EMI CONSULTING

Xcel Energy
Business New Construction Product
2018 Evaluation

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DRAFT
REPORT

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPENDICES

Executive Summary

2018 Business New Construction Product (Minnesota)

Introduction

Xcel Energy contracted with EMI Consulting to evaluate the 2018 Business New Construction Product in Minnesota. The Minnesota Business New Construction Product helps commercial and industrial customers design and construct buildings that achieve energy savings beyond the Minnesota State Energy Code by offering an integrated design process and monetary incentives for new construction, building additions, and major renovations. The Business New Construction Product currently includes two programs; Energy Efficiency Buildings (EEB) and Energy Design Assistance (EDA). EEB is designed for small buildings or those buildings with simple systems that do not need whole building energy modeling. EDA offers two tracks; EDA Standard which includes whole building real-time energy modeling, bundling of efficiency strategies into packages, and a design professional incentive, and EDA Enhanced which also includes earlier analysis for daylighting, HVAC, and massing and support for certification documentation. The evaluation included an impact evaluation and a process evaluation. EMI Consulting assessed market actor's motivation to participate, market actor's product experience and satisfaction, how the market would respond to more aggressive efficiency recommendations, how to screen projects between EEB and EDA, the impact of the design team incentive, and similarity to peer programs. This summary includes the key findings and recommendations from this evaluation.

Methods

Participant interviews (n=30)

Trade partner interviews (n=15)

Peer program benchmarking interviews (n= 4)

Staff interviews (n=6)

Fielding:
July 2018-September 2018

Key Findings

The design team incentive is still effective, but could be restructured to encourage the adoption of additional or different measures.

Customers and trade partners reported **energy modeling has mixed importance on customer decision-making.**

Cost, and the availability of up-front capital, is the main barrier for customers to implement additional efficiency, not a lack of recommendations. Market actors are open to receiving more recommendations, but already consider doing more than what is installed.

The market is receptive to EEB and the current screening criteria are supported by data collected from trade partners and peer utility program staff. No other screening criteria or tools were identified.

Impact Results

0.89 **NTGR**

Decision making in the new construction market is complex: Several participants rated many factors extremely (>9) important and the mean ratings for 28/30 customers was greater than 5. Even in a complex market, the product has strong influence.

NTGRs are higher than other new construction programs: The NTGR is higher than other utility new construction programs, which range from 0.48 to 0.76, indicating the product exerts strong influence on the market and is performing well.

Drivers of differences in free-ridership: There was a small, not statistically significant, difference between the type of modeling received, amount of savings, and completed versus in-progress projects; NEO, larger savings projects, and completed projects had higher NTGR. There were no differences between receiving a green building certification or the number of times participated.

NTGR drivers: Customers rated the rebates as the most influential factor on their decision, followed by energy modeling, past experience with the product, and 3rd party consultant support.

Executive Summary

2018 Business New Construction Product (Minnesota)

Process Results

Customers

Customers participate in the product for a variety of reasons, but financial motivations were the most prevalent.

Certifications and the product appear to have a mutually-supportive relationship. The product has some influence on projects seeking certifications (LEED) and those required to do efficiency (SB2030).

Customers find the results review meeting and the incentive payments the most valuable aspects of the product.

Customers reported that more recommendations would not result in them implementing more, and 9/13 would be concerned with cost.

The majority of customers (87%) were interested in EEB to simplify the process, for cost-constrained projects, or for smaller projects.

Trade Partners

6 of 10 trade partners brought up participation with their customers, discussing incentives and modeling. 4 of 10 trade partners were first time participants; their customers brought up participation.

Half of trade partners reported working on projects that would qualify for the product but chose not to participate, indicating there are some customers not being served by the product.

11/14 trade partners didn't know about EEB, but 13 of 14 said it might be ok if their project was enrolled into EEB instead of EDA.

All trade partners, and 93% of customers, reported customers don't install more because of up-front costs.

The trade partner incentive does not motivate them to support customers implementing more efficiency or different types of equipment.

Benchmarking

Modeling is completed by the trade partner for 3 of 4 peer utilities. Approaches include open modeling, accepting LEED models, and using a pre-qualified trade partner for modeling.

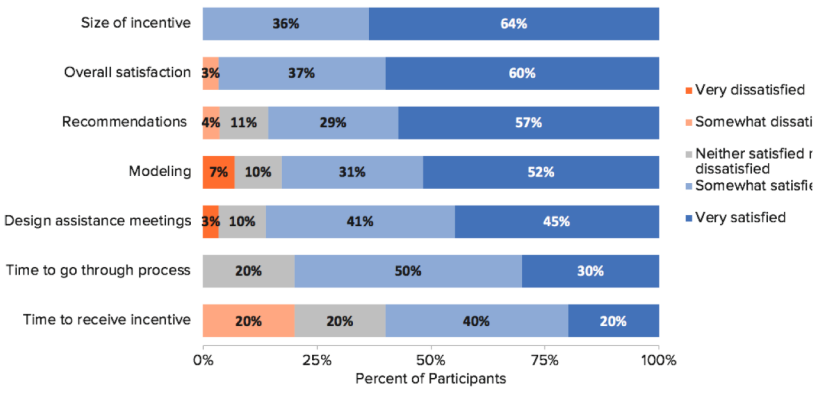
Three of four peer utilities include a design team incentive. One utility who discontinued it saw a significant drop in participation.

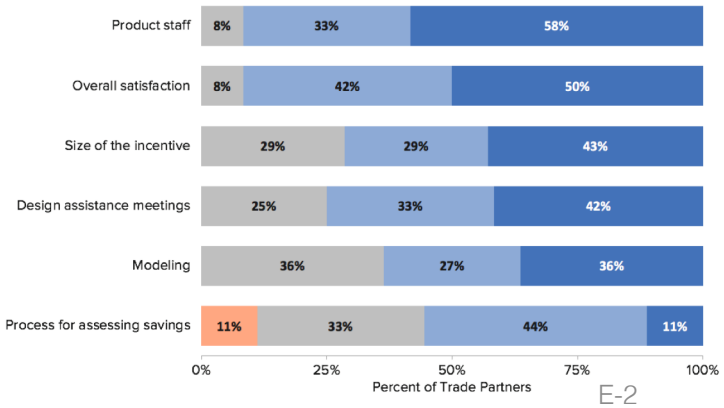
No other utilities use multiple implementers for different program tracks; they have one implementer for all tracks.

All peer utilities have similar implementation strategies focusing marketing and outreach on trade partners.

Xcel Energy's incentives are the lowest compared to peer utilities. Six utilities offer incentives above $0.20/kWh.

Product Satisfaction





Customers reported **high levels of satisfaction** with the product.

Trade Partners also reported high levels of satisfaction, but **satisfaction was lower than customers'.**

2018 Business New Construction Product (Minnesota)

Conclusions & Recommendations

Both customers and trade partners were receptive to the Energy Efficiency Buildings (EEB) program. Trade partners had low market awareness of EEB, but the majority (8/9) said it would be ok if their projects were enrolled into EEB instead of EDA while customers were interested in a more streamlined process.

Recommendation 1A: The product should promote EEB to gain higher market awareness. Outreach efforts should focus on communicating the value of EEB for projects that are smaller, time or cost-constrained, or have simple systems.

Recommendation 1B: Begin shifting appropriate projects to the EEB program and track satisfaction and savings to identify and mitigate possible negative ramifications early.

Recommendation 1C: Adjust the implementer compensation structure to support and motivate them to shift appropriate projects to the EEB track by offering an enrollment bonus. Also consider changing implementer compensation to be dependent on achieved savings, rather than square footage, which would shift their focus to cost-effectiveness as opposed to throughput.

While the trade partner incentive isn't motivating them to recommend more or different measures, eliminating or reducing the incentive may have negative impact on the program.

Recommendation 2: Continue offering the trade partner incentive but change the structure to be based on achieved savings, incentivizing the trade partners to support higher savings and a broader set of recommendations. Product staff could also consider offering a bonus incentive to encourage the adoption of technologies that are proven, yet not routinely installed.

More aggressive recommendations would not negatively impact product participation, but it would be unlikely to yield higher implementation rates.

Recommendation 3: Investigate creating tiers for the customer rebate based on savings levels. Changing the incentive structure to offer higher incentives for higher savings levels would encourage and support customers by offering compelling rebates for doing more.

There may be new construction customers in Xcel Energy's service territory not being served by the Business New Construction Product.

Recommendation 4: Conduct non-participant research to better understand the characteristics of non-participants, possible engagement strategies, their barriers to participation, and their motivation. The research should also understand and quantify the degree to which there is non-participant spillover and market effect.

The evaluation results were inconclusive as to how much value engineering occurs in the Minnesota new construction market.

Recommendation 5: Future research should evaluate the prevalence of value engineering in the Minnesota new construction market and better understand the role the product has on preventing value engineering, if found. The results of Recommendation 4 could also support this recommendation: if significant value engineering was found in non-participant projects it means the product might have additional influence on participant projects.

There's opportunity to increase Xcel Energy's incentive levels based on feedback from the market and a comparison of peer utility incentive levels.

Recommendation 6: As customers and trade partners cited cost and the availability of up-front capital as the main barrier for doing more and incentives as the most influential factor in their decisions, the product should investigate raising customer incentives.

Implement Recommendation 3. Implementing a tiered customer incentive would align the product more closely with peer utility structures and support customers to implement more.

1. INTRODUCTION

Xcel Energy offers a comprehensive array of demand side management (DSM) and other energy services and products to its customers. For the evaluations of its 2017 and 2018 products, Xcel Energy sought to improve the customer experience, understand the role their products have in changing the marketplace, analyze the product influences on customer choices, and ensure industry-leading product performance. To accomplish this Xcel Energy contracted with EMI Consulting and its partners: Evergreen Economics, Apex Analytics, and Ridge & Associates (hereafter 'the evaluation team'). This team undertook evaluations of nine products offered in Colorado and Minnesota in 2018, including the Business New Construction Product in Minnesota, discussed in this report.[1] This introduction includes an overview of the product and the evaluation approach, and describes the organization of this report.

1.1 Product Overview

The Minnesota Business New Construction Product helps commercial and industrial customers design and construct buildings that achieve energy savings beyond the Minnesota State Energy Code (currently ASHRAE 90.1 – 2010) by offering an integrated design process and monetary incentives for new construction, building additions, and major renovations. Available since 1993, the Business New Construction Product currently includes two programs:

- **Energy Efficiency Buildings (EEB)** is designed for small buildings or those buildings with simple systems that do not need whole building energy modeling. EEB offers prescriptive incentives for a comprehensive list of typical energy efficiency measures including heating, cooling, and motors, as well as custom incentives for other equipment.
- **Energy Design Assistance (EDA)** offers two tracks:
    - **EDA Standard** provides energy expertise during the design phase of non-residential new construction and major renovation projects. EDA services include whole building real-time energy modeling of opportunities, "bundling" of energy efficiency strategies into packages of measures which are analyzed for their net effect on the building energy use, a design professional incentive, and incentives for building owners.
    - **EDA Enhanced** is for customers interested in obtaining sustainable building certification and provides the same services as EDA - Standard as well as earlier analysis in daylighting, HVAC, and massing and support for certification documentation.

Current incentives and eligibility requirements for the tracks are shown in Table 1-1 below.

[1] The products selected for evaluation in 2018 include: Custom Efficiency (CO), Evaporative Cooling (CO), School Education Kits (CO), Home Lighting (CO), Lighting Efficiency (CO), Motor Efficiency (MN), Multi-Family Building Efficiency (MN), Business New Construction (MN), Water Heater Rebates (MN).

Table 1-1. Current Incentive Levels and Eligibility Requirements.

Eligibility Requirements	EEB	EDA Standard	EDA Enhanced
Incentive	Custom and prescriptive per measure	$400/kW, $0.04/kWh, $4/Dth	$400/kW, $0.04/kWh, $4/Dth
Square footage	<50,000	>20,000	>50,000
Application timing	Prior to equipment bidding stage	Schematic design or early design development	Pre-design or schematic design
Savings commitment	Must include at least 2 measures (lighting, HVAC, etc.)	5% (kW, kWh and/or Dth)	30%*
Proof of registration	n/a	n/a	Third party verified green building certification (LEED, SB2030, etc.)

*If projects don't meet the 30% requirement, Xcel Energy reduces the incentive by $20 per 1% lost until $300/kW is reached.

The EDA tracks represent a majority of the savings associated with the product. Together, the product achieved 53 GWh and 1,261 Dth of total savings in 2017 (Table 1-2).

Table 1-2. 2017 Business New Construction Savings by Product[a]

Program	Units		Customer kW		Customer kWh		Customer DTherms	
	Qty	% of total	Qty	% of total	Qty	% of total	Qty	% of total
Energy Efficiency Buildings	60	41.6%	1,708	13.9%	7,599,786	13.4%	20,767	18.5%
Energy Design Assistance	84	58.4%	10,621	86.1%	49,294,893	86.6%	91,715	81.5%
TOTAL	**144**	**100%**	**12,329**	**100%**	**56,894,679**	**100%**	**112,482**	**100%**

[a] This is the population of participants receiving rebates between January and December 2017. These numbers are based on data provided to EMI Consulting in May 2018.

Prior to January 1, 2017 EDA had three tracks – EDA Quick, EDA Basic, and EDA Enhanced. Due to the development of NEO, an online real-time modeling tool, Xcel Energy made several changes to the product in 2016 and 2017:

- In 2016, Xcel Energy started using NEO for quick projects.
- Starting January 1, 2017, NEO was used for nearly all projects. Complex projects or projects that implement measures not included in the NEO tool are still modeled using File Builder, the older non-real-time modeling tool.
- After January 1, 2017, the EDA Quick and EDA Basic tracks were merged into the current EDA Standard track.

These program changes are an important distinction for the evaluation, as participants who started projects before 2016 stayed in the old tracks. Therefore, Standard track participants who closed a project in 2017 or 2018 may have followed the old Basic track which did not include real-time modeling. As such, their feedback on items such as barriers, experience, and satisfaction was taken in context with the program design they experienced and extrapolated to the current program design[2].

The state of Minnesota has had legislation requiring energy efficiency in state buildings since 1991. The current legislation is SB 2030, which requires all state-bonded Minnesota buildings to meet specific energy efficiency targets, also includes training architects to incorporate performance standards in building design and incorporating the performance standards in utility conservation products. Due to this legislation, the evaluation team and Xcel Energy believed there was some risk that market actors would credit energy efficiency updates to the existence of the legislation and/or that they would have taken the same actions because of the legislation (i.e., market actors implementing efficiency in non-SB 2030 projects because of their experience in SB 2030 projects), potentially increasing free-ridership. While staff believe the existence of the product enabled the passage of the legislation (i.e., measured as market effects), in fact the legislation, in some form, has existed during the entirety of the Business New Construction Product. The evaluation team conducted two early trade partner interviews to explore the relationship between the product and the state of Minnesota legislation. The purpose of these interviews was to determine the extent to which there may be market effects or spillover as a result of the legislation. If the evaluation team determined market effects or spillover exist, then the NTG approach would be modified to include additional research and questions to qualitatively, and, if possible, quantitatively, describe the effects.

As is seen in Table 1-2, the majority of the Business New Construction savings is derived from the EDA tracks. As such, this evaluation focused on the EDA tracks and does not include an evaluation of the EEB track.

1.2 Evaluation Overview

Working in conjunction with Xcel Energy evaluation staff, the evaluation team designed an impact and process evaluation of the Business New Construction Product. The objectives included:

- Estimating an NTG ratio documenting the product's influence on customers' decisions.
- Assessing market effects of the Minnesota Business New Construction Product.
- Understanding what motivates architectural and engineering (A&E) firms and customers to participate in the product.
- Assessing the customer experience to understand what is working well and what aspects of the product customers find most important or valuable, and to identify potential offerings (e.g., commissioning, continuous monitoring, benchmarking) that might improve their experience or that they would like to see included in the product.
- Assessing the A&E experience to understand what is working well and what aspects of the product architects and engineers find the most important or valuable.
- Assessing market actor satisfaction with the product.

[2] EMI Consulting worked with Xcel Energy to try to identify customer tracks ahead of survey interviews.

- Identifying what would motivate market actors to implement more measures.
- Determining how market actors would respond to more aggressive efficiency recommendations by the implementer and how more aggressive recommendations may affect implementation of more efficiency measures.
- Identifying possible strategies to more effectively screen and enroll projects into the EEB and EDA tracks while retaining A&E firm engagement.
- Understanding if the design team incentive is still the most effective or if there is a different mechanism that would be more effective.
- Comparing Xcel Energy's product requirements and incentive structure to benchmark utilities' program requirements and incentive structures.

Table 1-3 presents an overview of the research topics and data sources used in this evaluation of the Minnesota Business New Construction Product.

Table 1-3. Business New Construction Product Evaluation Framework

Evaluation objectives	Assess Impacts, Influence on Market	Understand Market Actor Experience and Motivation	Identify How to Motivate Customers to Implement More	Screening Methods between EEB and EDA	Assess Impact of Design Team Incentive	Benchmark performance
Research topics	Free-ridership Spillover Market effects Net-to-gross ratio	Motivations of participants Motivations of trade partners Customer experience and satisfaction Trade partner experience and satisfaction	Market actor motivations to implement more measures Assess impact of more aggressive recommendations on product participation Test if more recommendations would result in higher implementation	Screening methods between EDA and EEB	Design team incentive effectiveness	Savings estimates and estimation methods Net-to-gross ratios Cost of achieved savings Product operations Incentive structures
Data sources	Participant customer surveys Participant trade partner interviews Historical data records for the Business New Construction Product Interviews of peer utility program managers	Participant customer surveys Trade partner interviews Interviews of peer utility program managers	Xcel Energy staff interviews Participant customer surveys Trade partner interviews	Xcel Energy staff interviews Trade partner interviews Historical data records for the Business New Construction Product	Trade partner interviews Interviews of peer utility program managers	Xcel Energy staff interviews Interviews of peer utility program managers

1.3 Report Organization

The following chapters organize the evaluation findings into two components: impact and process evaluation results. As illustrated in Table 1-3, each data collection activity may have contributed to multiple evaluation objectives. Further detail on the evaluation approach is presented in the following chapters. Chapter 2 reviews the approach and results of the impact evaluation and the attribution of product impacts using a customized net-to-gross ratio (NTGR) analysis. Chapter 3 discusses the process evaluation components, which address customer and trade partner awareness, satisfaction, and motivations. Conclusions and recommendations are presented in Chapter 4. Detailed, descriptive methodology information, evaluation plans, and survey instruments can be accessed in this report's appendices.

2. IMPACT FINDINGS

A central component of this evaluation was the estimation of the net-to-gross ratio (NTGR) for the Xcel Energy MN Business New Construction Product. For DSM programs, the NTGR is a metric that estimates the influence of the product on the target market. It is used to adjust reported gross energy savings to account for energy efficiency that would occur in absence of the product, and it is also used as a benchmarking indicator of product effectiveness. NTGR results can indicate opportunities for Xcel Energy to adjust the design and implementation of its products to increase the cost-effectiveness of individual products and of the entire portfolio.

The NTGR estimated by the evaluation team includes several factors that create differences between gross and net savings, such as free-ridership and spillover. The evaluation team developed the NTGR based on self-reported data provided by customers. To assess the plausibility of this NTGR, the evaluation team then compared it to the NTGRs of similar programs sponsored by other peer utilities. Note that, while a NTGR of 1.0 is often seen as desirable, it may not be appropriate for all program designs, depending on a variety of factors (including the maturity of the program, the technologies it promotes, program intervention strategies, and cross-program coordination strategies). The evaluation team has taken care to present our NTGR results with this context in mind.

Overall, this chapter presents:

- **Key findings –** The key findings section presents the recommended NTGR based on the evaluation team's synthesis of findings from market actors and peer utilities.
- **Approach –** The approach section presents an overview of the evaluation team's methods for calculating the recommended NTGR.
- **Detailed findings –** This section presents qualitative and quantitative data that support the NTGR estimates.

2.1 Key Findings: Net-to-Gross Ratio

The evaluation team recommends a prospective NTGR of 0.89 for the Business New Construction Product, based on results from participant and trade partner interviews conducted as part of our evaluation. This score is higher than the peer benchmarking NTGRs, which ranged from 0.48-0.76, indicating that the Business New Construction Product has had significant success influencing the new construction market in the Minnesota Xcel Energy service territory.

Decision-making in the new construction market is complex, as evidenced by several participants rating many product and non-product factors extremely important in their decision to include energy efficiency in their building. That complexity is compounded by long construction timelines, the existence of voluntary certifications (e.g., LEED), and legislation requiring state-funded projects to achieve a certain efficiency level (e.g., SB2030). Even in this complex market, the Xcel Energy Business New Construction Product has strong influence, as evidenced by the NTGR. Participating customers and trade partners reported that the primary driver of decisions and motivation in this market are financial, such as rebates, costs, and payback. The evaluation team heard from both participating customers and trade partners that the ability of customers to achieve higher levels of savings is constrained by available finances, not a lack of recommendations or ideas.

The evaluation team found some evidence of a small amount of participant spillover. While four respondents reported installing additional efficiency equipment after the conclusion of the project, the product was of mixed importance to their decision to implement those measures. The evaluation team also found some evidence that there is potential for non-participant spillover, as the majority of trade partners (93%) reported discussing energy efficiency with non-participating customers. However, without non-participating customer interviews, there is no way to quantify how much efficiency is actually installed in non-participant projects especially as "value engineering"[3] is known to happen in the new construction market.

Since the Business New Construction Product has existed since 1993, two trade partners reported the product has changed their business model, and participating customers also reported that energy efficiency is a part of their trade partners' business models. Again, the evaluation is missing a key data point to estimate market effects without non-participating customer interviews.

Recognizing there is likely some spillover and market effects from the product in the new construction market, but also that this evaluation is missing a key component to quantifying those effects, the evaluation conservatively estimated spillover and market effects at 1% each, based on DSM evaluation industry standards.

