrigerated Case with Doors replacing or instead of Open Multideck Case (for "Small Business Incentives" program)		\$200					
Retrofit Open Multideck-Style Cases with Doors or Install New Multideck-style Cases with Doors (for "Business Incentive" program)		\$60						

Appendix F: BENCHMARKING RESULTS

	Retrofit Open Multideck-Style Cases with Doors (for "Small Business Incentives" program)		\$100					
	Refrigeration controls, floating head pressure (for "Business Incentives" program)		\$15					
Doors	Door with anti-sweat heater for vertical frozen food display case			\$45				
	Case door, cooler, no-heat		\$8					
	Case door, freezer, low-heat		\$40					
	Case door, freezer no-heat		\$80					
	Auto-closer for walk-in cooler or freezer door			\$50		\$50		
	Auto-closer for walk-in or reach-in cooler or freezer door			\$50				\$50
Evaporator fan equipment	Evaporator fan controller					\$100/ connected motor (\$600/ control cap)		\$50
	Evaporative fan controller for walk-in cooler			\$60				
	Evaporator fan control (for "Business Incentives" program)		\$15					
	Evaporator fan control (for "Small Business Incentives" program)		\$75					
	ECM evaporator fan motor for refrigeration							\$100

ECM evaporator fan motor, walk-in cooler, <1/20 HP (for "Business Incentives" program)	\$25						
ECM evaporator fan motor, walk-in cooler, 1/20 - 1 HP (for "Business Incentives" program)	\$50						
ECM evaporator fan motor, walk-in freezer, <1/20 HP (for "Business Incentives" program)	\$25						
ECM evaporator fan motor, walk-in freezer, 1/20 - 1 HP (for "Business Incentives" program)	\$50						
ECM motor, cooler/freezer case (for "Business Incentives" program)	\$25						
ECM evaporator fan motor, walk-in cooler, <1/20 HP (for "Small Business Incentives" program)	\$75						
ECM evaporator fan motor, walk-in cooler, 1/20 - 1 HP (for "Small Business Incentives" program)	\$125						
ECM evaporator fan motor, walk-in freezer, <1/20 HP (for "Small Business Incentives" program)	\$75						
ECM evaporator fan motor, walk-in freezer, 1/20 - 1 HP (for "Small Business Incentives" program)	\$125						

Appendix F: BENCHMARKING RESULTS

	Business Incentives" program)							
	ECM motor, cooler/freezer case (for "Small Business Incentives" program)		\$75					
Compressor and condenser fan motors	ECM Compressor Fan Motor (for "Business Incentives" program)		\$25					
	ECM Condenser/Condensing Unit Fan Motor (for "Business Incentives" program)		\$25					
	ECM Compressor Fan Motor (for "Small Business Incentives" program)		\$60					
	ECM Condenser/Condensing Unit Fan Motor (for "Small Business Incentives" program)		\$60					
ECM Motors	ECM motor for walk-in freezer or cooler			\$50				
	ECM motor for reach-in refrigerated case			\$50				
	ECM motor in walk-in ≤ 23 watts				\$80			
	ECM motor in walk-in > 23 watts				\$112			
	ECM motor in display case				\$44			
	9 Watt ECM Fan Motor Upgrade, two speed, installed price capped at:					\$155		
	9 Watt ECM Fan Motor Upgrade, standard, installed price capped at:					\$135		

9 Watt Fan Motor-Square Frame, two speed, installed price capped at:					NA		
9 Watt Fan Motor-Square Frame, standard, installed price capped at:					\$175		
12 Watt ECM Fan Motor Upgrade, two speed, installed price capped at:					\$155		
12 Watt ECM Fan Motor Upgrade, standard, installed price capped at:					\$135		
16 Watt Fan Motor, two speed, installed price capped at:					\$155		
16 Watt Fan Motor, standard, installed price capped at:					\$135		
24 Watt ECM Fan Motor Upgrade, two speed, installed price capped at:					\$155		
24 Watt ECM Fan Motor Upgrade, standard, installed price capped at:					\$135		
34 Watt 115 volt ECM Fan Motor Upgrade, two speed, installed price capped at:					\$190		
34 Watt 115 volt ECM Fan Motor Upgrade, standard, installed price capped at:					\$166		
1/15 HP Fan Motor, two speed, installed price capped at:					\$215		
1/15 HP Fan Motor, standard, installed price capped at:					\$185		

Appendix F: BENCHMARKING RESULTS

	1/20 HP Fan Motor, two speed, installed price capped at:					\$215		
	1/20 HP Fan Motor, standard, installed price capped at:					\$185		
	1/25 HP ECM Fan Motor Upgrade, two speed, installed price capped at:					\$215		
	1/25 HP ECM Fan Motor Upgrade, standard, installed price capped at:					\$185		
	1/5 HP Fan Motor, two speed, installed price capped at:					\$395		
	1/5 HP Fan Motor, standard, installed price capped at:					\$345		
	1/4 HP Fan Motor, two speed, installed price capped at:					\$365		
	1/4 HP Fan Motor, standard, installed price capped at:					\$318		
	1/3 HP Fan Motor, two speed, installed price capped at:					\$365		
	1/3 HP Fan Motor, standard, installed price capped at:					\$318		
	1/2 HP Fan Motor, two speed, installed price capped at:					\$365		
	1/2 HP Fan Motor, standard, installed price capped at:					\$318		
Refrigerators	Refrigerator, Chest, Glass Door,		\$40					

<15 cu ft, ENERGY STAR (for "Business Incentives" program)							
Refrigerator, Chest, Glass Door, 15-29 cu ft, ENERGY STAR (for "Business Incentives" program)		\$60					
Refrigerator, Chest, Glass Door, 30-49 cu ft, ENERGY STAR (for "Business Incentives" program)		\$120					
Refrigerator, Chest, Glass Door, 50+ cu ft, ENERGY STAR (for "Business Incentives" program)		\$160					
Refrigerator, glass door, <15 cu ft, ENERGY STAR							\$70
Refrigerator, glass door, 15 - <30 cu ft, ENERGY STAR							\$75
Refrigerator, glass door, 30 - <50 cu ft, ENERGY STAR							\$80
Refrigerator, glass door, >50 cu ft, ENERGY STAR							\$90
Refrigerator, Chest, Solid Door, <15 cu ft, ENERGY STAR (for "Business Incentives" program)		\$40					
Refrigerator, Chest, Solid Door, 15-29 cu ft, ENERGY STAR (for "Business Incentives"		\$60					

Appendix F: BENCHMARKING RESULTS

program)							
Refrigerator, Chest, Solid Door, 30-49 cu ft, ENERGY STAR (for "Business Incentives" program)		\$120					
Refrigerator, Chest, Solid Door, 50+ cu ft, ENERGY STAR (for "Business Incentives" program)		\$160					
Refrigerator, solid door, <15 cu ft, ENERGY STAR							\$20
Refrigerator, solid door, 15 - <30 cu ft, ENERGY STAR							\$50
Refrigerator, solid door, 30 - <50 cu ft, ENERGY STAR							\$80
Refrigerator, solid door, >50 cu ft, ENERGY STAR							\$120
Refrigerator, Vertical, Glass Door, <15 cu ft, ENERGY STAR (for "Business Incentives" program)		\$40					
Refrigerator, Vertical, Glass Door, 15-29 cu ft, ENERGY STAR (for "Business Incentives" program)		\$60					
Refrigerator, Vertical, Glass Door, 30-49 cu ft, ENERGY STAR (for "Business Incentives" program)		\$120					
Refrigerator, Vertical, Glass Door, 50+ cu ft,		\$160					