2.2 Approach

The evaluation team developed the NTGR for the Minnesota Business New Construction Product using a self-report approach (SRA) based on participating customer and trade partner survey results. The methodology used in this evaluation was built from the Core Nonresidential Protocol in the *2016 Illinois Statewide Technical Reference Manual for Energy Efficiency Version 6.0*, in *Attachment A of Volume 4: Cross-Cutting Measures and Attachments*. This approach is used extensively in other jurisdictions both by our team and outside industry experts, and it was the basis of the NTG approach for the evaluations of the 2017 Xcel Energy product evaluations. This methodology was further customized to better match the questions and algorithms to the Business New Construction Product and supplemented with additional qualitative and quantitative data characterizing the customer's decision-making process as well as trends in the market. An important consideration for this evaluation was the 25-year history of Business New Construction Product availability in Minnesota. Given this extended lifetime, the product may have significantly impacted trade partner's business models and participants' decision-making. This evaluation was designed to document this market impact and to assess how to design future products to maximize cost-effectiveness with increasingly efficient code baselines.

The data inputs to the NTGR analysis included[4]:

- Participant surveys – focused on project-level effects
- Trade partner interviews – focused on overall market effects
- Product benchmarking data – used as a point of comparison

[3] According to the General Services Administration (GSA), "value engineering can be defined as an organized effort directed at analyzing designed building features, systems, equipment, and material selections for the purpose of achieving essential functions at the lowest life cycle cost consistent with required performance, quality, reliability, and safety." www.gsa.gov

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

- Known product changes in upcoming years – used to factor in any known implications for future changes in product design

The evaluation team used self-reported data from 30 in-depth telephone interviews with participating customers to develop an initial NTGR. The sample was drawn from Xcel Energy records of (1) projects that received rebates in 2017 and 2018 and (2) projects that have not yet received a rebate but have had the design review meeting. We divided each of those groups into "high savers" and "low savers" based on the median kWh value for that list. Table 2-1 shows the target and completed numbers of participant interviews within each customer group (received/not yet received a rebate) and savings group (high/low).

By taking 20 cases from the "not yet received a rebate" list, we prioritized more recent participants, who likely had a better memory of their experience, and more participants who have experienced the new program design using NEO. Splitting each group further into high savings and low savings groups ensured we looked at projects that would have the most influence in a weighted average NTG calculation (high savers), while also collecting information to identify possible motivations to increase customer implementation, and to test market actor responses to recommendations (both research objectives for this evaluation). The evaluation plan used for this project can be found in Appendix A.1.

Table 2-1. Target and Actual Completes for Participating Customer Interviews

Group	Target: Already Received Rebate	Completed: Already Received Rebate	Not Yet Received Rebate	Completed: Not Yet Received Rebate	Target Total	Completed: Total
High Savings	5	6	10	9	15	15
Low Savings	5	5	10	10	15	15
Total	10	11	20	19	30	30

Data from the additional sources listed above were then used in constructing a logical narrative of product attribution, and in finalizing the NTGR for the product.

A description of each of the components used to calculate the NTGR and how the interviews factor into the NTGR approach are discussed below.

Free-Ridership

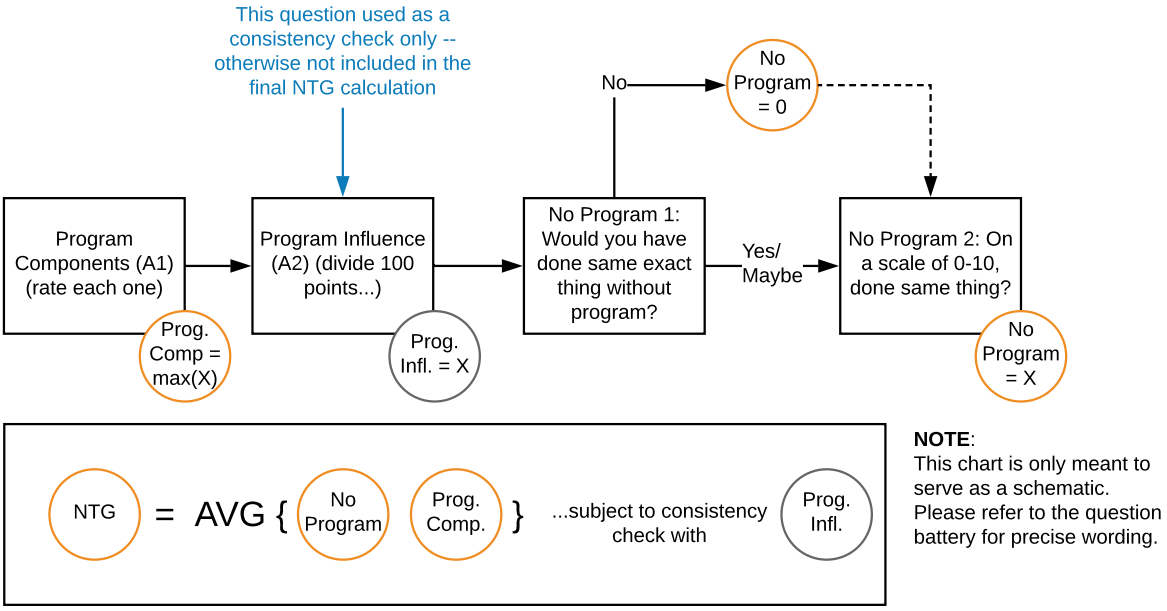
Free-ridership is a measure of the amount of a product's claimed savings that would have occurred in the absence of the product. Free-ridership is assessed on a scale from 0 to 1, where 1 indicates that the product had 100% free-ridership and all product savings would have occurred without any of the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

To determine free-ridership, the EMI Consulting evaluation team started with the Core Nonresidential Protocol from the Illinois TRM, and wrote specific questions to assess two free-ridership components[5]:

- A **Program Components Score**, based on the participant's perception of the importance of various program components in their decision to carry out the energy-efficient project; and
- A **No-Program Score**, based on the participant's intention to carry out the energy-efficient project without product funds.

When scored, these components assess the likelihood of free-ridership on a scale of 0 to 10, with the two scores averaged to create a final free-ridership score.[6]

Figure 2-1. NTG Approach



Program Components Score

Each participant was asked to use a 0 to 10 scale to rate the importance of product factors and non-product factors on their decision to implement the project. The Program Components Score is the highest value the participant gave to the product factors. The product and non-product factors are shown in Table 2-2.

[5] Evaluations also typically include a timing adjustment which is based on the participants perception of when they would have carried out the project in the absence of the product. In the case of new construction projects, this timing adjustment does not apply.
[6] An additional component included in the Illinois TRM—the Program Influence score—was removed from the core NTGR calculation and instead used as a consistency check.

Table 2-2. Product and Non-Product Factors

Product Factors	Non-Product Factors
Rebates offered by Xcel Energy	Previous experience with energy-efficient equipment
Energy modeling offered by Xcel Energy	Standard practice in the new construction market
Support from third party consultants	Corporate policy or guidelines
Endorsement or recommendation by an Xcel Energy account manager	Payback on the investment
Recommendation from the Xcel Energy product team	Minimizing operating cost
Information from Xcel Energy marketing or informational materials	Positive marketing or public relations
Past experience with the Energy Design Assistance Product	Environmental factors, like reduced carbon emissions
	Required participation to achieve a certain building code
	Certification, like LEED
	Recommendation from the design team

Program Influence Score

The Program Influence score is designed to compare the importance of the Business New Construction Product with other factors in implementing the measure. Thus, participants were asked to distribute 10 points between the influence of the product and non-product factors shown in Table 2-2 above. The Program Influence Score is the number of points the participant assigned to the product factors.

As discussed above, the Program Influence Score was not directly used to calculate the NTGR. Instead, it was used as a consistency check as described below.

No-Program Score

The No-Product Score asks participants to discuss what action they would have taken if the Business New Construction Product was not available. Participants were asked a binary question: would they have installed the exact same measures if the product had not been available? For participants that answered "no," the No-Product score was set to zero. For participants who responded "yes" or "maybe," they were then asked to rate the likelihood that they would have installed the same exact measures. This answer becomes their No-Product score.

Spillover

Spillover is a measure of the amount of energy savings that occur due to the product that are *not* captured in the product's claimed energy savings. For the purposes of this evaluation, only participant spillover could be estimated because non-participant interviews were not conducted.

To capture spillover, the evaluation team asked participating customers for information about any additional energy efficient equipment installed outside of the product for which they did not receive a rebate. The surveys also probed for information on the importance of the Business New

Construction Product in participant installation decisions and the likelihood that the measures would have been installed if they had not participated in the product.

Market Effects

Market effects is a measurement of how the product has induced a change in the structure of the market to include energy efficiency. To capture market effects, the evaluation team asked trade partners if any customers install energy efficient technologies without receiving an Xcel Energy rebate. We also asked how trade partners' business models have changed over time, if their involvement with the product has changed over time, and what role certifications have in the market. Taken together, trade partner responses to these topics gave the evaluation team an idea of how the product is influencing changes in trade partner business models and the overall new construction market.

Estimation of Net-to-Gross Ratio

To estimate the NTGR, the Program Components Score, No-Program Score, spillover, and market effects are calculated. The evaluation team analyzed the quantitative and qualitative data collected from each respondent, looking for consistency across questions and across interviews for any inherent biases. Interviewers asked respondents directly about inconsistencies in their answers if their answers produced a score higher than seven for one or more for one or more of the NTGR components and also produced a score less than three for one or more of the other NTGR components. These consistency check questions reminded participants of their scores to the NTGR questions, asked them to explain their scores in greater detail, and asked whether the respondent would like to change one of the scores. If the respondent requested to have one of their scores changed, or if their answers to the other NTGR questions were inconsistent with their qualitative responses, adjustment might have been made to the calculations, based on industry best practices.

The evaluation team then calculated the product's initial net-to-gross ratio using the following formula:

$$Product\ NTGR = 1 - (Free - ridership\ Ratio) + (Participant\ Spillover\ Ratio) + (Market\ Effects)$$

Finally, the evaluation team utilized all the information collected about the product through customer interviews, trade partner interviews, product benchmarking, and known product changes to construct a logical, internally consistent, and coherent narrative of product attribution that attempted to identify all possible pathways of Xcel Energy influence. Based on the results, we weighted the final NTGR by project savings to reflect the impact of projects that contributed a significant amount to the total product energy savings. Based on these results, we recommend a final NTGR value that is consistent with these data.

2.3 Net-to-Gross Ratio Inputs

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

Overall, our research showed that the Business New Construction Product has had strong influence in this complex market with many participants indicating low levels of free-ridership. Even for projects that were required to achieve high levels of energy efficiency (e.g., SB2030 projects), the product influenced participants' decisions by helping them determine how to achieve the required efficiency and by offsetting the cost of those actions.

In addition, while the evaluation found some evidence of spillover and market effects, the market has not yet fully transformed, indicating continued opportunity for the product. Legislation requiring energy efficiency for state-funded projects has been in effect longer than the product and voluntary green building certifications, such as LEED, were first released in 2000. Yet only 23% of projects reported following these guidelines. In fact, some trade partners reported the number of customers pursuing voluntary standards is decreasing. Therefore, it is likely the energy efficiency of new construction buildings in Minnesota would significantly decrease without the Business New Construction Product.

As discussed in the approach section above, EMI Consulting weighted the final free-ridership estimate by savings to reflect individual projects' contribution to the overall product portfolio. Weighting by savings decreased the average free-ridership from 0.17 to 0.13, increasing NTGR from 0.83 to 0.87.

Free-Ridership Results

EMI Consulting estimates that the average weighted free-ridership score for the Business New Construction Product is 0.13. This score can be interpreted as 87% of the energy savings reported by the product can be attributed to the product, and that customers would have realized 13% of the energy savings in absence of the product. In general, the Business New Construction Product has significant influence on the new construction market and is working well as designed. Table 2-3, below, shows the participant-level free-ridership results.

Eleven participants (36.6%) reported no free-ridership (i.e., a NTGR of 1.00) and the evaluation did not find any total free-riders (i.e., a NTGR of 0.0). The remaining 19 participants had varying degrees of partial free-ridership, meaning they would have implemented fewer measures or less efficient equipment without the product. While seven participants had little free-ridership (<0.10), an additional seven participants indicated a significant amount of free-ridership (>0.45). Potential drivers or characteristics of what may lead to higher free-ridership (e.g., building certification, past product participation, program track, type of modeling conducted, amount of savings, and project completion status) are explored later in this section.

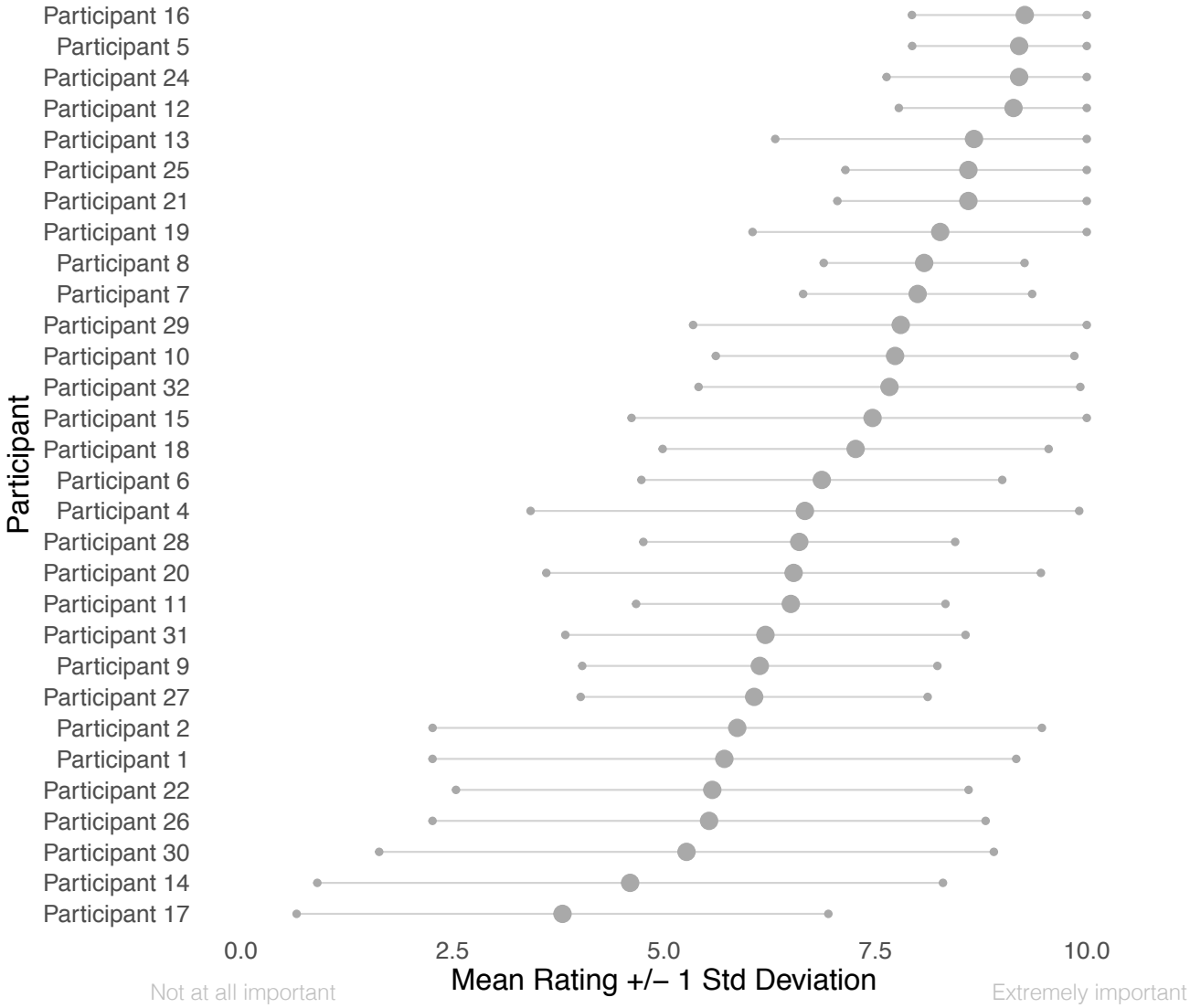
Table 2-3. Participant Level Free-Ridership, NTGR, and Strata

Participant	Unweighted NTGR	Free-ridership	Completed/In-progress	High/Low Savings	Weight
Participant 1	0.65	0.35	C	HS	0.06
Participant 4	0.95	0.05	C	HS	0.12
Participant 5	1.00	0.00	C	HS	0.06
Participant 12	1.00	0.00	C	HS	0.12
Participant 16	1.00	0.00	C	HS	0.05
Participant 18	0.90	0.10	C	HS	0.03
Participant 6	1.00	0.00	C	LS	0.01
Participant 7	1.00	0.00	C	LS	0.01
Participant 8	0.95	0.05	C	LS	0.02
Participant 10	0.95	0.05	C	LS	0.01
Participant 25	0.75	0.25	C	LS	0.02
Participant 2	1.00	0.00	I	HS	0.08
Participant 14	0.50	0.50	I	HS	0.03
Participant 15	0.55	0.45	I	HS	0.03
Participant 17	0.85	0.15	I	HS	0.06
Participant 24	1.00	0.00	I	HS	0.04
Participant 26	0.60	0.40	I	HS	0.02
Participant 28	0.55	0.45	I	HS	0.07
Participant 30	1.00	0.00	I	HS	0.04
Participant 32	1.00	0.00	I	HS	0.03
Participant 9	0.80	0.20	I	LS	0.01
Participant 11	0.95	0.05	I	LS	0.01
Participant 13	0.50	0.50	I	LS	0.01
Participant 19	1.00	0.00	I	LS	0.01
Participant 20	0.50	0.50	I	LS	0.01
Participant 21	1.00	0.00	I	LS	0.01
Participant 22	0.55	0.45	I	LS	0.01
Participant 27	0.90	0.10	I	LS	0.01
Participant 29	0.55	0.45	I	LS	0.01
Participant 31	0.90	0.10	I	LS	0.00

Decision making in the new construction market is complex, as new construction projects have long and multifaceted timelines, large budgets, and a multitude of stakeholders (owners, developers, tenants, etc.). This complexity was seen in participants' responses to how important product and non-product factors were in their decisions to include energy efficient design features in their

buildings. Figure 2-2 shows each participant's mean score (out of 10) and range of responses. There are several participants, such as Participants 16, 5, and 12, that rated all factors fairly high; their lowest response was a seven. Other participants, such as Participants 7 and 8, tended to cluster their responses, rating most of the factors fairly equally in their importance on their decision to install energy efficient equipment. The mean response for all but two participants was above five, indicating there were many factors that were influential in decision making.

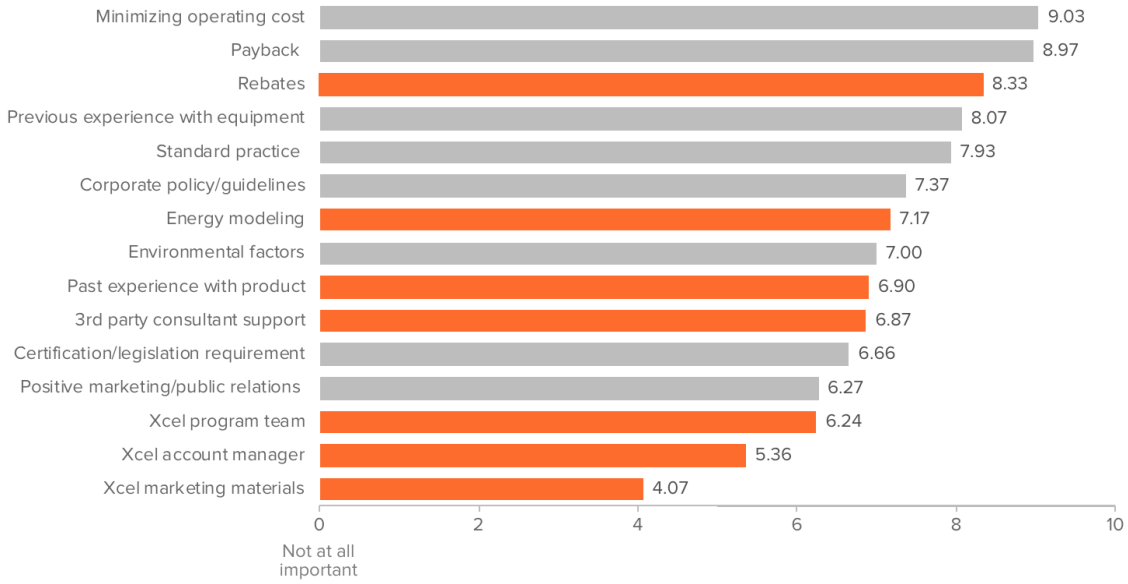
Figure 2-2. Participants' Average Rating of Factors



Even in this complex market, the Business New Construction Product has strong influence on participants' decision-making. Product factors are highlighted orange in Figure 2-3 below. Participating customers rate rebates, modeling, past experience with the product, and the third-party consultant support as the most important product factors. Participating customers rated minimizing

operating cost, payback,[7] previous experience, standard practice, and corporate policy highest among non-product factors.