	ENERGY STAR (for "Business Incentives" program)						
	Refrigerator, Vertical, Solid Door, <15 cu ft, ENERGY STAR (for "Business Incentives" program)		\$40				
	Refrigerator, Vertical, Solid Door, 15-29 cu ft, ENERGY STAR (for "Business Incentives" program)		\$60				
	Refrigerator, Vertical, Solid Door, 30-49 cu ft, ENERGY STAR (for "Business Incentives" program)		\$120				
	Refrigerator, Vertical, Solid Door, 50+ cu ft, ENERGY STAR (for "Business Incentives" program)		\$160				
Freezers	Freezer, Chest, Glass Door, <15 cu ft, ENERGY STAR (for "Business Incentives" program)		\$40				
	Freezer, Chest, Glass Door, 15-29 cu ft, ENERGY STAR (for "Business Incentives" program)		\$60				
	Freezer, Chest, Glass Door, 30-49 cu ft, ENERGY STAR (for "Business Incentives" program)		\$120				
	Freezer, Chest,		\$160				

Appendix F: BENCHMARKING RESULTS

Glass Door, 50+ cu ft, ENERGY STAR (for "Business Incentives" program)							
Freezer, Chest, Solid Door, <15 cu ft, ENERGY STAR (for "Business Incentives" program)		\$40					
Freezer, Chest, Solid Door, 15-29 cu ft, ENERGY STAR (for "Business Incentives" program)		\$60					
Freezer, Chest, Solid Door, 30-49 cu ft, ENERGY STAR (for "Business Incentives" program)		\$120					
Freezer, Chest, Solid Door, 50+ cu ft, ENERGY STAR (for "Business Incentives" program)		\$160					
Freezer, Vertical, Glass Door, <15 cu ft, ENERGY STAR (for "Business Incentives" program)		\$40					
Freezer, Vertical, Glass Door, 15-29 cu ft, ENERGY STAR (for "Business Incentives" program)		\$60					
Freezer, Vertical, Glass Door, 30-49 cu ft, ENERGY STAR (for "Business Incentives" program)		\$120					

	program)							
	Freezer, Vertical, Glass Door, 50+ cu ft, ENERGY STAR (for "Business Incentives" program)		\$160					
	Freezer, Vertical, Solid Door, <15 cu ft, ENERGY STAR (for "Business Incentives" program)		\$40					
	Freezer, Vertical, Solid Door, 15-29 cu ft, ENERGY STAR (for "Business Incentives" program)		\$60					
	Freezer, Vertical, Solid Door, 30-49 cu ft, ENERGY STAR (for "Business Incentives" program)		\$120					
	Freezer, Vertical, Solid Door, 50+ cu ft, ENERGY STAR (for "Business Incentives" program)		\$160					
	Freezer, solid door, <15 cu ft, ENERGY STAR							\$45
	Freezer, solid door, 15 - <30 cu ft, ENERGY STAR							\$85
	Freezer, solid door, 30 - <50 cu ft, ENERGY STAR							\$200
	Freezer, solid door, >50 cu ft, ENERGY STAR							\$350
Vending and Ice	Vending Machine, Cold Beverage, ENERGY STAR		\$80					

Appendix F: BENCHMARKING RESULTS

Machines	(for "Business Incentives" Program)							
	Commercial Ice Machine, ENERGY STAR (for "Business Incentives" Program)		\$50					
	Vending Machine Controls, Occupancy or Sales Based, Cold Beverage Machine (for "Business Incentives" program)		\$50					
	Vending Machine Controls, Occupancy or Sales Based, Snack Machine (for "Business Incentives" program)		\$10					
	Vending Machine Controls, Occupancy or Sales Based, Cold Beverage Machine (for "Small Business Incentives" program)		\$80					
	Vending Machine Controls, Occupancy or Sales Based, Snack Machine (for "Small Business Incentives" program)		\$20					

# Xcel Energy Colorado Commercial Refrigeration Product 2017 program evaluation recommendations and responses

## Executive Summary

Xcel Energy contracted with EMI Consulting to evaluate the 2017 Commercial Refrigeration Product in Colorado. The Product encourages energy efficiency among commercial customers by providing a technical audit, direct installation of low-cost measures, condenser coil cleaning, and equipment upgrade rebates.