Figure 2-3. Average Rating of Product Factors



Potential Drivers of Differences in Free-Ridership

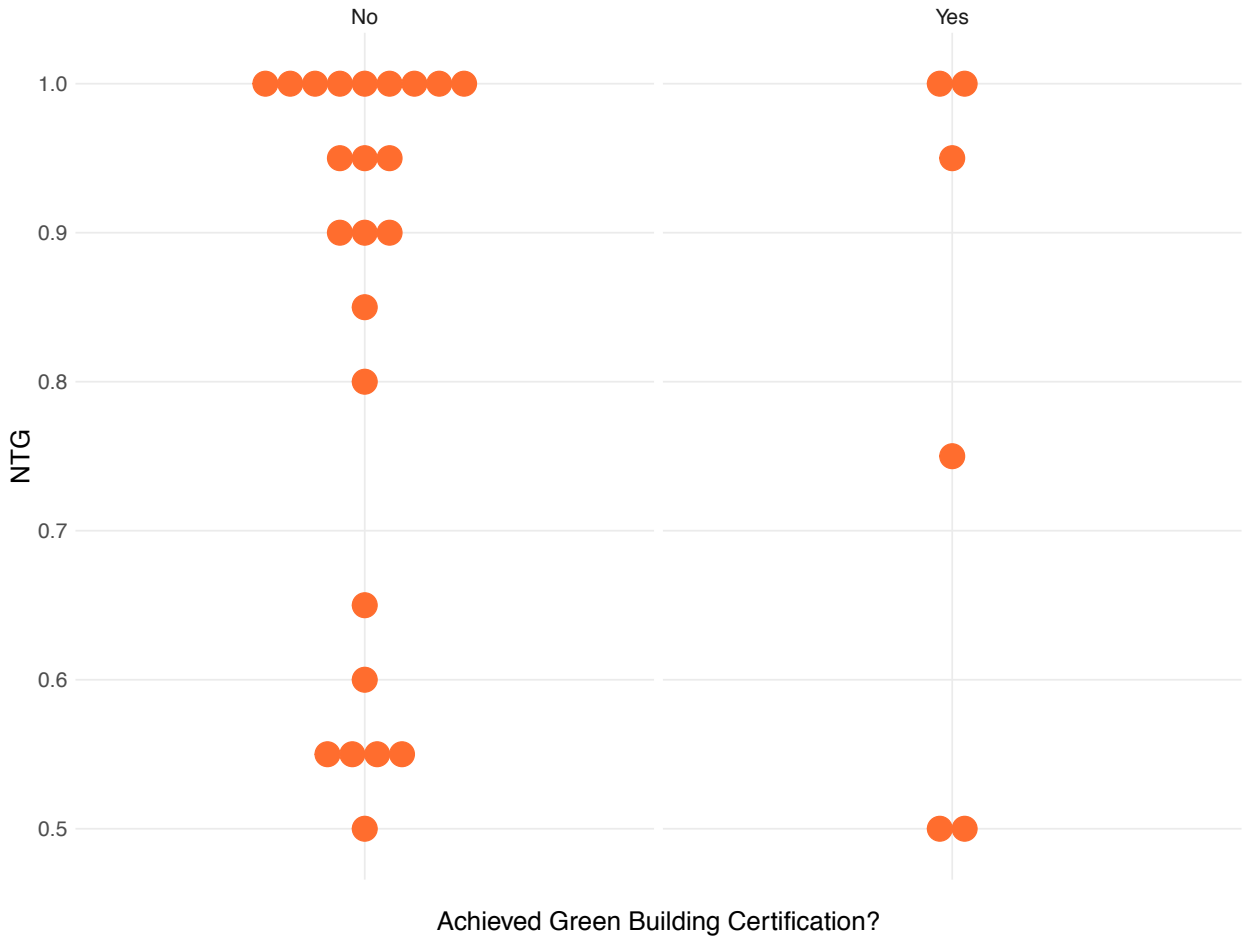
To better understand what might be driving product influence, the evaluation team analyzed the free-ridership results by several characteristics to determine if there is any correlation between these characteristics and the influence of the product. If found, the results could help the product modify its approach to increase influence. These characteristics included:

- Building certification,
- Past product participation,
- Type of modeling,
- Amount of savings, and
- Project completion status.

There were no discernable differences in free-ridership score between receiving some type of green building certification[8] (Figure 2-4) or the number of times participated (Figure 2-5).

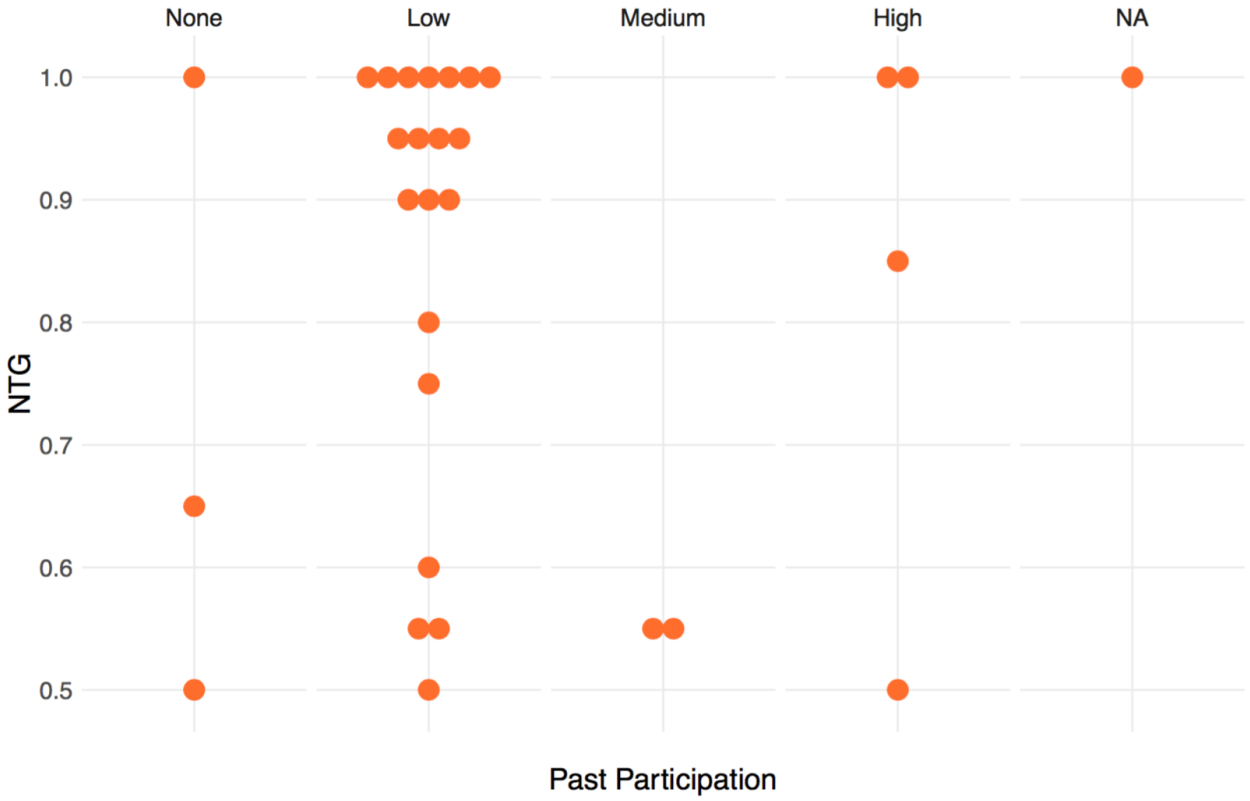
[7] Note that payback is impacted by rebates. That is, rebates are designed to make the payback more attractive. So, while we consider it a non-product factor, it's consistent with the high score for the rebate factor.
[8] Types of green buildings certifications considered here include SB 2030, LEED, ENERGY STAR, and Green Communities.

Figure 2-4. NTG Results by Whether Project Achieved Green Building Certification



[a] Types of green buildings certifications considered here include SB 2030, LEED, ENERGY STAR, and Green Communities.

Figure 2-5. NTG Results by Participation



There were minor (not statistically significant) differences between the type of modeling received, the amount of savings, and completed versus in-progress projects. Figure 2-6 shows that while NEO might be an improvement over File Builder, participants had difficulty identifying which type they received. As Xcel Energy does not track this information, the evaluation team cannot make a concrete conclusion from this data. Projects with larger savings appear to be slightly more influenced by the product (Figure 2-7), although these results are not significant enough to draw conclusive insights.

Figure 2-6. NTG Results by the Type of Modeling

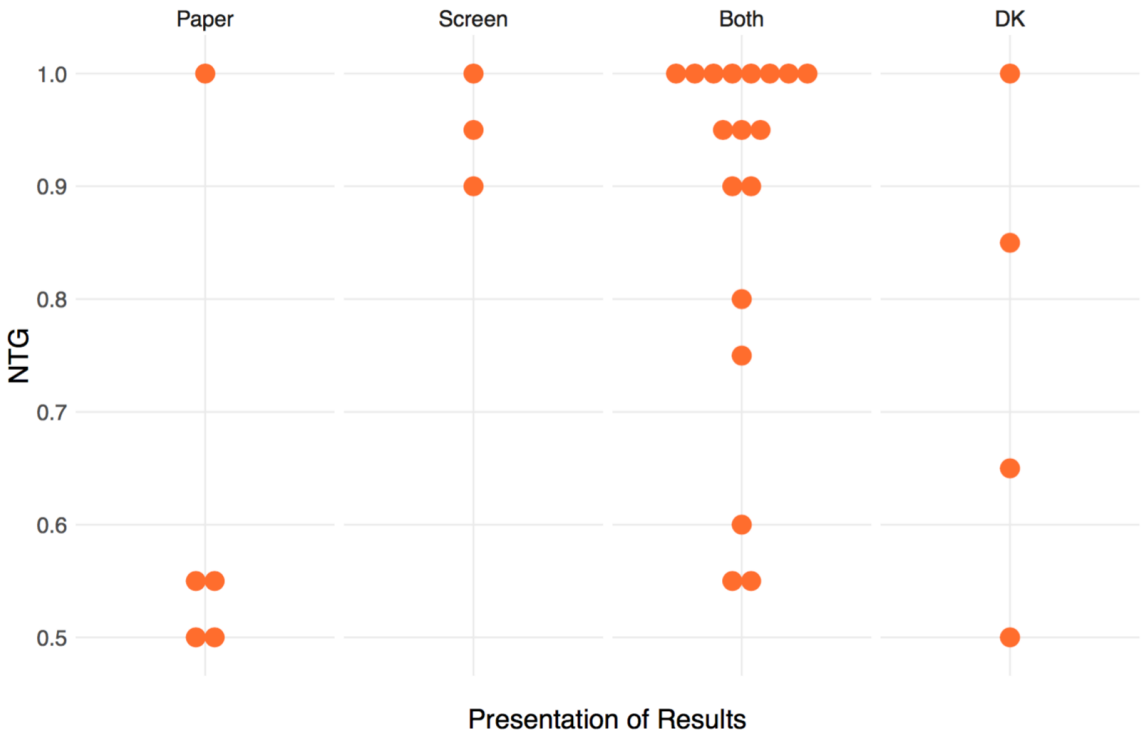
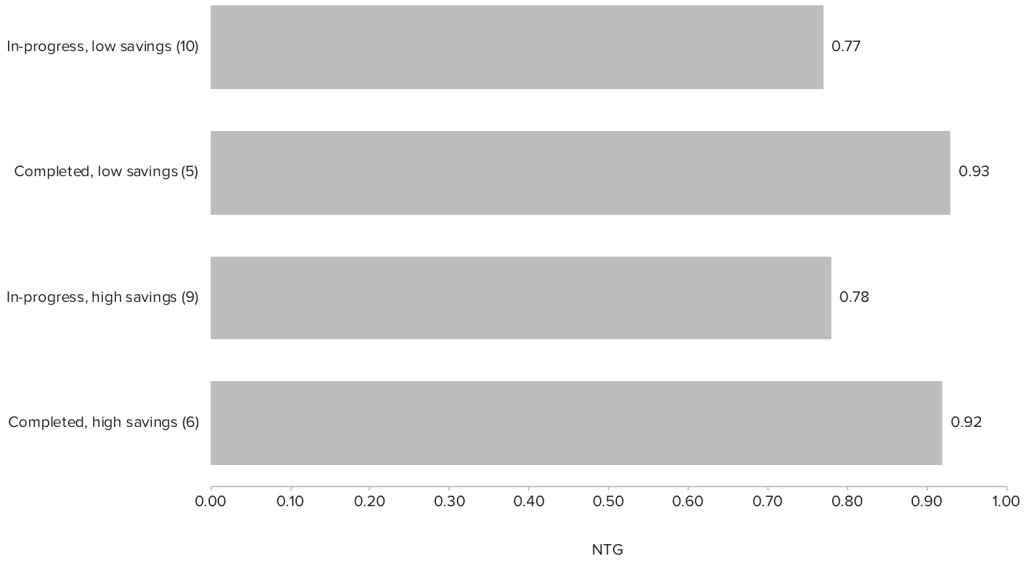


Figure 2-7. NTG Results by Amount of Savings

There is, however, a difference in free-ridership and NTGR results between the completed and in-progress projects, shown in Figure 2-8 below. This appears to be in-line with the evaluation results that show the rebate is the most important product factor for customers. In-progress projects have not yet received their rebate and, therefore, these customers may have lower satisfaction.

Comparing the completed and in-progress projects, all completed projects said they learned about incentives before they decided to include energy efficiency in their building, while two in-progress projects said they learned about incentives after they decided to include energy efficiency in their building, indicating some free-ridership. Only one completed project said their initial plans did not change after the design team meeting, whereas six in-progress projects said their plans did not change after the meeting (indicating less product influence). Reviewing the qualitative responses for the in-progress projects it is possible that their initial plans could have included energy-efficient options due to past participation, which is discussed more in the market effects section of this report.

Figure 2-8. NTG Results by Completed vs. In-Progress Projects



Spillover Results

Recognizing there is likely some amount of participant and non-participant spillover in the market, the evaluation team conservatively estimates spillover at 1%.[9] Six participants (of 30) reported installing additional energy-efficient equipment since completing their projects. Two of the participants who reported installing additional measures said they would have installed energy efficient equipment even if they had not received a rebate. One of these participating customers said, "typically if we submit for a rebate, and they say it doesn't qualify, we still do it," while the other said, "[we] do it even if we don't get a rebate if [the] payback is there." Even though these two

[9] Given the holistic nature of the product, and the fact that energy savings estimates are highly custom and based on energy modeling, EMI Consulting was unable to quantify spillover savings.

participants did not discuss specific measures installed at the sites, their responses support the potential for spillover in the market.

The other four participants discussed specific measures installed at the site including lighting with motion/occupancy sensors, windows, and sage glass. As shown in Table 2-4, the product had mixed importance in participants' decisions to install additional energy efficiency equipment. For Participant 29, participation in EDA was very important in their decision to install the equipment, and it was unlikely they would have installed the equipment without the program. However, for Participant 16, it is likely they would have installed the equipment without the program. Participant 20 responded both ways. They would have installed the windows without the program, but would not have installed the roof insulation without the program.

Table 2-4. Participant Spillover Results

Question	Participant 16	Participant 24	Participant 20	Participant 29
What did you install?	Lighting with motion sensors	Electrochromic glass; Building automation control system	Windows; Roof insulation	LED lighting, Occupancy sensors
Was this equipment recommended by EDA or your design team?	No response	Design team	No	No response
How important was your EDA experience in your decision to install this equipment?	No response	7	Insulation - 8 Windows - 0	9
How did your experience with EDA influence your decision to install the equipment?	No response	Knowledge of other ideas out there; learned a great deal from the recommendations	Talked about heat loss through the roof	No response
If you had not participated in EDA, how likely is it that you would have installed this equipment?	8	5	Insulation - 2 Windows - 10	7

The evaluation also found there is potentially non-participant spillover, as 93% of the trade partners interviewed reported talking about energy-efficient equipment with non-participants. Since value engineering (the concept of achieving essential functions and performance at the lowest cost) is a well-known factor in new construction projects, just because a trade partner recommends an energy efficient measure, that doesn't mean customers actually implement it. As the evaluation team did not interview non-participants, we were unable to evaluate the degree to which trade partners' recommendations resulted in the installation of energy efficient equipment in non-participant

projects. However, given the long history of the product operating in Minnesota, it is reasonable to attribute the Product with some influence on these business practices.

Market Effects

The Business New Construction Product has existed since 1993 and has evolved over time. In 2017 the design was modified to include NEO (a real-time modeling software package) into the product. In that time, hundreds of participants and trade partners have participated in the product, many doing so dozens or even hundreds of times. Given the length and depth of the product, and the evidence that some trade partners' business models have changed to include energy efficiency, the evaluation team believes the product has likely impacted the larger commercial new construction market in Xcel Energy service territory. These impacts can be considered "market effects." However, without talking to non-participants, we were not able to collect evidence about the end result of these effects. Therefore, we conservatively estimated market effects at 1%. The following section summarizes the indicators of market effects identified by our evaluation.

When asked how their company's work has changed over time, two of the trade partners discussed how their businesses have focused more on energy efficiency: "It has evolved in recent years with an emphasis on energy systems and [the product] is a factor. That's become routine, because we've done it so much," and "Energy is a big portion of [the change], most recently on the systems are the biggest changes." An additional three trade partners discussed how their participation in EDA has stayed the same over the years, because "we're so familiar with it. . . . we don't even think about it," and "it's expected that we're going to participate in any building going forward," and that "we try to help our clients take advantage of the [the product] whenever possible."

Finally, interview results indicate that past experience with the product is influencing projects prior to the planning stages. When analyzing the participant-level quantitative NTG results, the evaluation team noted a few inconsistencies. In some cases, participants told us they would have done the same project without EDA, but then rated a program factor as a 10. Across the qualitative responses, these participants consistently spoke highly of and seemed to value the EDA program.

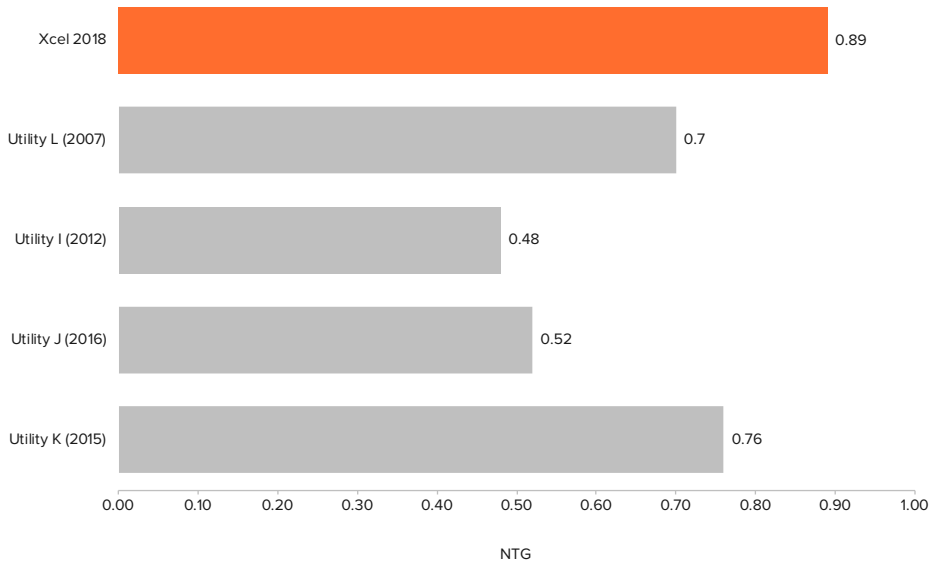
This may indicate that after trade partners or participating customers participate with the product multiple times, they change their overall approach to the design of buildings. If this is the case, they start with a higher level of planned efficiency, because they have learned to anticipate and incorporate the typical recommendations from EDA into their regular efforts. When asked if their final plans changed from their initial plans or if they would have done the same project without the product, customers responded no and yes, respectively. In fact, one participant reported that their "engineering firm has lots of experience with EDA, so they knew what to include ahead of time." A second participant said, "most [energy efficient decisions were] decided at the beginning of the process," and they only "tweaked a few measures to get a better rebate." Both statements support the hypothesis that some participants came into the process having already designed efficiency into their plans anticipating receiving the rebate, another indication of market effects attributable to the product.

Peer Program Net-to-Gross Ratios

The recommended NTG value for the MN Business New Construction Product is higher than the NTG values the evaluation team found for several peer programs. None of the program managers the evaluation team interviewed provided NTG values for their programs. Instead, the evaluation team supplemented the interviews with values drawn from publicly published sources. These results are summarized in Figure 2-9.

Direct "apples-to-apples" comparisons between new construction program NTG results should not be made, as each program is different. However, the available benchmarking data supports the evaluation's finding that Xcel Energy's product does exert strong influence on the market and is performing well when compared to peer programs.

Figure 2-9. Peer Program NTG Values



3. PROCESS EVALUATION

In addition to estimating a recommended NTGR, the evaluation team conducted a process evaluation to determine whether Xcel Energy can optimize the design and delivery of the MN Business New Construction Product to its customers. Specific research objectives of the process evaluation are listed in the bullets below:

- Assess product design and administration to document recent changes in delivery
- Assess key indicators of product performance, including: satisfaction, product awareness, customer engagement, and motivations for participation
- Gain insight into trade partners' satisfaction with the product, perceived barriers to participation, and perceptions surrounding ways the product could better assist them in selling high efficiency heating equipment
- Assess product design and delivery and key performance indicators (e.g., participation levels, free-ridership), as compared to that of peer utilities

To accomplish these objectives, the evaluation team elicited feedback from product staff, participating market actors (including customers and trade partners) in the Xcel Energy Minnesota territory, and program managers of similar programs. We also conducted an analysis of historic participation data. 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, along with findings from the impact evaluation, inform the conclusions and recommendations presented in the next chapter.

3.1 Key Findings

The evaluation team found the Business New Construction Product is working well, and the recommendations are to improve an already good product and to help answer product staff's questions and concerns. Several key themes emerged from the process evaluation including:

- Cost, and the availability of up-front capital, is the main driver for decision-making and the main barrier for customers to implement additional energy-efficient equipment.
- Market actors are highly satisfied with the product and find the results review meeting and the incentives the most valuable aspects of the product.
- The market is receptive to EEB and the current screening criteria are supported by trade partners and peer utility program staff.
- Energy modeling has mixed importance on customer decision-making, and peer utility programs' approach to the modeling component of their programs differ.
- The design team incentive is still effective but could be restructured to encourage the adoption of additional or different measures.

More detailed findings on process evaluation topics are presented below. Our synthesized findings emphasize how to help Xcel Energy interpret customer and trade partner perspectives, and how to identify actionable opportunities for improving product operations and marketing.

3.2 Approach

To accomplish the evaluation objectives for the Business New Construction Product, the evaluation team completed a suite of intersecting and complementary research activities in 2018. The following discussion highlights the research topic coverage contributed by each research activity: the staff interviews, participating customer interviews, trade partner interviews, and benchmarking interviews.

Staff Interviews

The evaluation team conducted in-depth interviews of Xcel Energy personnel involved with the MN Business New Construction Product early in the course of this evaluation. Staff interviewed were the:

- Product Manager
- Marketing Assistant
- Engineer
- Account Managers
- Implementer Program Manager
- Implementer Outreach Lead

The staff interviews covered the following topics:

- The extent to which the product design supports product objectives and customer experience and satisfaction objectives
- The degree to which product resources are sufficient to conduct product activities with fidelity to the implementation plan
- Staff feedback on implementation successes and challenges
- Themes and issues for possible revisions to the evaluation plan

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

Participating Customer Interviews

The evaluation team conducted 30 in-depth telephone interviews with participating customers, according to the sampling plan discussed in Section 2.2.

The participating customer interviews were designed to:

- Understand what motivates customers to participate in the product;
- Assess the customer experience to understand what is working well, what they find are the most important or valuable aspects of the product, and to identify potential offerings that might improve their experience or that they would like to see included in the product (e.g., commissioning, continuous monitoring, benchmarking).
- Assess market actor satisfaction with the product.
- Identify what would motivate market actors to implement more measures.
- Determine how market actors would respond to more aggressive efficiency recommendations by the implementer and how more aggressive recommendations may affect implementation of more efficiency measures.

- Estimate an NTG ratio documenting the product's influence on customers' decisions.
- Assess market effects of the Business New Construction Product.

The participant survey is presented in Appendix B.2.

Early Trade Partner Interviews

The evaluation team conducted two early trade partner interviews (ahead of the trade partner interviews discussed below) to explore the relationship between the product and Minnesota state legislation. The purpose of these interviews was to determine the extent to which there were market effects or spillover as a result of the SB 2030 legislation. The evaluation determined that market effects or spillover did not exist due to the existence of the legislation, so no modifications were made to the evaluation plan, the surveys discussed below, or the NTG approach.

The early trade partner survey is presented in Appendix B.3.

Trade Partner Interviews

The evaluation team conducted 15 in-depth interviews with participating trade partners. Trade partners were drawn from Architect and Engineer (A&E) firms whose projects had final verification in 2017 or 2018, excluding "Owners" from the list. We divided the list into thirds based on the number of times the firms had participated. We targeted and achieved five completes for each of the three levels of participation. We did not set a quota for whether trade partners received a design team incentive. Instead, we expected that random sampling resulted in a proportion of trade partners who received the incentive that is comparable to the actual proportion in the population.

The trade partner research was designed to:

- Understand what motivates A&E firms to participate in the product.
- Assess the A&E experience to understand what is working well and what they find are the most important or valuable aspects of the product.
- Assess market actor satisfaction with the product.
- Identify what would motivate market actors to implement more measures.
- Determine how market actors would respond to more aggressive efficiency recommendations by the implementer and how more aggressive recommendations may affect implementation of more efficiency measures.
- Identify possible strategies to more effectively screen and enroll projects into the EEB and EDA tracks while retaining A&E firm engagement.
- Understand if the design team incentive is still the most effective mechanism.
- Estimate an NTG ratio documenting the product's influence on customers' decisions.
- Assess market effects of Business New Construction Product.

Appendix B.4 presents the interview guides used for the trade partner research.

Benchmarking Interviews

This evaluation team examined four peer utilities to benchmark the Xcel Energy Business New Construction Product against others in the industry, assessing product design, delivery, and key

performance indicators (e.g., participation levels, free-ridership). The evaluation team conducted in-depth interviews with program managers to address the following topics:

- Net-to-gross (NTG) savings approach
- Program descriptions including their objectives, relevant features of their implementation strategy, the measure types and incentives offered, recruitment strategy, characteristics of their target customers, and whether they have an implementer(s)
- Market actor engagement practices, including their approaches to engaging and motivating owners and design professionals to implement measures

To provide important contextual information, additional descriptive program information was collected from secondary research, including incentive levels, NTG ratios, information about program tracks, modeling details, and product implementation strategies.

Appendix B.5 contains the interview guide used for the benchmarking interviews.

Data on all of the process evaluation topics are presented below. Because the sample frames were not stratified, no data weighting was applied in the analysis. The synthesis of findings places an emphasis on helping Xcel Energy interpret customer and trade partner perspectives and identifying actionable opportunities for improving product operations and marketing.

3.3 Motivation to Participate

The purpose of this objective was to understand what motivates trade partners and customers to participate in the product, as well as what methods trade partners use to encourage customers to participate in the product. Overall, the evaluation found that trade partners and customers participate for a variety of reasons, but that financial motivations, such as incentives, were the factors market actors mentioned the most. Similarly, trade partners cited the incentive as the most important reason they encourage their customers to participate in the product, followed by modeling. The evaluation also found that requirements to implement efficiency (e.g., SB 2030) or voluntarily seeking a green building certification (e.g., LEED) were not a main driver for applicable projects.

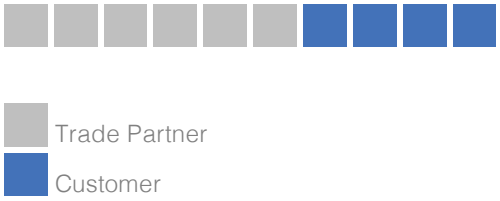
Information from the following sources informed the findings related to this research objective.

Table 3-1. Data Sources Used to Identify Trade Partner and Customer Motivations to Participate in the Product

Research Questions	Data Source		
	Participant Interviews	Trade Partner Interview	Peer Program Interview
Why do trade partners recommend the program?		X	
What are sources of customer motivations to participate?	X		
What are sources of trade partner motivations to participate		X	

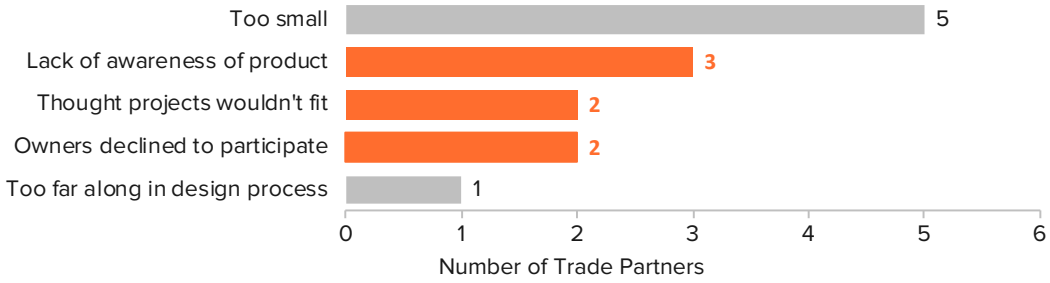
Six trade partners (out of 10) reported they introduced the product to their customers. In these conversations, five trade partners said they discuss the incentives with customers, and two reported they discuss the energy modeling with customers. Trade partners did not report discussing any other product elements to encourage customers to participate. Four trade partners (out of 10) reported their customers brought up the idea of participating in the product. In three out of four of these projects, it was the first time the trade partner had participated in the product. Interestingly, the fourth trade partner had participated several dozen times but said "we don't say too much about it" when asked about recommending participating in the product. These results indicate that both customers and trade partners drive participation in the product (Figure 3-1).

Figure 3-1. Who Brings Up the Idea of Participating in the Product



All but one trade partner (13 of 14) said they work on new construction projects that did not participate in the product. A variety of barriers to participation were cited by trade partners, including projects that were too small or too far along in the design process to qualify for the product. However, as indicated by the orange columns in Figure 3-2, there were projects that may have qualified but did not participate due to lack of awareness of the product (first time participating trade partners), owners declining to participate, and trade partners thinking projects wouldn't "fit" into the product. In this last case one trade partner even said, "Our project was pursuing aggressive energy goals through LEED, and EDA wouldn't fit."

Figure 3-2. Trade Partner Views on Non-Participant Barriers to Participation



As discussed in the impact evaluation chapter, decision-making in the new construction market is complex. So are the reasons why trade partners and customers participate in the product, as indicated in Figure 3-3 and Figure 3-4 below, which demonstrate a variety of reasons for participation. While financial motivations (e.g., incentives and cost-effectiveness) were the most prevalent, having an energy-efficient building was also mentioned fairly frequently.

Figure 3-3. Trade Partner Motivation to Participate

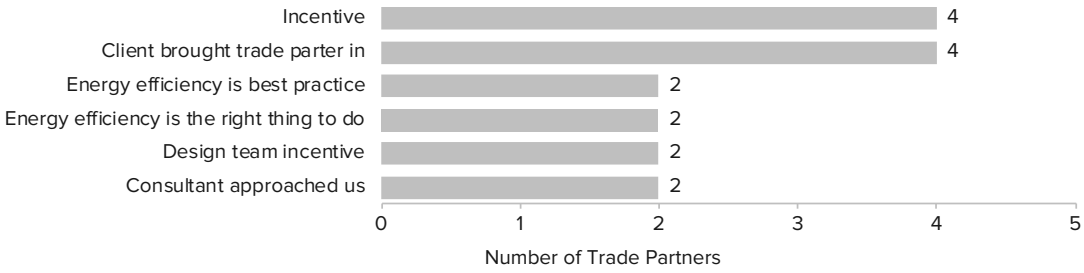
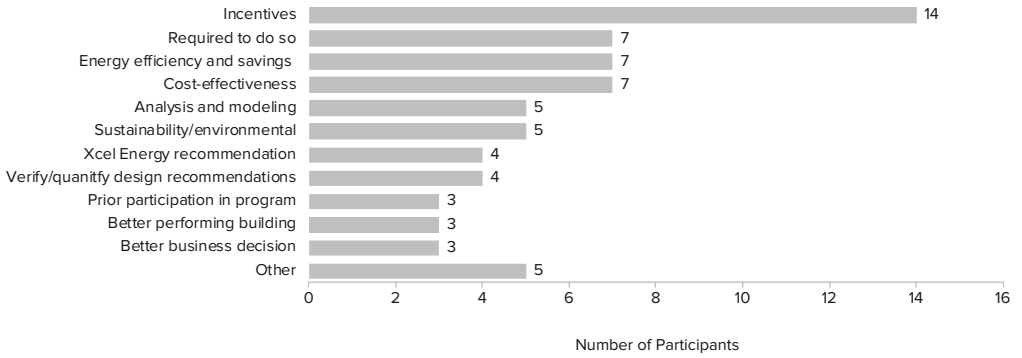


Figure 3-4. Customer Motivation to Participate



Seven projects reported they were required to include energy efficiency measures in their building. Of these, four projects were subject to SB2030 requirements and three projects received other green building certifications – one LEED Gold, one LEED Silver, and one Passive House Certification. As opposed to certification and legislation driving product participation, the certifications and the Business New Construction Product appear to have a mutually-supportive relationship. Legislation requiring energy efficiency for publicly-funded buildings has existed since 1991 and the product since 1993. All four SB2030 projects said they would have participated in the product regardless of SB2030 and all four said they would have done some of the efficiency measures without SB2030. As indicated by the NTG ratios in Table 3-2, the product has some influence even on those projects required to reach high levels of energy efficiency (SB 2030) and high influence on projects voluntarily seeking certifications (LEED).

Table 3-2. Certification and Associated NTG Ratio

	Participant 25	Participant 15	Participant 31	Participant 5	Participant 18	Participant 14
Certification	SB2030	SB2030	SB2030	LEED	LEED	Passive House
NTG	0.75	0.55	0.90	1.0	0.9	0.5

The Product did not appear to enable the two LEED projects to reach a higher level of certification than the level originally planned. One building was a headquarters and was built to "demonstrate to future customers as a showcase." The other project was replacing a building that was LEED Gold and the customer wanted to maintain that rating. In both projects, customers reported the product

helped meet certification requirements by helping them determine how to meet their existing efficiency goals and by offering incentives to offset some of the cost. One customer said, "they really helped us look at the options and make educated decisions on greatest possibilities for our building and how to save money and operating costs," and the other said "they helped us determine what [measures] hit our goals and gave us the confidence we would be able to save this energy."

3.4 Customer Product Experience

The purpose of this objective was to assess customer and trade partner experiences with the product to understand what aspects are working well, what aspects they find most valuable, and to identify potential offerings that may improve their experience. Both customers and trade partners reported that the results review meeting and the incentive payments were the most valuable aspects of the product, and that the introductory meeting was the least valuable. About half of the customers were interested in additional product offerings. Information from the following sources informed the findings related to this research objective.

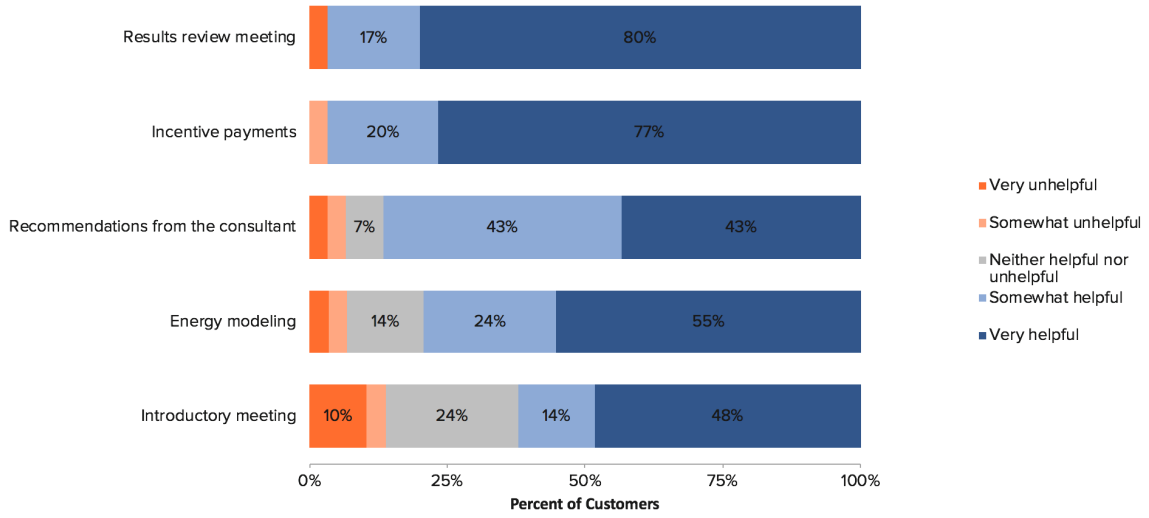
Table 3-2. Data Sources Used to Assess Product Experience

Research Questions	Data Source		
	Participant Survey	Trade Partner Interview	Peer Program Interview
What is working well?	X	X	
What are the valuable and important product aspects?	X	X	
What improvements might enhance experience?	X		

Overall, customers find most of the product elements helpful, as shown in Figure 3-5. Customers find the results review meeting and the incentive payments the most valuable aspects of the product, with 97% of customers reporting these two elements as somewhat helpful or very helpful. The meetings are appreciated primarily because they bring everyone to the same table and build a collaborative spirit among the team. One customer said what was "really helpful was the clarity that the meeting provides…asking questions on changing something in a bundle and how will it impact us…discussion in meeting is good rather than remodeling the whole building".

While some customers found the energy modeling and the introductory meeting unhelpful, the majority of customers still found them helpful; 79% and 62%, respectively.

Figure 3-5. Product Features Customers Find Most Valuable

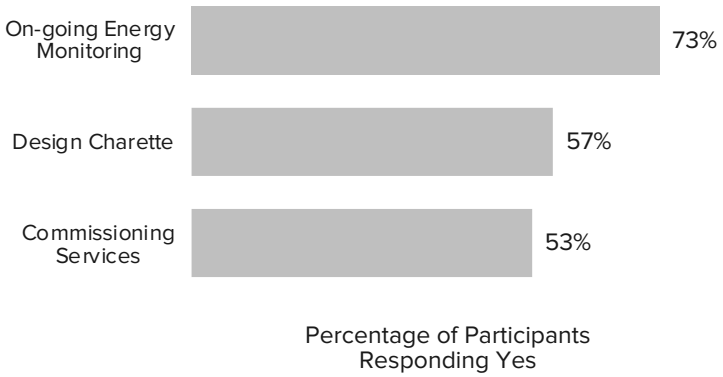


The communication and the collaboration the product creates among the project team are the two aspects customers most-often cited that the product is doing well and should keep doing. Specific answers included:

- Efficient process and communication, having one point of communication
- High quality of work
- Effective presentation of results
- Education of developers
- A collaborative team effort

The evaluation team collected data on participating customers' interest in three specific potential offerings: on-going energy monitoring, design charrettes, and commissioning services. While some customers are interested in additional product elements, especially on-going energy monitoring, overall there is not a strong interest in these additional elements (Figure 3-6).

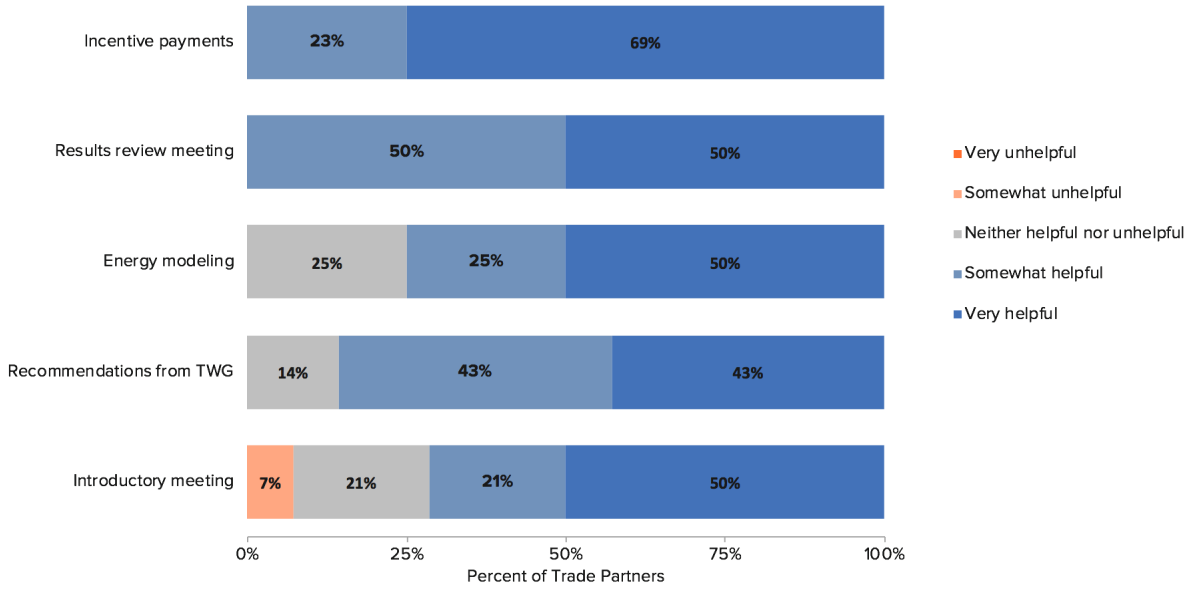
Figure 3-6. Participating Customers' Interest in Additional Product Elements



Customers also provided insights on future trends they predict might impact the new construction market. Five participants mentioned they felt the trend towards renewable energy resources would impact the product and should be considered more directly (including possible rebates). They also discussed a trend for housing for the 55-plus market, whether that be single-level townhomes, condos or apartments, and a trend toward micro-units (e.g., small, efficient apartment units).

Trade partners also found the incentive payments and the results review meeting the most valuable aspects of the product, with 100% of trade partners reporting these two elements as somewhat helpful or very helpful (Figure 3-7). Similar to customers, trade partners found the introductory meeting the least helpful. One trade partner said, "The intro meeting is always the same. . . . They generally aren't saying anything we don't already know." Overall, however, most trade partners find all the product elements helpful.

Figure 3-7. Product Features Trade Partners Find Most Valuable.



3.5 Assess Market Actor Satisfaction

The purpose of this objective was to assess participating customer and trade partner satisfaction with the product. Overall, satisfaction was high for both groups, with 92% of trade partners and 97% of customers expressing satisfaction with the product. While more trade partners reported being "neither satisfied nor unsatisfied" than customers with various product elements, there were a few customers that were unsatisfied with certain product elements, namely the energy modeling and design assistance meetings. Information from the following sources informed the findings related to this research objective.

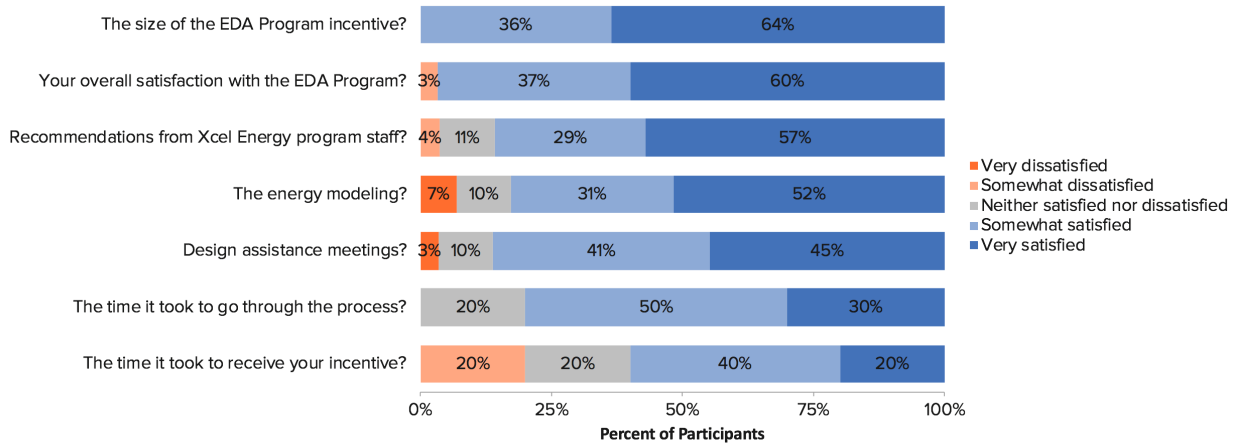
Figure 3-8. Data Sources Used to Assess Satisfaction

Research Questions	Data Source		
	Participant Survey	Trade Partner Interview	Peer Program Interview
What is market actor satisfaction with Xcel Energy?		X	
What is market actor satisfaction with the Business New Construction Product?	X	X	

Participants reported high overall levels of satisfaction with different elements of the Business New Construction Product (Figure 3-9). The vast majority (>80%) of customers said they were satisfied or very satisfied with all the product elements, except for the amount of time it took to receive their incentive, of which only 60% of customers were satisfied. Only one customer said they were very dissatisfied with the design assistance meeting and the energy modeling. This customer had the lowest NTG score, rating the rebates as a 10 in importance and all other product factors as a 1 on their decision to include energy efficiency in the building. They further said they "installed equipment recommended by their own energy modeling. . . . [The] architect has their own energy modeler and used these results, [as they're] far more accurate." One additional customer expressed dissatisfaction with the energy modeling. They said the modeling needed to be "less technical and more oriented to the building owner."