The Xcel Energy 2017-2018 Demand-Side Management Plan specified a process-only evaluation for the Commercial Refrigeration Product. As part of the evaluation, EMI Consulting assessed product satisfaction, identified paths to customer participation, assessed the effectiveness of the product at encouraging customers to move beyond direct install measures and make deep retrofits at their facilities, and assessed the effectiveness of engagement with trade partners, and identified opportunities for optimization. This summary includes the key findings and recommendations from this evaluation.

Recommendation	Response
<p><b>Define the purpose of the audit</b> as either high-level walk-through or in-depth assessment with clear trade partner hand-off.</p> <p>There is a disconnect between audit and trade partners.</p>	<p>On March 27<sup>th</sup>, 2018, Xcel Energy and the third party implementer; Franklin Energy, held a Trade Partner Kickoff Meeting/Event. The invite was extended to a large number of trades that participate across several Xcel Energy DSM Programs and specialize in a number of trades. The event was presented by Franklin, explaining the free assessment and how the process works, how a customer can contact a trade partner, the way in which the trades can be added to the trade partner directory and what that entails, how the Commercial Refrigeration program works, rules, requirements, eligibility, a sample assessment report, as well as a financing section. At the event, the trade were also given a "Trade Partner Tool Kit", which provided all the presented materials, in a buttoned up, easily accessible format.</p>
<p><b>Coordinate outreach with other products</b> as in-person visits are most effective but expensive.</p> <p>There is a disconnect between audit and trade partners.</p>	<p>Franklin Energy, when possible, will notify the BSC/Account Management team when they see other opportunities that would benefit other programs. This is currently in preliminary discussions among some programs as overlap of measures has been noticed. Ongoing discussions of effective customer satisfaction practices note that one point of contact, and one interaction, is the best way to conduct business.</p>
<p><b>Increase outreach to other trade partners</b> through one-on-one meetings, trainings, and collaborations with distributors.</p>	<p>Through the end of 2017, and throughout 2018, the lead energy advisor at Franklin Energy, is and will continue to conduct one on one</p>

<p>There is a disconnect between audit and trade partners.</p>	<p>visits with the trade; explaining the program, providing them with materials they need, feedback and retrieve feedback on improvement of how we (Xcel Energy and Franklin) can assist them.</p> <p>Please reference first response, as the Trade Partner Kickoff was a great success and the trade was very engaged there.</p>
<p><b>Explore developing a tiered trade partner network list</b> for the product that includes project counts and types of measures trade partners install.</p> <p>There is a disconnect between audit and trade partners.</p>	<p>Xcel Energy and Franklin Energy are not biased to one trade partner over another. A trade partner directory is used, and three trades are randomly selected as suggestions to a customer, giving equal opportunity to all those trade that are on the trade partner directory. The customer is only given this if they want or need the assistance in finding a trade partner for their specific project needs.</p> <p>Also, internally, with Franklin Energy, the program has mirrored a measure/equipment specific sheet, per trade, from the Multi-Family program.</p>
<p><b>Include equipment reliability in sales pitches.</b></p> <p>Costs remain a barrier for customers.</p>	<p>The trade will, and is being provided with cut sheets on specific measures as a means of selling the program. Also, with a cost barrier for some customers, the trade that attended the kick off, and those that meet with the implementer, are now aware of the business program's ability to provide financing to those who may need it and are eligible.</p>
<p><b>Plan for participants to complete recommended upgrades over the long-term.</b></p> <p>Costs remain a barrier for customers.</p>	<p>A "Nurture Campaign" is being run throughout the year. The campaign entails Franklin Energy calling and conducting outreach to customers that have received assessments and have yet to complete a project from the recommended upgrades and installations.</p> <p>The customer is also given options to do phases of a project, as well as being informed and made aware of the financing options if they so choose to go that route.</p>
<p><b>Explore diversifying rebate options based on business type.</b></p> <p>Costs remain a barrier for customers.</p>	<p>In keeping the measures cost effective, the rebates, for the foreseeable future, will remain the same. However, the customer again, will be made aware of</p>

	financing options as well as phasing options.
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