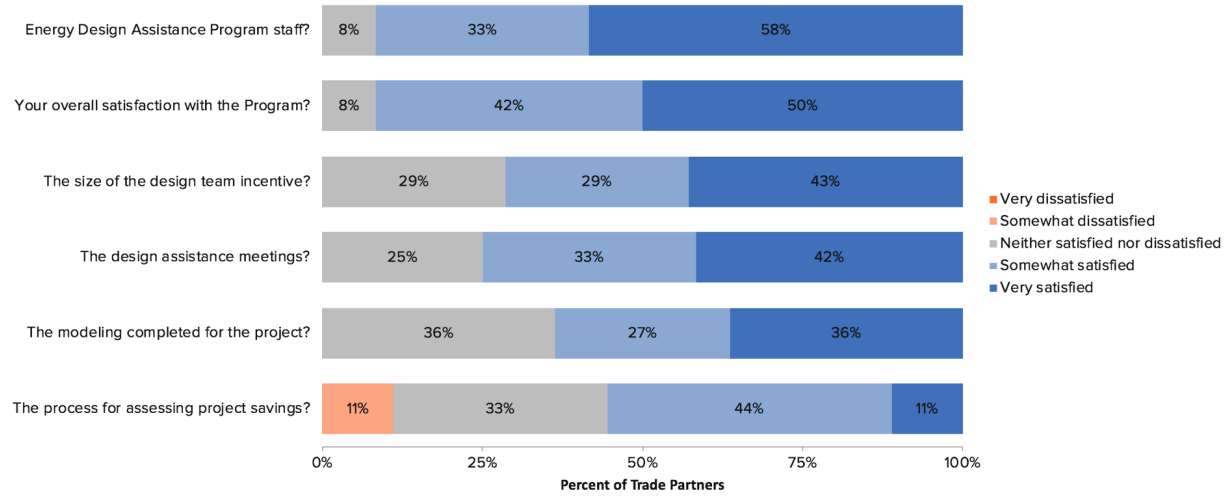
Customers who scored their overall satisfaction less than a five were asked if there was anything Xcel Energy could do to increase their score. Suggestions given by participants included getting the meetings scheduled quicker, more explanation of the program, providing better cost and life cycle analysis on equipment and building measures, and including building envelope measures.

Figure 3-9. Participant Satisfaction with the Business New Construction Product



Trade partners also reported generally high levels of satisfaction with the product, but satisfaction was slightly lower than with customers (Figure 3-10), as more trade partners reported neutral satisfaction than customers. No trade partners were very dissatisfied with any element, although one was somewhat dissatisfied with the process for assessing project savings. This trade partner said it "feels too formulaic and not custom enough."

Figure 3-10. Trade Partner Satisfaction with the Business New Construction Product



3.6 Market Response to More Aggressive Efficiency Recommendations

The purpose of this objective was to determine how market actors would respond to more aggressive efficiency recommendations by the implementer and how more aggressive recommendations may affect implementation of more efficiency measures. Additionally, the evaluation team explored what might motivate customers to implement more measures to achieve greater efficiency at each building.

The evaluation team found that more aggressive recommendations by the implementer would not likely impact product participation. However, the overwhelming majority (>90%) of trade partners and participating customers believe that receiving more recommendations would not result in them installing more energy efficient equipment. Customers already consider more efficiency than they install, and both groups reported cost and availability of up-front capital as the main barrier to implementing more energy-efficient measures, not a lack of recommendations. Information from the following sources informed the findings related to this research objective.

Table 3-3. Data Sources Used to Assess Response to More Recommendations and Motivation to Implement More Efficiency

Research Questions	Data Source		
	Participant Survey	Trade Partner Interview	Peer Program Interview
Would more aggressive recommendations negatively affect participation?	X	X	
Will more aggressive recommendations result in higher implementation rates?	X	X	
What would motivate customers to implement more efficiency?	X	X	

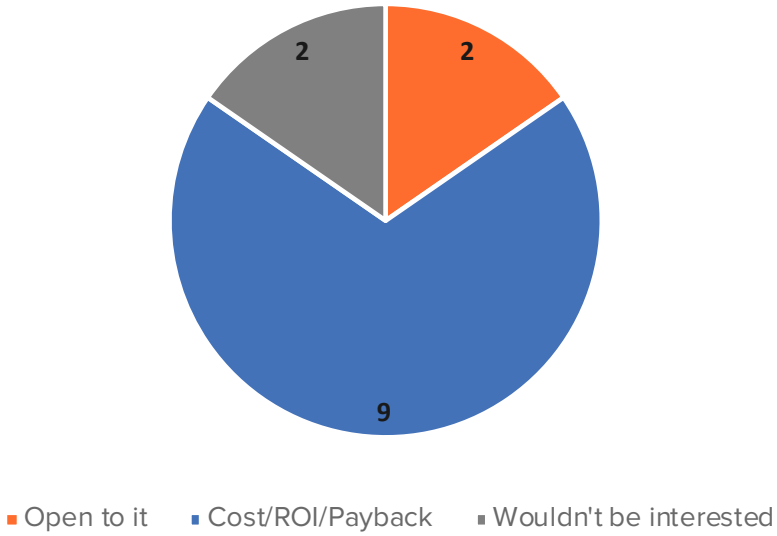
The evaluation asked a series of questions of trade partners to discover what might lead them to complete more projects through EDA, why they would recommend a larger number of measures than they normally do, how they believe customers would respond to a larger number of measures, under what conditions customers would consider additional measures or measures with higher savings, and if they believed customers would ever respond negatively to more recommendations.

Trade partners reported they would complete more projects through the EDA program for two reasons: if there were greater awareness of EDA among clients' firms and if the clients had a desire to participate. Interestingly, one trade partner discussed how Enhanced EDA can be undesirable for their clients. This trade partner said they "have at times specifically told owners not to participate in Enhanced EDA, because they might lose incentive dollars relative to EDA." Similarly, trade partners would recommend more measures if clients were interested, and if the project had stated energy efficiency goals (Figure 3-11).

Figure 3-11. Why Trade Partners Would Recommend More Measures

When asked how they thought customers would respond to recommending more measures, nine trade partners (of 13) thought customers might react negatively. These nine trade partners believed customers would be concerned with the cost, return on investment, and payback. Two trade partners believed customers would be open to more recommendations, and two believed customers wouldn't be interested, as shown in Figure 3-12. The two who said customers would not be interested discussed how "Only those who will be there longer [would] consider it," and the other said, "Developers aren't interested." This supports the challenges associated with "split-incentives," namely that developers might not want to include energy efficiency in their building, because they aren't the ones paying the operating costs for the building.

Figure 3-12. How Trade Partners Think Customers Would Respond to Recommending More Measures



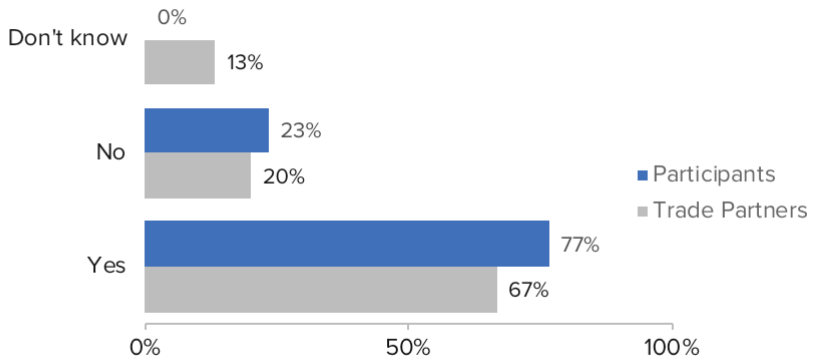
Trade partners further reported that cost determines customers' receptiveness to having certain types of energy-efficient equipment recommended and that they would not recommend a client consider additional or higher-energy savings measures if they were high-cost measures. The majority (87%) of trade partners said that customers would not install more energy-efficient equipment if a larger number of measures were recommended due to these costs.

Only 10% of customers (3) reported they would respond negatively to having trade partners recommend more measures. All of the customers that would respond negatively said they would be concerned about the additional cost. One customer stated "you have to have that payback. If I were able to afford it, yes. I don't need a recommendation that has a 20- to 25-year payback." Additionally, customers were asked whether their satisfaction with product staff would have changed if they had recommended more measures with larger savings. Over 90% of customers indicated their satisfaction would not change.

However, 93% of participating customers felt the current number of measures that are recommended are just right, and 91% of participating customers reported that receiving more recommendations would not result in them implementing additional measures. The 9% who might implement additional measures would only do so if it fit within the project budget. Further, 67% of participating customers would not implement higher levels of efficiency with more recommendations.

As shown in Figure 3-13, most trade partners (67%) and customers (77%) reported that the projects discussed during the interviews already consider additional efficiency measures beyond what is installed. All of the trade partners and 93% of the customers reported they do not install more measures because of up-front costs.

Figure 3-13. Customers and Trade Partners Projects that Consider Additional Efficiency



3.7 Screening Projects Between EDA and EEB

The purpose of this objective was to identify possible strategies to more effectively screen and enroll projects into the EEB and EDA tracks while retaining trade partner engagement. The evaluation team found that while the majority of customers and trade partners were unaware of the EEB track, they are receptive to having projects enrolled into the EEB track as long as it would not affect the amount of incentive received. Trade partners reported they would screen projects based on project size, stage in the design process, and whether the building needed energy modeling. Peer utilities also use size and complexity of equipment as their factors for screening projects between tracks. Information from the following sources informed the findings related to this research objective.

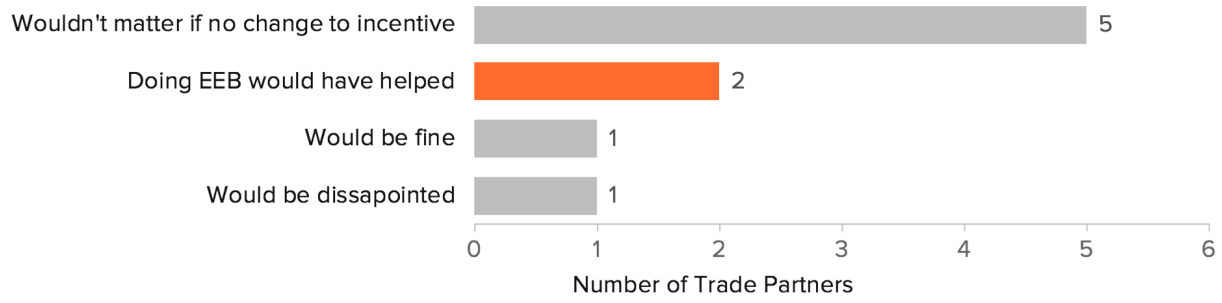
Table 3-4. Data Sources Used to Inform EDA and EEB Screening.

Research Questions	Data Source		
	Participant Survey	Trade Partner Interview	Peer Program Interview
What are strategies to screen projects between EEB and EDA?	X	X	
How would market actors respond to enrolling projects to EEB?	X	X	
Would trade partner engagement be retained?		X	

Only 3 of the 14 trade partners interviewed knew about the EEB track before the evaluation interview. After the interviewer described the program, only one trade partner said they would be disappointed if the project applied to EDA and was approved for EEB instead. The other eight trade partners responded favorably to a potential shift to EEB. Five trade partners reported the program track would not matter as long as the customer received the same incentive and one trade partner said the switch "would be fine". Interestingly, two trade partners said doing EEB would have helped the project, as highlighted in (Figure 3-14). These trade partners said that one

"customer found the EDA process difficult" and that they had "troubles getting customers to participate early enough."

Figure 3-14. Trade Partner Response to Having Projects Approved for EEB Instead of EDA.



While most trade partners had not heard of EEB, five customers indicated they previously participated in the EEB track. One customer even commented how they were originally going to apply to EEB for the project interviewed for this evaluation but that, when the implementer explained the modeling component, the participant ended up enrolling into EDA instead.

The majority of customers (87%) also reported they would be interested in participating in the EEB product. Some customers discussed how EEB would be good if it could simplify the process and reduce turnaround time while still offering the same rebate amount. Two customers discussed how anything that "made it more time-efficient" would be appreciated. Seven participants discussed how EEB would be a good fit for smaller projects or renovations, but that they would prefer to receive modeling for new construction and larger projects.

Trade partners cited three reasons they would choose to enroll a project into EEB: (1) if the project were too small for EDA, (2) to meet project schedules (i.e., they tried enrolling into EDA too late), or (3) for projects of a type or scale where energy modeling doesn't make sense, such as in renovations. This aligns with how peer utilities screen projects into their different tracks; three of the four peer programs offer different tracks and use project size as their main sorting criteria. Other criteria peer utilities use to screen projects into their tracks include:

- Two programs consider how early in the design process the building enrolls, meaning if a project enrolls later in the process, it goes down the prescriptive path and does not receive modeling.
- One program looks at the savings goals, where an engineer decides based on the conversation during the kick-off meeting whether a systems (prescriptive) or whole building (modeling) approach is more appropriate.

Trade partners reported they would miss the following elements from EDA for projects enrolled into EEB instead:

- Energy modeling (5 of 9)
- Design team meetings (1 of 9)
- Putting a cost to energy efficiency (1 of 9)
- Three bundles for savings (1 of 9)
- The detailed report on energy use, fixture types, and cost savings over time (1 of 9)

In addition to reporting they would miss the modeling component on EEB projects, most trade partners (8 of 11) stated they think energy modeling is a key part of the program track. However, trade partners also believe energy modeling has mixed importance on customer decision making. Only six (of 11) trade partners said energy modeling positively affects their clients' decisions on what equipment to install. When asked how their clients would react to receiving analysis and recommendations without the energy modeling, half said it would not change customers' actions. Similarly, half of the trade partners said the number of projects they would complete through the product wouldn't change, and half also didn't believe the amount of energy efficiency installed in projects would change if modeling was no longer a part of the product.

Customers also reported mixed importance of modeling on their decision to install energy efficient equipment, as shown in Figure 3-15. Some customers rated the influence of modeling on their decision highly, while others rated it fairly low. Overall, as shown previously in Figure 2-3, customers rated the influence of modeling in the middle, with six factors rated higher in importance and seven factors rated lower in importance. The customers who rated the importance of modeling highly indicated modeling helped them identify what they could do in their buildings and reaffirm energy savings.

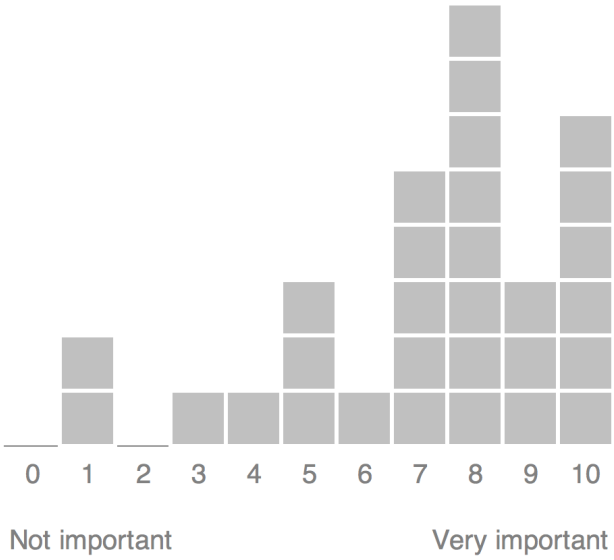
When asked what was helpful about the modeling, market actors gave the following responses:

- One customer and two trade partners said it helped to bring everything down to a monetary value.
- Two customers said it helped to get everyone on the same page and communicating.
- One customer said the third-party modeling justified their decisions.
- One customer said the options presented went beyond their normal way of thinking.

It appears that energy modeling helps facilitate discussion and the decision-making process, but it may not help identify more measures or change what is implemented in projects.
When asked how the modeling could be improved so that it could be more helpful, market actors gave the following responses:

- Two trade partners said the modeling is too complicated to understand and that results need to be simplified.
- One customer and one trade partner wanted the modeling to be less "black box."
- One trade partner wanted the modeling done earlier in the project timeline.

Figure 3-15. Customers' Rating of the Importance of Modeling on their Decision to Install Efficient Equipment



Peer utilities also reported modeling has mixed importance to their customers. One utility representative explained, "Not all of our customers want [the modeling], although many do, and they appreciate it." Another utility representative reported, "Some [customers] find it valuable, some find it tedious." Three of the peer utilities reported that energy modeling is completed by the trade partner. One of these programs uses open modeling; one program used to be open modeling but now only accepts LEED energy models; and the third program requires customers to use a pre-qualified trade partner to complete the modeling. The fourth peer utility has the implementer conduct the modeling in a similar fashion to EDA. However, this utility discussed how they are considering eliminating the modeling component of the program in the future. They want to improve the cost-effectiveness for their program and wonder if the modeling is worthwhile, given they have a Technical Reference Manual (TRM) in their service territory.

3.8 Impact of Design Team Incentive

The primary goal of this objective was to understand if the design team incentive is still the most effective mechanism to engage design teams with the product. The design team incentive was developed to compensate design teams for their time participating in the product (e.g., participating in meetings, completing paperwork, etc.), and this objective was intended to understand if the incentive is operating as intended or if a different mechanism would be more effective.

Of the trade partners who applied for the design team incentive, all of them consider it payment for time participating in the product. Most find the incentive value in-line with their time spent and no trade partners were interested in non-monetary incentives.

Information from the following sources informed the findings related to this research objective.

Table 3-5. Data Sources Used to Assess the Impact of the Design Team Incentive

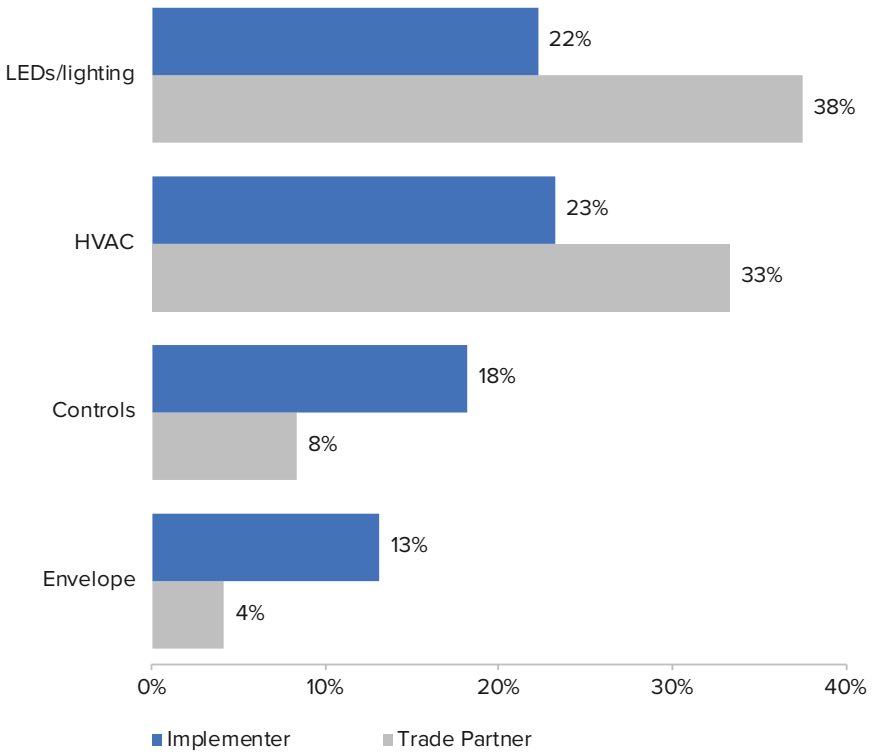
Research Questions	Data Source		
	Participant Survey	Trade Partner Interview	Peer Program Interview
Is the design team incentive still effective?		X	X
Would a different (i.e. non-monetary) incentive be better?		X	

Of the 15 trade partners interviewed, four did not apply for the design team incentive. One of them thought the design team incentive was only for the architect and one reported billing their time spent on participating in EDA to their client.

Of the ten who applied for the design team incentive, all of them consider it payment for their time spent participating in EDA. Seven of the trade partners who received the incentive believed the amount was generally in-line with the value of the time spent. However, two trade partners believed the dollar amounts to be outdated, especially for larger A&E firms with higher billing rates. One trade partner said they find "smaller projects are harder to meet the costs." None of the trade partners were interested in a non-monetary incentive, such as an award, public recognition, or case study.

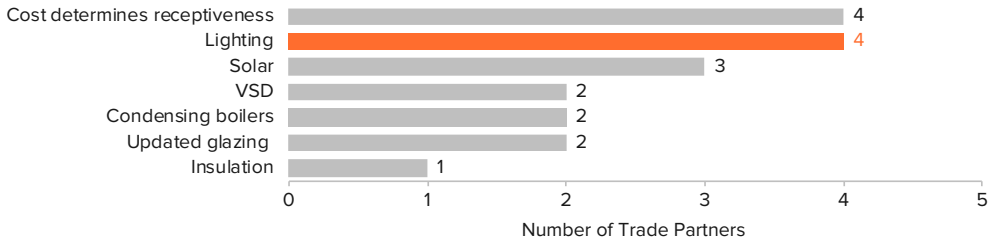
During staff interviews, product staff expressed concern that the implementer and trade partners are recommending the same measures over and over, missing key opportunities for additional energy efficiency. To explore this concern, the evaluation team asked trade partners if they recommend measures to their clients prior to the design review meeting. For those that said yes, the measures they recommend are shown in Figure 3-16, below. The evaluation team also asked participating customers and trade partners what measures were recommended by the implementer. The overlap between the two does support the hypothesis there is some repeating of recommendations between projects and that the trade partner incentive might not be incentivizing trade partners to support implementation of more aggressive bundles or different types of recommendations.

Figure 3-16. Measures Recommended by Trade Partners and the Implementer



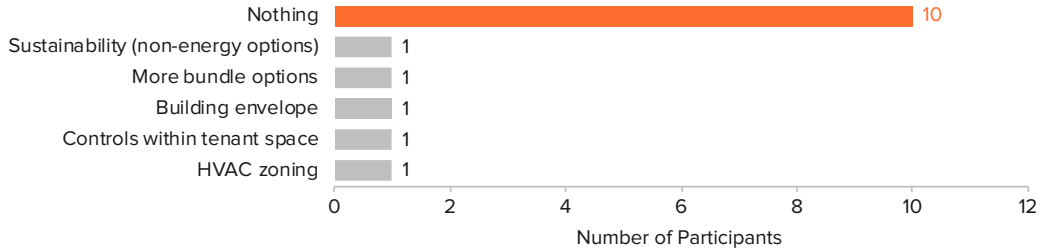
Trade partners reported they believe their customers are open to having different types of equipment recommended. While several reported that costs determine customers' receptiveness to recommendations, trade partners also reported they thought customers were receptive to having lighting, solar, variable speed drives (VSDs), condensing boilers, glazing, and insulation recommended (Figure 3-17). One participant reported that "LEDs are a slam dunk."

Figure 3-17. Equipment Recommendations Trade Partners Believe Customers Are Receptive to Receiving



However, when the evaluation team asked participants what equipment they would like to have recommended, the majority responded there was nothing missing from the current types of recommendations (Figure 3-18). However, customers may not know what they are missing if different types of measures are not recommended.

Figure 3-18. Equipment Customers Want Recommended



Of the peer utilities interviewed, two of them offer a design team incentive. In one program, the lead design firm gets 10% of the customers' incentive value. The customer incentive is structured into three tiers where the incentive is scaled for higher savings. The program manager reported that "this incentivizes the design firms to promote high-yield packages." This is also the program that has an implementer that does the modeling, similar to the EDA Product. The second program offers the design team 33% of the customers' incentive. This is the program that does implementation internally (i.e., no implementer), but requires the trade partner to do the energy modeling.

A third program used to offer a design team incentive but has recently phased it out. They reduced the incentive from $25,000 to $12,000 and eliminated it in 2017. The program manager, however, reported that, as the design team incentive was reduced, participation "dropped off pretty significantly," going from 15-20 projects before 2017 to 1-2 projects after 2017.

3.9 Peer Utility Benchmarking

The primary goal of this objective was to compare Xcel Energy's product requirements and incentive structure to benchmark utilities' program requirements and incentive structures. While the evaluation team was only able to interview four peer utilities, we supplemented the information in this section with publicly available information from our secondary literature review of programs identified in the evaluation plan. Xcel Energy's requirements around building type, building size, minimum savings achieved, and other eligibility requirements are in-line with other programs.

The Xcel Energy Business New Construction Product's incentive levels are low compared to some peer utilities included in this research. The structure of Xcel Energy's incentive is also different than most peer utilities, in that peer utilities offer tiered incentives for different tracks or increased incentives for increased level of achieved savings. The other aspects of the Xcel Energy product are similar to peer utilities, with the exception of having different implementers for the EEB and EDA tracks. Peer utilities have one implementer for all tracks. Information from the following sources informed the findings related to this research objective.

Table 3-6. Data Sources Used to Assess Peer Utility Program and Incentive Structures

Research Questions	Data Source		
	Participant Survey	Trade Partner Interview	Peer Program Interview
How does Xcel Energy's program requirements compare to peers?			X
How does Xcel Energy's incentive structure compare to peers?			X

All the peer utilities interviewed reported similar implementation strategies to the Xcel Energy product. They all focus marketing and outreach activities of trade partners through events such as conferences, The American Institute of Architects (AIA) meetings, webinars, and tracking construction starts in order to have staff approach those projects. One peer reported recently starting to target customer engagement as well. As previously reported, three of the programs use an implementer, and one operates the program internally. None of the peer utilities have different implementers for different tracks. Only one peer utility shared implementer compensation; administration is a fixed flat fee, while technical assistance, outreach, and marketing is based on time and materials.

The evaluation team found some peer utilities offer higher incentives than the product's current incentive level (Appendix F). The minimum incentive level found in peer utilities is $0.07/kWh. In some cases, the incentive level is significantly higher than the Xcel Energy Business New Construction Product's current incentive level; six of the eleven utilities offer incentives above $0.20/kWh and one offers up to $0.40/kWh. Additionally, during the staff interview with the implementation contractor, they reported that some non-participants felt the incentive was not high enough to warrant their participation.

The key program requirements of peer utilities and Xcel Energy are shown in

Table 3-7 below. Xcel Energy's requirements around building type, building size, minimum savings achieved, and other eligibility requirements are in-line with other programs. The requirements to define a "small" building (i.e., relative to EEB) are in the middle of peers' requirements; four utilities have smaller size thresholds, two have the same size threshold (50,000 SF), and one has a higher threshold. Similarly, Xcel Energy's requirements on the minimum savings is also in the middle of peer utilities' requirements; two have a lower requirement, two have the same requirement, and two have a higher requirement. One utility, Utility E, does not allow for a direct comparison as their values only apply to lighting.

Table 3-7. Peer Utility Program Requirements

Utility	Building Types	Size Constraints	Other Eligibility	Min. Savings
Xcel Energy	New construction, additions, or major renovations	<50,000 sq ft for EEB >20,000 sq ft for EDA Standard >50,000 sq ft for EDA Enhanced	Third party verified green building certification for EDA Enhanced	EEB must include at least 2 measures >5% for EDA Standard >30% for EDA Enhanced
Utility J**	New construction or major renovation	>5,000 sq ft	"Applications submitted early in design process" "significant upgrades to two end-uses" Equipment must be operational for 5 years	>1 measure
Utility I**	Non-residential buildings only	>20,000 sq ft		>10% better than code
Utility H	New construction, additions, or major renovations	>5,000 sq ft	Must include mechanical system replacement	>5% better than code
Utility G**		P4P>50,000 sq ft Smart start<50,000 sq ft or those that want simple project		MF>15% better than code C&I>5% better than code
Utility F	New construction or major renovation	>75,000 sq ft	Projects with accelerated design or building schedules not eligible	>20% better than baseline interior lighting >10% better than ASHRAE 90.1-2010
Utility E	New construction, addition, major renovation, or "major change in occupancy type"	>10,000 sq ft interior lighting >20,000 sq ft exterior lighting	Pre-approval before buying equipment	Total connected lighting load >35% better than 2015 Energy Code allowance
Utility D		Technical assistance <50,000 sq ft Comprehensive design >50,000 sq ft		

*** indicates peer utilities that were interviewed*

4. CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the evaluation team's key findings and associated recommendations regarding the Xcel Energy Business New Construction Product in Minnesota. 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 research team found the Business New Construction Product has strong influence on the new construction market. The product is working well as-is, and the recommendations below are suggested only to improve an already high-performing product.

During the interviews, customers were asked for suggestions on how to improve the product. Their responses including paying rebates in increments to support customer payments to contractors, offering higher incentives to encourage higher efficiency measures, having a comparison tool that provides an easy way to choose equipment suitable for multiple buildings, fewer people required to attend the meetings, including building envelope measures, including customers on the final walk-through, and including sustainability measures such as solar and storm water harvesting equipment. Where possible, the evaluation team has considered these suggestions as part of our formal recommendations.

Specific findings and recommendations follow.

- **Key Finding 1: The new construction market in Minnesota is receptive to the Energy Efficiency Buildings (EEB) program.** While most of the customers and trade partners interviewed were unaware of EEB before the interview, the majority of them were interested in EEB after it was described to them. Eight of the nine trade partners said it might be ok if their projects were enrolled into EEB instead of EDA, two even saying doing EEB for the project the interview discussed would have been helpful. Customers were similarly interested in EEB, reporting a simplified process for time or cost-constrained projects would be useful. Shifting appropriate projects from the EDA track to the EEB track should improve the cost-effectiveness of those projects.
    - **Recommendation 1A: Promote EEB to gain higher market awareness.** Product staff should target outreach efforts to trade partners and customers in order to increase their awareness of the EEB program track. Outreach efforts should focus on communicating the value of EEB for projects that are smaller, time or cost-constrained, or have simplified systems.
    - **Recommendation 1B: Begin shifting appropriate projects to the EEB program and track satisfaction and savings to identify and mitigate possible negative ramifications early.** Trade partners reported they would screen projects based on project size, stage in the design process, and whether the building needs energy modeling while peer utilities use size and complexity of equipment as their factors for screening projects between tracks. The evaluation did not uncover additional screening criteria or tools used to screen projects into program tracks. This confirms the current EEB screening criteria (small buildings or those buildings with simple systems that do not need whole building energy modeling) are the

correct screening criteria to use to determine which program projects should be enrolled in. Product staff should also continue allowing projects to self-select into the EEB track regardless of size or complexity of systems. Additionally, we recommend Xcel Energy product staff more actively manage which tracks participants enroll into, instead of relying on customers, trade partners, or the implementer to self-select projects into the appropriate track. This may involve reviewing project criteria with market actors and implementing this recommendation in conjunction with Recommendation 1A and 1C to ensure holistic changes are made and that participation by EEB eligible projects is not negatively impacted.

- **Recommendation 1C: Adjust implementer compensation structure to support and motivate them to shift appropriate projects to the EEB program.** Currently, the EDA implementer is the primary party responsible for recruiting and enrolling projects into the Business New Construction programs. Further, they are paid per square foot for projects that go through EDA, which incentivizes them to send all projects, regardless of fit, through the EDA track. To better motivate the EDA implementer to enroll projects into the appropriate program track, they could be offered a bonus for enrolling projects into EEB.

  Product staff should also consider changing implementer compensation to be dependent on achieved savings, as opposed to square footage. Combined with an EEB enrollment bonus, this would shift their focus to examining potential projects' cost-effectiveness in the EDA and EEB track as opposed to simply enrolling everyone into EDA. Also, having an incentive based on square footage does not motivate the implementer to encourage customers or trade partners to implement additional measures or measures with higher levels of savings. Shifting implementer compensation to be based on achieved savings would not only align their compensation to customers' incentives, but it would also motivate implementers to focus on the outcomes of projects.

- **Key Finding 2: The design team incentive is not motivating them to recommend more or different measures**. However, eliminating or reducing the incentive may have negative impact on the product. Of the trade partners who applied for the design team incentive, all of them consider it compensation for their time spent participating in the product. However, the evaluation did find some evidence that the recommendations made by the trade partners and the implementer are fairly similar within projects and between projects. Part of the point of the design team incentive was to incentivize trade partners to encourage their clients to do more and different types of efficiency, which it is not currently doing. Lastly, product staff noted the design team incentive is an expensive component of the product, especially if it's no longer effective. However, based on the experience of peer utilities interviewed, the evaluation team does not recommend eliminating the incentive as that could drastically reduce product participation.
  - **Recommendation 2: Continue offering the trade partner incentive but consider changing the structure to incentivize higher savings and a broader set of recommendations.** The current design team incentive is based on project square footage. Trade partners that reported dissatisfaction with the design team incentive said it's hard to cover their costs for smaller buildings, indicating that it may not take less time to participate for smaller buildings than with larger buildings.

Having an incentive based on square footage also does not motivate trade partners to encourage their customers to implement additional measures or to achieve higher levels of energy savings. Therefore, product staff should consider changing the design team incentive to be based on achieved savings. This would also align the product with the design team incentive structures found in peer utility models. Product staff could also consider offering a bonus incentive to encourage the adoption of technologies that are proven, yet not routinely installed.

- **Key Finding 3: While more aggressive recommendations would not negatively impact participation, it would be unlikely to yield substantially higher implementation rates.** The primary constraint to additional savings is a shortage of up-front capital, not a lack of recommendations.
    - **Recommendation 3: Investigate creating tiers for the customer rebate based on savings levels.** Trade partners and customers were fairly unilateral in their feedback that cost is the driving factor for why they do not currently implement more measures or measures with higher savings, and why they would not consider doing more in the future. The main way the product can support customers to implement more savings is to continue to offer them compelling rebates. Product staff could consider changing the customer incentive structure to offer higher incentives for higher savings levels. This would encourage customers to implement more measures and help compensate them for the additional cost of the higher savings. Of the nine peer utility programs with publicly available incentive information, eight of them offer higher incentives for projects that achieve higher levels of savings. Product staff could also potentially investigate including a bonus incentive for very high levels of savings or new types of measures or technologies.

- **Key Finding 4: There may be new construction customers in Xcel Energy's service territory not being served by the Business New Construction Product.** The majority of the trade partners interviewed for this evaluation reported they make energy efficiency recommendations to non-participating customers. However, without talking to non-participating customers, this evaluation was unable to determine how many of those recommendations were actually installed in non-participant buildings. Additionally, the evaluation found some evidence of market effects that would be better substantiated and quantified by non-participant research.
    - **Recommendation 4: Conduct non-participant research.** The goal of this research would be to better understand the characteristics of non-participants and to utilize those characteristics to understand possible engagement strategies, their barriers to participation, and their motivation. The research should also seek to understand and quantify the degree to which there is non-participant spillover and product market effects. Xcel Energy could use the findings from this research to target non-participating buildings with new offerings, limiting lost opportunities and increasing product savings. There are a few ways Xcel Energy could identify non-participants for this research including but not limited to working with trade partners to identify and engage current or past non-participants, reviewing Dodge Data, purchasing construction start data, or analyzing construction permit data for potential participants or new trade partners (if not already done).

- **Key Finding 5: The evaluation results were inconclusive as to how much value engineering occurs in the Minnesota new construction market.** The concept of value engineering is well-known in the new construction market. Both trade partners and customers discussed how cost is the primary driver for decision making and is the main barrier against achieving greater levels of efficiency. Based on our work with non-participants and near-participants for other utilities, the evaluation team believes that even though trade partners recommend energy efficient equipment to non-participants, there is a high likelihood that most of those recommendations are taken out along the way due to value engineering. The evaluation also found some evidence of value engineering in participant projects. However, product staff assert that previous CD reviews have found no evidence of value engineering and that, in fact, many projects achieve higher levels of savings than planned. This indicates that if there is value engineering in participant projects, they are making up for it elsewhere.
    - **Recommendation 5: Future research should evaluate the prevalence of value engineering in the Minnesota new construction market and better understand the role the product has on preventing value engineering, if found.** When the evaluation team looked at participant-level results we saw that incentives help keep measures in the plan. However, based on the data collected for this evaluation, staff interviews, and the evaluation teams' previous experience in the new construction market, combined with the fact we did not interview non-participants in this evaluation, we cannot conclusively determine the extent of value engineering or the impact of the product on reducing value engineering. The results of the non-participant research suggested in Recommendation 4 could also support this recommendation. If significant value engineering was found in non-participant projects, it means Xcel Energy may have additional influence on participant projects that is not currently captured in the NTG or market effects. Future NTG research should investigate this further to better understand the influence of the product.

- **Key Finding 6: Feedback from the market and a comparison of peer utility incentive levels indicate there's opportunity to increase Xcel Energy's incentive levels.** The evaluation found that the primary barrier for customers to implement more efficiency is a shortage of up-front capital and that a possible barrier for non-participants is that the incentive level does not support the time it takes to participate (this would need further investigation through Recommendation 4). Additionally, Xcel Energy's incentive levels are below those offered by some peer utilities.
    - **Recommendation 6: Investigate raising customer incentives.** Customers and trade partners unilaterally discussed cost and the availability of up-front capital to be their biggest barriers for implementing more measures and achieving higher savings. Customers and trade partners reported being highly-motivated by the incentives, and the incentives appear to reduce the effects of value engineering in the market. Additionally, during the staff interview with the implementation contractor, they reported that some non-participants felt the incentive was not high enough to warrant their participation. Given how much higher the incentive levels are for some peer utilities, product staff should consider increasing the base customer incentive to encourage and support customers to do more and increase overall product savings.

- **Implement recommendation 3.** In addition to increasing the base incentive level, product staff should consider implementing a tiered customer incentive to offer higher rebates to customers that achieve higher savings. Eight of the eleven peer utilities investigated have this type of tiered incentive structure. This recommendation is especially important for the EDA Enhanced track, which has much more stringent requirements but does not receive additional compensation, especially considering the evaluation team heard from a trade partner they recommend against customers participating in EDA Enhanced as they'd lose incentive money.

EMI CONSULTING

Xcel Energy Minnesota Business New Construction Product 2018

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APPENDICES

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APPENDIX A: EVALUATION PLANNING DOCUMENTS

A.1 Evaluation Plan

To support the process and impact evaluation of the 2017 Xcel Energy efficiency programs, the EMI Consulting evaluation team will be conducting a process and impact evaluation of the Xcel Energy MN Business New Construction product. This memo provides an updated plan for the 2018 Xcel Energy MN Business New Construction product evaluation based on the original scope of work, staff feedback during the evaluation kick-off meetings, and staff interview findings.[1] This evaluation plan includes the following sections:

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

Product Overview

The Minnesota Business New Construction product helps commercial and industrial customers design and construct buildings that achieve energy savings beyond the Minnesota State Energy Code (currently ASHRAE 90.1 – 2010) by offering an integrated design process and monetary incentives for new construction, building additions, and major retrofits. Available since 1993, the Business New Construction product currently includes two programs:

- **Energy Efficiency Buildings (EEB)** is designed for small buildings or those buildings with simple systems that don't need whole building energy modeling. EEB offers prescriptive incentives for a comprehensive list of typical energy efficiency measures including heating, cooling, and motors as well as custom incentives for other equipment.
- **Energy Design Assistance (EDA)** offers two tracks.
    - EDA – Standard provides energy expertise during the design phase of non-residential new construction and major renovation projects. EDA services include whole building real-time energy modeling of opportunities, "bundling" of energy efficiency strategies into packages of measures which are analyzed for their net effect on the building energy use, a design professional incentive, and incentives for building owners.
    - **EDA Enhanced** is for customers interested in obtaining sustainable building certification and provides the same services as EDA - Standard as well as earlier analysis in daylighting, HVAC, and massing.

Current incentives and eligibility requirements for the tracks are shown in Table 1 below.

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

Table 1. Current incentive levels and eligibility requirements.

Eligibility Requirements	EEB	EDA Standard	EDA Enhanced
Incentive	Custom and prescriptive per measure	$400/kW, $0.04/kWh, $4/Dth	$400/kW, $0.04/kWh, $4/Dth
Square footage	<50,000	>20,000	>50,000
Application timing	Prior to equipment bidding stage	Schematic design or early design development	Pre-design or schematic design
Savings commitment	Must include at least 2 measures (lighting, HVAC, etc.)	5% (kW, kWh and/or Dth)	30%*
Proof of registration	n/a	n/a	3rd party verified green building certification (LEED, U.S. GBC, etc.)

*If projects don't meet the 30% requirement, Xcel Energy reduces the incentive by $20 per 1% lost until $300/kW is reached.

Together, the product achieved 53 GWh and 1,261 Dth of total savings in 2017. (Table 2).

Table 2. 2017 Business New Construction savings by product

Program	Units		Customer kW		Customer kWh		Customer DTherms	
	Qty	**% of total**	**Qty**	**% of total**	**Qty**	**% of total**	**Qty**	**% of total**
Energy Efficient Buildings	60	41.6%	1,708	13.9%	7,599,786	13.4%	20,767	18.5%
Energy Design Assistance	84	58.4%	10,621	86.1%	49,294,893	86.6%	91,715	81.5%
TOTAL	**144**	**100%**	**12,329**	**100%**	**56,894,679**	**100%**	**112,482**	**100%**

[a] This is the population of participants receiving rebates between January and December 2017. These numbers are based on data provided to EMI Consulting in May 2018.

Prior to January 1, 2017 EDA had three tracks –EDA quick, EDA basic, and EDA enhanced. Due to the development of NEO, an online real-time modeling tool, Xcel Energy made several changes to the product in 2016 and 2017:

- In 2016 Xcel Energy started using NEO for quick projects.
- Starting January 1, 2017 NEO was used for nearly all projects. Complex projects or projects that implement measures not included in the NEO tool are still modeled using File Builder, the older non-real-time modeling tool.
- After January 1, 2017, the EDA quick and EDA basic tracks were merged into the current EDA standard track.
-

- These program changes are an important distinction for the evaluation as participants who started projects before 2016 stayed in the old tracks. Therefore, standard track participants who closed a project in 2017 or 2018 may have followed the old standard track which did not include real-time modeling. As such, their feedback on items such as barriers, experience, and satisfaction will need to be taken in context with the program design they experienced and extrapolated to the current program design[2].

The Product is also considering possible modifications for future cycles:

- Product staff are considering modifying product implementation and/or eligibility for specific product tracks so as to engage a higher percentage of participating buildings via the EEB track. The goal with this modification is to "right-size" the program offering.

As is seen in Table 2, the majority of the Business New Construction savings is derived from the EDA tracks. As such, this evaluation will focus on the EDA tracks and will not include an evaluation of the EEB track.

Evaluation Overview

The 2018 evaluation will consist of a process evaluation and an impact evaluation. The process evaluation will focus on customer and market actor experiences with the product, while the impact evaluation will focus on estimating a net-to-gross (NTG) ratio. This section presents the objectives of the two components of the evaluation. It is followed by a more detailed description of the evaluation activities.

Process Evaluation

The evaluation team discussed process evaluation priorities during the kickoff meeting[3], staff interviews[4], and influence mapping workshop[5]. During those conversations, several themes emerged surrounding customer experiences and cost-effectiveness:

- The product team would like to improve their understanding of **customers' and trade partners' experiences and motivations** related to their participation in the product. This includes understanding how the product provides value to these market actors, and why they choose to participate.
- Xcel Energy would like to influence participants to **choose measures that yield greater net benefits overall**, and especially those measures that have synergy with Xcel Energy's generation profile (e.g., measures that reduce load primarily during times of day when energy from renewable generation assets is limited).
- The product implementer has indicated that taking a stronger stance and **more actively promoting these higher-yield measures as well as more measures would likely harm their relationships** with participating design teams and reduce overall participation. The Xcel Energy product team would like to determine if this is true and, if it is, investigate ways it might be overcome.

[2] It is noted that participants may not know what track they were in. EMI Consulting will work with Xcel Energy to try to identify customer tracks ahead of survey interviews.
[3] Held at the Xcel Energy Minneapolis office on February 13th, 2018.
[4] Staff interviews took place in March and April 2018.
[5] Held at the Xcel Energy Minneapolis office on April 6th, 2018.

- As the product switches its goals to cost-effectiveness metrics, **there is a desire to enroll projects into the most cost-effective track**. However, the implementer is not incentivized to do this and there is some concern as to how the market would respond to this shift.
- The **design team incentive** was developed to compensate design teams for their time participating in the product (e.g., participating in meetings, completing paperwork, etc.). The product team would like to know if this incentive is operating as intended) or if a different mechanism would be more effective.

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

- Understand what motivates Architect and Engineer (A&E) firms and customers to participate in the product.
- Assess the customer experience to understand what is working well, what they find are the most important or valuable aspects of the program, and to identify potential offerings (commissioning, continuous monitoring, benchmarking, etc.) that might improve their experience, or they would like to see included in the product.
- Assess the A&E experience to understand what is working well and what they find are the most important or valuable aspects of the program.
- Assess market actor satisfaction with the product.
- Identify what would motivate market actors to implement more measures.
- Test the hypothesis that more aggressive efficiency recommendations by the implementer would negatively impact product participation and that more recommendations would result in higher implementation rates.
- Identify possible strategies to more effectively screen and enroll projects into the EEB and EDA tracks while retaining A&E firm engagement.
- Understand if the design team incentive is still effective or if there is a different mechanism that would be more effective.
- Compare Xcel Energy's program requirements and incentive structure to benchmark utilities' program requirements and incentive structures.

Impact Evaluation

The objective of the impact evaluation of the Business New Construction product is to develop a net-to-gross (NTG) ratio documenting the extent to which program activities influenced customers' energy efficiency decisions. The evaluation team proposes to use in depth interviews with participants to estimate the Business New Construction product NTG, along with additional qualitative input from design professionals. Accordingly, the **objectives of the impact evaluation** include:

- Estimate an NTG ratio documenting the program's influence on customers' decisions.
- Assess market effects of the Minnesota Business New Construction Program.

Data Collection Activities and Sampling Plans

To meet the above objectives, we will conduct a variety of data collection activities. These are listed in **Error! Reference source not found.** and explored more in this section. The evaluation team conducted interviews with Xcel Energy staff members as well as staff members from the EDA implementer to understand specific evaluation needs and to inform research (Task 1). The team also led an influence mapping session with product staff (Task 2). To explore the relationship between the product and Minnesota state legislation in

order to assess potential market effects and spillover the evaluation team will conduct a small number of early interviews with trade partners (Task 3), followed by phone surveys with participating customers (Task 4). These surveys will inform prospective and retrospective NTG estimates, as well as research questions around customer and design professional experience, what product services are most valuable to customers, and what might motivate customers to install greater net benefit measures. The evaluation team will also conduct phone interviews with participating trade partners (Task 5) to understand how these market actors participate in and are impacted by the Business New Construction Product. Lastly, we will benchmark the program against six peer utilities, assessing plans for future program designs and NTG estimates (Task 7). **Error! Reference source not found.** outlines each research task and the associated research objectives; details on each data collection activity are provided in the sections that follow.

Table 3 Business New Construction Research Summary.

Task Ref.	Research Task		Sample Size	Research Objective(s)
1	Staff Interviews		6	Inform evaluation plan, NTG
2	Influence Mapping		-	Program understanding, inform research objectives, inform evaluation plan
3	Early Trade Partner Interviews		2-4	Inform evaluation plan, NTG, market effects
4	Participant Surveys		30	Motivation for participation, product experience, product satisfaction, implementing higher net benefit measures, attitudes toward higher-yield recommendations, NTG, market effects
5	Trade Partner Interviews – Second Round	Participating partners	15-20	Motivation for participation, product experience, product satisfaction, implementing higher net benefit measures, attitudes toward higher-yield recommendations, strategies to screen projects, impact of design team incentive, NTG, market effects
6	Peer Utility Benchmarking		6 utilities	Compare program and incentive structures, impact of design team incentive

Staff Interviews

In March and April 2018, the evaluation team interviewed four Xcel Energy staff and two IC implementers to inform this evaluation plan, discuss program goals, and review program processes, challenges, and successes. Xcel Energy staff members interviewed were the current product manager and team lead, the product's marketing assistant, and one engineer who supports the product, as well as the outreach lead and program manager at the implementer firm. These interviews were conducted over the telephone and took between 45 minutes and one and a half hours to complete. These meetings, combined with the kickoff meeting and influence mapping workshop, allowed the evaluation team to create a focused evaluation plan and data collection activities.

Influence Mapping

To support the process and impact evaluation of the 2017 Xcel Energy efficiency programs, EMI Consulting created an influence map documenting the influences the Business New Construction Product is intended to have on the market, the barriers that may impede these influences, and the activities intended to create market

changes. To construct this influence map, the research team identified key topics drawn from the product evaluation kick-off meeting and staff interviews and facilitated a workshop on April 6th, 2018 with key product staff to identify the specific influences, activities and barriers to represent in the map.

Early Trade Partner Interviews

The state of Minnesota has had legislation requiring energy efficiency in state buildings since 1991. The current legislation is SB 2030, which requires all state-bonded Minnesota buildings to meet specific energy efficiency targets. SB 2030's mission also includes training architects to incorporate performance standards in building design and incorporating the performance standards in utility conservation programs. Due to this legislation, the evaluation team and Xcel Energy believe there is some risk that market actors will credit energy efficiency updates to the existence of the legislation and/or they would have taken the same actions because of the legislation (i.e. market actors implementing efficiency in non-SB 2030 projects because of their experience in SB 2030 projects), potentially increasing free-ridership. We also believe there is risk that portfolio managers would apply SB 2030 requirements across their portfolio, so they don't have to manage two sets of requirements, especially as funding cycles vary. While staff believe the existence of the product enabled the passage of the legislation (i.e. measured as market effects), in fact the legislation in some form has existed during the entirety of the Business New Construction product.

The evaluation team will conduct 2-4 early trade partner interviews (ahead of the trade partner interviews discussed below) to explore the relationship between the product and the state of Minnesota legislation. The purpose of these interviews is to determine the extent to which there may be market effects or spillover as a result of the legislation. If the evaluation team determines market effects or spillover may exist, then this evaluation plan, the surveys discussed below, and the NTG approach will be modified to include additional research and questions to qualitatively, and, if possible, quantitatively, describe the effects.

Participant Surveys

The evaluation team will utilize participant surveys to meet both process and impact objectives. These surveys will focus on the following topics: Motivation for participation, product experience, product satisfaction, implementing higher net benefit measures, attitudes toward higher-yield recommendations, NTG, and market effects.

- Customer motivation for participation: The evaluation team will identify customers' motivations for participating in the product, focusing on identifying product strengths and opportunities for the product to grow so as to better meet customers' needs.
- Product experience: The evaluation team will assess customers' experience using the product to understand what aspects are working well, what aspects they find most valuable, and to identify potential offerings (commissioning, continuous monitoring, benchmarking, etc.) that might improve their experience, or they would like to see included in the product.
- Product satisfaction: The evaluation team will assess customer satisfaction with the product to understand if they feel they got their value out of it and if the product met their expectations.
- Implementing more measures: While exploring customer motivation, the evaluation team will explore what might motivate customers to implement more measures. We will also explore how energy modeling affects their decision to install equipment and what would motivate customers to do more.

- Attitudes Toward More Recommendations: Using self-reported survey data, the evaluation team assess the validity of the hypothesis that promoting more measures would decrease product participation and that more recommendations would result in higher implementation rates.
- NTG: The team will ask questions on program attribution, or the impact the program had on customers' decision to implement energy efficiency measures because of the Xcel Energy Business New Construction program.
- Market effects: Through the interviews, the evaluation team will seek to understand what impact the product and state legislation has had on the market.

The evaluation team plans to survey 30 participants. EMI Consulting received two customer lists from Xcel Energy: Those customers who have received their rebate in 2017 and 2018 and those who have not yet received their rebate. We will divide each of those groups into "high savers" and "low savers" based on the median kWh value for that list. We will then use Table 4 to achieve the target number of completed participant interviews within each customer group (received/not received a rebate) and savings group (high/low). EMI Consulting will strive to meet these target completes. However, the list provided for not yet received their rebate is fairly small (108) so we may have to take additional cases from the older projects, or those that have already received their rebates.

By taking 20 cases from the "not yet received rebate list" we are prioritizing more recent participants who will likely have a better memory of their experience and more participants who have experienced the new program design using NEO. Splitting each group into high savings and low savings groups will ensure we interview projects that would have the most influence in a weighted average NTG calculation (high savers) while also collecting information for the research objectives around identifying possible motivations to get customers to implement more and to test market actor response to more recommendations.

Table 4. Target completes for participant interviews

	Already Received Rebate	Not Yet Received Rebate	Total
High Savings	5	10	**15**
Low Savings	5	10	**15**
Total	**10**	**20**	**30**

EMI Consulting and Xcel Energy considered multiple approaches for how to best account for the presence of SB 2030 projects in the population. The hypothesis is that SB 2030 projects would have lower NTG scores than non-SB 2030 buildings so an over-representation of SB 2030 projects in the sample could bring down the overall NTG score. Xcel Energy does not specifically track which projects are SB 2030 projects. Therefore, the evaluation will use the function of a building (i.e. government buildings) as a proxy for SB 2030 buildings in the population and will ask participants within the sample if they were required to meet SB 2030 standards. This should allow us to determine a fair weighting for the NTG score. Lastly, we will also have an indicator for whether projects were in the EDA – standard or EDA – enhanced track so we can examine if there are any correlations with track and NTG. Neither the SB 2030 project proxy nor the track indicator will affect the sampling plan, they will be used only for analysis and weighting purposes.

Trade Partner Interviews (Design Team Professionals)

The evaluation team will utilize trade partner (design team professionals) interviews to meet both process and impact objectives. These interviews are integral for the following evaluation objectives: motivation for participation, product experience, product satisfaction, implementing higher net benefit measures, attitudes toward higher-yield recommendations, strategies to screen projects, impact of design team incentive, NTG, market effects

- Trade partner motivation for participation: The evaluation team will identify trade partners' motivations for participating in the product as well as the methods they use to encourage customers to participate. The evaluation team will identify trade partners' motivations for participating in the product, focusing on identifying product strengths and opportunities for the product to grow so as to better meet customers' needs.
- Product experience: The evaluation team will assess trade partners' experience using the product to understand what aspects are working well, what aspects they find most valuable, and to identify potential offerings (commissioning, continuous monitoring, benchmarking, etc.) that might improve their experience, or they would like to see included in the product.
- Product satisfaction: The evaluation team will assess trade partners experience and satisfaction interacting with the product.
- Implementing more measures: While exploring trade partner motivation, the evaluation team will explore trade partner views on what might motivate customers to implement more measures.
- Determining how market actors would respond to more aggressive efficiency recommendations by the implementer and how more aggressive recommendations may affect implementation of more efficiency measures.
- Impact of Design Team Incentive: The surveys will seek to understand if the design team incentive is still effective or if there is a different mechanism that would be more effective.
- Identify possible strategies to more effectively screen and enroll projects into the EEB and EDA tracks while retaining A&E firm engagement.
- NTG: The team will ask questions on program attribution, or the impact the program had on their decision to recommend participation in the Xcel Energy Business New Construction program.
- Market effects: The evaluation team will explore what energy efficient measures, if any, near-participants are including in their projects and explore the motivation for those actions.
- The evaluation team plans to survey 15-20 trade partners, excluding "Owners" from the list as we'll be talking to them during participant interviews. We will filter projects to those with final verification of 2017 or 2018. Then we'll divide the list into thirds based on the number of times of participation. We'll set a target to achieve 5-7 completes within the upper 33.3%, middle 33.3%, and lower 33.3% of participation. We will not set a quota for whether trade partners have received a design team incentive. Instead, we expect that random sampling will result in a proportion of trade partners who received the incentive that is comparable to the actual proportion in the population.

Peer Utility Benchmarking

The objective of the peer utility benchmarking task is to understand how Business New Construction programs are approaching key issues by comparing the Xcel Energy Business New Construction program with six similar peer utility programs. The key themes the evaluation team will explore with peer utilities are:

- Net-to-gross (NTG) savings approach: We will describe the NTG approach of peer utility programs, including the NTG ratio applied (if any), and any relevant details about how this ratio is calculated. This will facilitate a more nuanced interpretation of the savings results in our research.
- Program description: We will provide a summary of peer programs identified, including their objectives, relevant features of their implementation strategy, the measure types and incentives offered, recruitment strategy, characteristics of their target customers (e.g., specific market segments or building types), and whether they have an implementer(s). If the program has multiple implementers we will explore how the that works with the program design. These findings will provide a useful point of comparison for identifying the ways in which Xcel Energy's Business New Construction Product is similar to other new construction programs and where it differs from these programs. We will also use these findings to identify potential alternative approaches to Xcel Energy's product.
- Market actor engagement practices: We will identify peer programs' approaches to engaging and motivating owners and design professionals to implement measures. This will include their methods for identifying and presenting efficiency opportunities, information supplied to market actors to support decision making, and how peer utilities' have been successful in driving customers to implement more measures. Interviews will also discuss if peer programs have seen a negative impact on participation if recommendations are more aggressive. We will use this information to better understand how the program could motivate design professionals and owners to implement more measures and higher yield measures.
- Program requirements: We will examine peer programs' requirements including building size thresholds, how program offerings vary by building size (e.g., cost-effectiveness of modeling smaller buildings), if offered, how projects are screened into program tracks (beyond just building size), and requirements around minimum achieved savings. This will help the evaluation team gather more detailed information in which to make recommendations to Xcel Energy on how the Business New Construction Product could be modified to increase cost effectiveness.
- Incentive levels and structure: We will identify peer programs incentive structures for participants, comparing results to Xcel Energy's incentive levels and structure. The evaluation team will also research if Trade Partners are offered an incentive, and if so, the amount of the incentive and the requirements to receive it. We will also examine if Trade Partners are offered an enrollment or recruitment incentive. We will use this information to identify possible ways for the product to increase participation, the number of measures installed, and the total energy savings per project. It will also be used to understand if the design team incentive is effective or if there is a different mechanism that may be better.

After asking Xcel Energy product staff for input during staff interviews and the influence mapping session, the evaluation team initially considered 21 utility new construction program across the country. We strove to select a comparable cohort so that Xcel Energy has an "apples-to-apples" comparison and evaluate the set of circumstances (such as energy code and demographics) that impact program plans at the peer utilities (including context for the NTG values). Specific criteria used to choose per utilities included:

- Comparable to Xcel Energy's product,
- those with the same or more stringent energy code,
- size,
- incentive structure, specifically different incentive structures,
- program requirements and offerings (like minimum savings, early design assistance, and commissioning services).

Using the above criteria, the evaluation team and Xcel Energy have identified a peer cohort of eleven possible utilities for the benchmarking study:

- ComEd
- Savings by Design (CA utilities)
- MidAmerican Energy (IA)
- New Jersey Utilities (NJ)
- Baltimore Gas and Electric (MD)
- SnoPUD (WA)
- Delmarva Power (MD)
- Potomac Edison (MD)
- Clark Public Utilities (WA)

We will develop a peer utility interview guide that is customized to the desired benchmarking themes, to be provided to Xcel Energy for approval prior to beginning any data collection. Finally, we will summarize the results of our benchmarking analysis in a summary within the final evaluation report. The summary will include a description of the comparability of each utility, based on the factors identified during the planning task.

Net-to-Gross Approach

The NTG assessment aims to estimate the percent of savings achieved that can be attributed to program actions, or an NTG ratio. The NTG value includes multiple metrics, which are described in sections below. To do so, the evaluation team will primarily use participant and trade partner interviews to assess program attribution, including free ridership, spillover and market effects metrics. The team will base its methodology on the most recent Illinois Technical Reference Manual (TRM)[6] as this type of approach is used extensively in other jurisdictions both by our team and outside industry experts, and it was the basis of the NTG approach for the evaluations of the 2017 Xcel Energy product evaluations. Based on the 2017 evaluation experience with the Illinois NTG protocols, the evaluation team conducted cognitive interviews with participants, prior to launching any surveys, to assess whether the evaluation team needed to adjust the NTG approach or specific wording of survey questions used last year.

The cognitive interviews resulted in two types of modifications to the standard NTG battery:

- Modifications to the language in some of the questions to clarify wording, and
- Modifications to how the responses to the questions are used to generate a final NTG value.

The former is incorporated into the participant and trade partner guides. The latter is included in the following modifications to the existing NTG battery as follows:

- **Adjustment #1: The Program Influence free ridership score is not used as a direct input into the NTG algorithm.** In our analysis of cognitive interview data, and based on our experience in previous evaluations, we found that this question lead to lower-than-expected NTG values on a

[6] Illinois Energy Efficiency Stakeholder Advisory Group. Illinois Statewide Technical Reference Manual, Version 6.0, Volume 4, Attachment A: IL-NET-TO-GROSS Methodologies, Section 4. February 8, 2017. http://www.ilsag.info/il_trm_version_6.html

consistent basis. We will continue to ask this question but will only use the results as a consistency check on other questions.

- **Adjustment #2: The No Program free ridership score will be set to zero if the participant responded "no" to the binary question asking if they would have installed the exact same measures if the program had not been available.** In other words, if a respondent indicates that the answer to this question is "no," they are assigned a free ridership value of zero for the No Program score. If they respond "maybe" or "yes," the respondent is then asked to rate the likelihood they would have installed the same exact measure within 12 months of the time they did install it. This answer then becomes their No Program score.

These adjustments are shown graphically in Figure 1 below. Where it is shown that a free ridership value is set to zero for the No Program score, this value will carry through (despite the fact that the remaining questions will be asked).

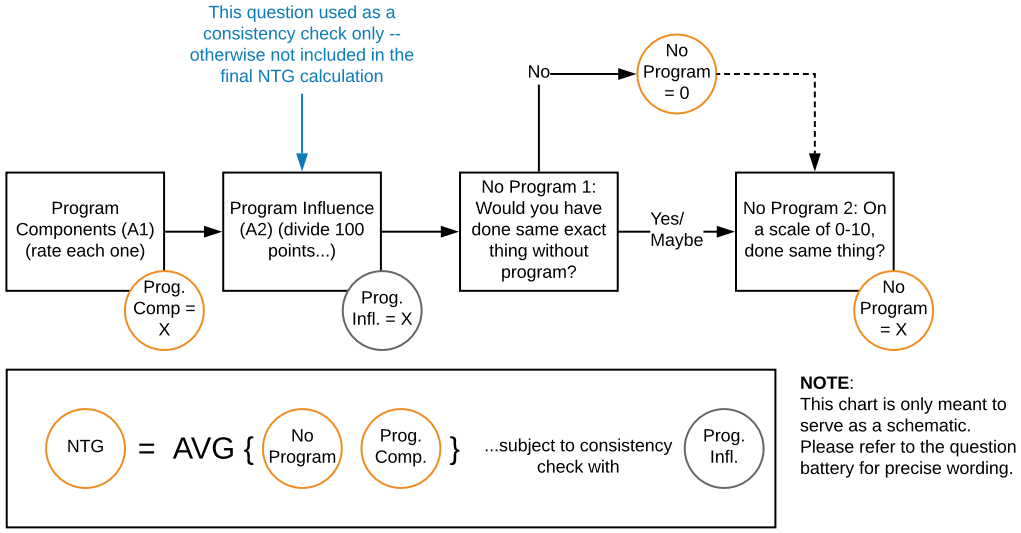
The evaluation team will estimate a retrospective and prospective NTG value. Using multiple sources of information, including interviews with participating customers and trade partners, the evaluation team will synthesize available data to develop the final NTG ratios to ensure that we provide the most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

This section presents the evaluation teams' method to estimate retrospective and prospective NTG ratio for this product.

Retrospective NTG

The evaluation team will estimate a retrospective NTG by examining free ridership, spillover, and market effects. This section describes how the evaluation team will estimate these components of the retrospective NTG ratio

Free ridership. The free-ridership estimate represents the percent of savings that would have occurred in absence of program intervention. The evaluation of free ridership will include two factors: 1) Program Components Score (based on the participant's perception of the program's influence on the decision to carry out the energy-efficient project); and 2) No-Program Score (based on the participant's intention to carry out the energy-efficient project without program funds). Based on the cognitive interview results discussed above, the Program Influence Score (based on the relative importance of various program components on their decision, compared to non-program influences) is included only for a consistency check and not in the quantitative results. Figure 1**Error! Reference source not found.** describes the logic used for calculating free ridership.



The evaluation team will assess free ridership primarily using participant interviews and will integrate qualitative findings from the trade partner interviews as needed.

Participant Spillover. The spillover metric represents additional savings achieved as a result of program activities, outside of rebated measure savings, by program participants. The evaluation team will incorporate two measure attribution scores; the first incorporates the influence the program had on the purchase of this additional measure (measure attribution score #1), the second incorporates likely actions taken in absence of program participation (measure attribution score #2). The spillover score, as calculated below[7], must be greater than five in order for the additional measure to qualify for spillover. When this criterion is met, the savings are added to program attributable savings.

$$Spillover\ Score = \frac{Measure\ Attribution\ Score_1 + (10 - Measure\ Attribution\ Score_2)}{2}$$

Market Effects. The trade partner interviews will offer important insights into market effects of the Business New Construction product. Our interviews with trade partners will ask if any customers install energy efficient technologies, but do not receive an Xcel Energy rebate. If found, these additional energy efficient purchases will be considered as program impacts through the market effects assessment. The prospective NTG (described below) also provides valuable insights into the sustainability of the new construction market, including the extent to which the market is transformed, and efficient buildings are becoming the norm (and thus no longer need program support).

Estimating NTG Ratio (NTGR). By design, our final NTG estimate recommendation includes data from mixed methods research – both quantitative data and qualitative data. The initial NTG estimates will be calculated from participant self-reported interview responses, with additional qualifying information from trade partner interviews and calculated at the project level. Depending on the findings, we may weigh the project-level NTG results by characteristics such as savings, EDA program track, whether the building

[7] IL TRM Version 6, Volume 4, page 35-36.

received a certification, etc. After the initial NTG estimate is calculated, we will then utilize the quantitative and qualitative data to construct a logical, internally consistent, and coherent narrative of program attribution that attempts to identify all possible pathways of Xcel Energy influence. We will rely on the following data sources to construct the NTGR:

- Participant surveys
- Trade-partner interviews
- Program benchmarking data for points of comparison

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

Prospective NTG

Based on the results of the participant and trade partner interviews, recent changes to the program (i.e. moving from three EDA tracks to two), and prospective future product changes the team may adjust the retrospective NTG estimate to provide a more accurate forward-looking, or prospective value. We will use input from the staff interviews to inform potential future changes to the product and incorporate those into the final NTG estimate. We will also use the results of the peer utility benchmarking research to calibrate this estimate, as needed.

A.2 Sampling Plan

Participating Customers

The evaluation team used self-reported data from 30 in-depth telephone interviews with participating customers to develop an initial NTGR. The sample was drawn from Xcel Energy records of (1) projects that received rebates in 2017 and 2018 and (2) projects that have not yet received a rebate but have had the design review meeting. We divided each of those groups into "high savers" and "low savers" based on the median kWh value for that list. **Error! Reference source not found.** shows the target and completed numbers of participant interviews within each customer group (received/not yet received a rebate) and savings group (high/low).

By taking 20 cases from the "not yet received a rebate" list, we prioritized more recent participants, who likely had a better memory of their experience, and more participants who have experienced the new program design using NEO. Splitting each group further into high savings and low savings groups ensured we looked at projects that would have the most influence in a weighted average NTG calculation (high savers), while also collecting information to identify possible motivations to increase customer implementation, and to test market actor responses to recommendations (both research objectives for this evaluation).

A- 1. Target and Actual Completes for Participating Customer Interviews

Group	Target: Already Received Rebate	Completed: Already Received Rebate	Not Yet Received Rebate	Completed: Not Yet Received Rebate	Target Total	Completed: Total
High Savings	5	6	10	9	15	15
Low Savings	5	5	10	10	15	15
Total	10	11	20	19	30	30

Participating Trade Partners

The evaluation team used self-reported data from 15 in-depth telephone interviews with participating trade partners to support the process evaluation. The sample was drawn from Xcel Energy records (1) excluding "owners" from the list because they are included in the participating customer interviews (2) projects that had final verification of 2017 and 2018. We divided the list into thirds based on the number of times they've participated. We did not set quotas for whether they received the design team incentive. Instead, we expect we'll end up with a proportion in our sample that is close to the actual proportion in the population based on random sampling.

APPENDIX B: DATA COLLECTION DOCUMENTS

B.1 Staff Interview Guide

Introduction

This guide is to be used to interview staff associated with Xcel Energy's DSM programs as part of the EMI Consulting 2017 evaluation of the Xcel Energy DSM programs. The interviews will be semi-structured, with these questions serving as a basic guide for experienced EMI Consulting staff during one-on-one phone interviews.[8] As a guide for semi-structured interviews, these questions will not necessarily be asked verbatim, but will serve as a roadmap during the conversation.

Staff Interview Research Questions or Objectives

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

Interview

Section A: Introduction

[If staff was not included in kick-off meetings:] First we would like to give you some background about who we are and why we want to talk with you today. EMI Consulting is an independent consulting firm that works with electric and gas utilities to review and improve program operations and delivery.

We are leading a team hired to evaluate Xcel Energy's energy efficiency programs, and we're currently in the process of conducting interviews with product managers and key staff involved in designing and delivering Xcel Energy's DSM programs in order to improve our understanding of the programs and their influence on customers. We are interested in asking you some questions about the New Construction Product so we can learn from your knowledge and experience to not only improve our understanding of the product but also to incorporate your priorities and feedback into our study to ensure the outcome is useful and actionable.

Is this a good time to talk with you about the program? I have a set of questions that should take 45-60 minutes, depending upon your experiences and involvement with the program. All information you provide is anonymous.

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

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

[ALL] Thank you for taking the time to speak with me today. My objective for this discussion is to gain a deeper understanding of the New Construction Product, how it operates, what Xcel Energy hopes to achieve by offering this program, and a bit about your experiences with the New Construction Product.

We are interested in asking you some questions about the New Construction Product so we can learn from your knowledge and experience to not only improve our understanding of the product but also to incorporate your priorities and feedback into our study to ensure the outcome is useful and actionable. I have a set of questions that should take approximately 45 - 60 minutes. All the information provided is anonymous, we will be weaving it together with information gleaned from other interviews.

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

A1. [If needed] First, can you take a moment and explain your role and scope of responsibilities with respect to New Construction Product? [IF ALREADY KNOWN, REWORD TO CONFIRM]

Probes:

- Approximately how long have you held this position?
- What previous positions did you hold?
- Whom do you report to in the overall org structure?
- Do you have any direct reports?

Section B: Program Goals

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

B1. Can you take me through the key goals for the New Construction Product?

B1a. Can you describe any savings goals? Do you have specific goals for individual components of the program (e.g., EDA and EBB)?

B1b. Any other, non-energy goals?

B1b1. Any more immediate goals? For example, participation goals, customer engagement goals, improving customer satisfaction? Changing customer awareness of or attitudes about energy efficiency measures?

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

B2. What does success look like for this product?

B2a. What are interim indicators that the program is or is not meetings its objectives or goals? In other words, how will you be able to tell if the program is meeting its objectives in the near- and mid-term?

B3. Have any of these goals changed in the last few years? {how did they change?]

B3a. What was the rationale for changing them?

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

B4. What influences do you think this product has had on the market?
*(**Probe** for impacts on contractor's behavior, use of EE technologies, customer choices)*

B4a. What influences has this product had on laws or codes related to new construction?

Section C: Program Activities

I would like to make sure I have a solid understanding of how this program operates. I will review the program manual and program protocol to supplement what we discuss today.

C1. For the EDA track….

C1a. What, if any, incentives and/or tools does the program use to achieve its goals?

C1b. Have any of these incentives changed in the last few years? What was the rationale for changing them?

C1b.1. Do you recall or is there any documentation of how incentives have changed throughout the life of the program? Especially before and after the passage of SB 2030.

C1c. What activities do program and implementer staff engage in to achieve program goals?

- Marketing?
- Financial assistance?
- Applications?
- Technical assistance?
- Education?
- Contractor/Trade Partner support?
- Drop ship/direct install?

C1c.1. Have any of these activities changed in the last few years?
*(**Probe** for impacts of legislation)*

C1c.2. What was the rationale for changing them?

C1c.3. In your opinion, how have these changes affected the program's operations or its outcomes?

C1c.4. Have you measured how these changes impacted savings or participation?

C1c.5. Do you recall or is there any documentation of how incentives have changed throughout the life of the program? Especially before and after the passage of SB 2030.

C1d. What tools are used to reach out to customers? To architects?

C2. Are these program activities modeled on another program or set of programs?

C3. For the EBB track….

C3a. What, if any, incentives and/or tools does the program use to achieve its goals?

C3b. Have any of these incentives changed in the last few years? What was the rationale for changing them?

C3b.1. Do you recall or is there any documentation of how incentives have changed throughout the life of the program? Especially before and after the passage of SB 2030.

C3c. What activities do program and implementer staff engage in to achieve program goals?

- Marketing?
- Financial assistance?
- Applications?
- Technical assistance?
- Education?
- Contractor/Trade Partner support?
- Drop ship/direct install?

C3c.1. Have any of these activities changed in the last few years?
*(**Probe** for impacts of legislation)*

C3c.2. What was the rationale for changing them?

C3c.3. In your opinion, how have these changes affected the program's operations or its outcomes?

C3c.4. Have you measured how these changes impacted savings or participation?

C3c.5. Do you recall or is there any documentation of how incentives have changed throughout the life of the program? Especially before and after the passage of SB 2030.

C3d. What tools are used to reach out to customers? To architects?

C4. Are these program activities modeled on another program or set of programs?

Section D: Resources

D1. Can you please characterize the resource that the program has to work with?

D1a. Program and implementer staff?

D1b. Management and program direction?

D1c. IT tools and data tracking tools?

D1d. Financial resources?

D1e. Other resources?

D2. Are these resources sufficient to implement the program as designed?

D2a. [IF NO] How could the program design/implementation change to be more efficient? What additional resources would help you implement the program as designed?

D3. Have any of these program resources changed in the last few years?

D3a. What was the rationale for changing them?

D3b. In your opinion, how have these changes affected the program's operations or its outcomes?

Section E: Program Tracking and Reporting

I understand that you are using Salesforce as your primary program tracking tool. I'd like to understand how program activities are tracked to understand what data might be available to us in our evaluation.

E1. What kinds of data are collected for the New Construction Product?

What data do you track in SalesForce and how?

E2. Are there any data that you would like to collect, but haven't been able to?

E3. Are there any data/documentation not tracked in Salesforce that might be helpful for the evaluation?

E4. [To ask the implementer only] As part of our evaluation, we will likely want to speak to "near-participants," customers/distributors that were eligible to participate in the program, showed some interested in program participation, but didn't participate for whatever reason. Would these customers all be tracked in Salesforce?

Section F: Strengths and Challenges

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

F1. In your opinion, what are the strengths of the New Construction Product as it is currently being run?

F1a. What would you say is working well in terms of program design or implementation?

F2. What are the most significant challenges for this program at this point?

F3. Do you have any ideas on how the product could better identify or encourage buildings into the EBB track?

F4. What feedback, if any, do you receive from customers and/or market partners on the program? (PROBE FOR CUSTOMER ENGAGEMENT/ CUSTOMER SATISFACTION)

F5. How do you think customers and architects would respond to more buildings going through the EBB track?

F6. What do you believe are the biggest barriers to getting customers and/or market partners to participate in this program?

F7. Are there any specific opportunities for improvement in the design or implementation of the program? Please describe.

F8. What would you like to see changed in how the program is designed or run, if anything?

F8a. Do you think there are any roadblocks preventing these changes from happening?

F9. How do you think customers would respond to emphasizing the EBB track more?

Section G: Utility Benchmarking

G1. As part of this evaluation, we are going to be doing benchmarking analyses against other utilities. Are there utilities that you think would be good comparisons for a benchmarking analysis?

G1a. Utilities that are very similar to Xcel Energy?

G2a. Utilities that would make for an interesting comparison to Xcel Energy?

G3a. Utilities that you would consider to be at the cutting-edge of what Xcel Energy is trying to achieve?

G2. What are some of the key indicators that you think would be important to look at when comparing Xcel Energy to other utilities?

Section H: Closing

H1. Based on the kickoff meeting, we are planning to prioritize

- Ways to better introduce EEB to the market
- How to best steer projects into EDA or EEB
- What motivates architects to recommend the program
- The value customers get from the program
- Ways to make the program more cost-effective and how to improve the program moving forward
- Understand the influence/impact of real-time modeling

Do these align with your understanding? Do you have anything you would like to add to these priorities, remove from this set of priorities, or change about these priorities?

H2. Do you have particular questions that you would like to see answered by the evaluation? Why are these questions important?

H3. Do you have any other comments, concerns or suggestions about the program that we didn't discuss that you would like to make sure I know about?

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

B.2 Participant Interview Guide

Introduction

To support the process and impact evaluation of the 2018 Xcel Energy energy efficiency programs, the EMI Consulting evaluation team will conduct telephone interviews with up to 30 Business New Construction participants (please see the sampling plan for additional details). This guide presents the questions to be covered in the in-depth interviews for the Xcel Energy Energy Design Assistance Program.

This guide is designed to facilitate interviews with key decision makers within companies who have participated in Xcel Energy's Energy Design Assistance Program. The interviews will assess the impact of the program on customers' decision to participate in the program, install energy efficient equipment, identify barriers to participation, assess customer satisfaction, identify opportunities to improve the program, and document the program's influence on customers' decisions.

The remainder of the introduction provides the research questions which this guide is designed to address and fielding instructions for the interviewers. The following list of objectives are also presented in Table 8, alongside the interview questions intended to address them.

Research Questions or Objectives

- Motivations for participation: The evaluation team will identify customers' motivations for participating in the program, focusing on identifying program strengths and opportunities for program improvement so as to better meet customers' needs.
- Program experience: The evaluation team will assess customers' experience using the program to understand what aspects are working well, what aspects they find most valuable, and to identify potential offerings that may improve their experience.
- Program satisfaction: The evaluation team will assess customer satisfaction with the program to understand if they feel they received value from their participation and if the program met their expectations.
- Implementing additional measures: The evaluation team will explore what might motivate customers to implement more measures. We will also explore how energy modeling affects customers' decision to install equipment and what would motivate customers to do more.
- Attitudes toward more aggressive efficiency recommendations: The evaluation team will determine how market actors would respond to more aggressive efficiency recommendations by the implementer and how more aggressive recommendations may affect implementation of more efficiency measures.
- Market effects: Through the interviews, the evaluation team will seek to understand what impact the program and state legislation has had on the market.

- Net-to-gross: The team will ask questions on program attribution, or the impact the program had on customers' decision to implement energy efficiency measures because of the Xcel Energy Business New Construction program.

Table 5: Mapping of interview questions to evaluation objectives

Evaluation Objective	Interview Question Number(s)
1 Motivations for participation	A5-A6, B1, C7
9 Barriers to implementing more	D1-D2
9 Implementing additional measures, effect of modeling	A5, B1-B4, C7, C8b, E1c, E2d
10 Attitudes toward more aggressive recommendations	B1-B4
5 Program experience	E3-E4
4 Program satisfaction	E1-E2
6 Market effects	B4, C4-C33
7 Net-to-gross	C4-C33

Specific research questions which this participating customer interview guide is designed to address are the following:

- What types of customers participate in the program? How many have participated in other energy efficiency programs?
- How do customers hear about the program? What contact do they have with Xcel Energy, and how would they like to be contacted?
- How well are the program's processes working for customers? What aspects of the program are easy for customers, and what is challenging?
- What level of free-ridership exists in the program?
- Does the program influence additional energy savings OUTSIDE of what is captured through the program (spillover)?
- What are customers' primary motivations for participating in the program?
- What barriers do they face in pursuing additional projects?
- Are customers satisfied with their experience with the program, including all elements of program design? If not, why were they dissatisfied?
- Are customers satisfied with their experience with Xcel Energy as a utility? Does the program have any effect on this satisfaction?

The following table presents the link between each evaluation objective, research question, and interview question(s).

Interview Guide

Section A: Screener/Background Information

Thank you for agreeing to talk with me today. EMI Consulting is an independent third-party contractor hired by Xcel Energy to evaluate their Energy Design Assistance Program. I expect this conversation to take about forty-five minutes. To help me capture your responses accurately, is it okay if I record this call? The recording will be used for my note-taking purposes only. To protect your anonymity in this study, information that you provide will only be used for an evaluation of the Energy Design Assistance Program, and we will not share your information outside of this effort. We will only report information in aggregate, so your specific responses will not be tied to your name nor will they be reported on their own.

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.

A1. I see COMPANY NAME participated in the Xcel Energy Energy Design Assistance Program for the building at [BUILDING ADDRESS]. Is this correct?

Note to interviewer: Make note of any respondent confusion regarding referring the program as an Xcel Energy program versus as "the [EDA implementer's] program." ***[Note to interviewer: do not refer to the [EDA implementer] or the [EDA implementer] program. Please only refer to Xcel Energy's Energy Design Assistance program]***

IF NO: DESCRIBE PROGRAM, PROBE FOR WHETHER ANOTHER PERSON MAY BE MORE FAMILIAR WITH THE PROGRAM. IF ALL LEADS HAVE BEEN EXHAUSTED AND RESPONDENT IS FAMILIAR WITH THE PROGRAM BUT DID NOT PARTICIPATE, THANK AND TERMINATE.

IF YES:

A1a. Have you personally been involved in the Xcel Energy Energy Design Assistance Program?

IF YES:

A1b. Are you the person at your firm who is most familiar with the Xcel Energy Energy Design Assistance Program?

IF NO: ASK TO SPEAK TO PERSON MOST FAMILIAR AND END CALL
IF YES: MARK AT PARTICIPANT AND CONTINUE

A2. Can you briefly describe your company's work?

A3. What is your title or role at your company?

PROBE for details regarding building design, use, and energy responsibilities.

A4. Has your organization built multiple buildings?

A4a. **IF YES:** How many?

A4b. About how many have Xcel Energy as their energy provider?

A4c. How many of these buildings have participated in the Energy Design Assistance Program?

PROBE: All, most, some, a few, none

A4d. How many of your buildings have participated in a rebate program offered by another utility?

PROBE: All, most, some, a few, none

A5. Why did you enroll in the Xcel Energy Energy Design Assistance Program?

PROBE: Was it because of the
- Rebates offered by Xcel Energy?
- The energy modeling offered by Xcel Energy?
- A recommendation or endorsement from your architect, engineer, or contractor?
- The consulting support from energy efficiency experts?
- Past experience with the program?

A5a. **[IF recommendation from architect, engineer, or contractor]**: What did they say that made you participate in the Energy Design Assistance Program?

A6. Was the building at [BUILDING ADDRESS] required to meet the SB 2030 Energy Standard?

PROBE: Did you receive any funding from the state of MN?

[IF YES, ASK A6a – A6c]

A6a. In what ways did SB 2030 influence the design of your building?

PROBE: How did SB 2030 influence you to include higher efficiency equipment in your design?

A6b. If the building hadn't been required to meet the SB 2030 standard, would you have installed the energy efficiency equipment you did?

PROBE: Why / why not? What equipment would you have installed instead?

A6c. If the building hadn't been required to meet the SB 2030 standard, would you still have participated in the Xcel Energy Energy Design Assistance?

PROBE: Why / why not? Influenced by incentive payments via program? Influenced by energy modeling via program? (Look for evidence of free ridership)

Section B: Interactions with Trade Partners and Consultant

B1. Xcel Energy has hired a third-party consultant to implement the Energy Design Assistance program for their customers. Did you communicate with staff from the consultant during this project?

[Note for interviewer: Please do not mention the [EDA implementer] by name, but it is OK to confirm that is who we're talking about if the interviewee has confusion.]

[IF B1 = YES, B1a-Bd else C1]

B1a. In what contexts did you communicate with the consultant staff?

B1b. What was helpful about your interactions with the consultant staff?

B1c. Did the consultant meet your expectations in terms of being an energy expert and providing you with energy efficiency recommendations?

1. Yes
2. No

[If B1c = NO] What could they have done differently?

B1d. How did the consultant influence you to install energy efficiency you weren't already considering for this building?

B2. **[IF B1 = YES, else C1]** Now thinking about the *number* of energy efficient recommendations provided by the consultant staff.

B2a. Would you say they provided not enough recommendations, too many recommendations, or just about the right number?

1. Not enough
2. Just right
3. Too many

B2b. **[IF B3a = 1 or 2]** If you had received more recommendations, do you think you would have installed more energy efficient equipment?

1. Yes
2. No
3. Don't Know

B2c. Why or Why not?

PROBE: too expensive, not enough time, too costly upfront cost, nothing more to do in this building

B2c. If you had received more recommendations, would it have negatively affected your participation at all? (If needed if you had received more recommendations it would have taken too much time to sort through all the options so maybe you would have installed fewer measures or not participated at all)

B3. **[IF B1= YES, else C1]** Now thinking about the *types* of energy efficient recommendations provided by the consultant

B2a. What types of energy efficiency recommendations did the consultant provide?

[Interviewer – look for information regarding end uses or measure types]

B2b. Did the type of recommendations meet your expectations?

1. Yes
2. No
3. Don't Know

B2c. [IF B2b = 1 or 3] what types of recommendations did you expect? (e.g. affecting different equipment like HVAC instead of lighting, or more cutting-edge recommendations instead of standard measures, etc.)

B2d. Are there any types of recommendations you would like to receive?

B4. **[If B1 = NO]** Who did you get energy efficiency recommendations from?

[Interviewer note any confusion by the participant as to who recommendations came from. If customer says "Xcel Energy" or "during a meeting" ask B2-B3. Otherwise B4a.]

B4a. Can you please describe how you chose to do the efficiency you did?

[Interviewer listen for indicators of when or how they got recommendations for energy efficient equipment. If in a meeting or through modeling or a mention of "packages/bundles" ask B2-B3. Otherwise C1]

Section C: Motivations, free-ridership and spillover

The purpose of this section is to learn the role of the program in your company's decision to install energy efficient equipment versus other factors that you had to consider.

C1. When you make decisions about what strategies or equipment to include in your building, what are the things you consider in that decision?

PROBE: first cost, previous experience with equipment, recommendation of the consultant or a contractor, return on investment, payback, lower bills, being green

C2. Why did you choose to install energy efficient equipment in this building?

PROBE: Recommendation from the consultant or a contractor, lower bills, being green, increased sale price of building

C3. What types of energy efficient equipment did you install in this building?

C3a. Why did you choose the energy efficient equipment you did?

PROBE: for recommendation from the consultant or architect/contractors, payback, previous experience, they are what was recommended.

C4. Did you learn about the Energy Design Program before or after you FIRST BEGAN TO THINK about including energy efficient design features in this building?

1 before
2 after
3 other – **Answer:**

C5. Where did the idea for including energy efficient design features come from? [IF NEEDED: Was it suggested by your design team, account manager, during the design assistance meetings, corporate policy or a certification like LEED?]

C6. Did you learn about the availability of incentives through the Energy Design Assistance Program before or after you DECIDED TO include energy efficient design features in this building?

1 before
2 after
3 other – **Answer:**

C7. I'd like to ask some questions about the results review meeting. During this meeting you would have been presented with several bundles of energy efficiency equipment you could choose along with the estimated rebate, energy savings and payback of each bundle. This process to identify opportunities where you can see how different options impact overall savings and cost we will call modeling.

[**IF NECESSARY**: In the results review meeting the customer is presented with the bundles. The strategies and costs are reviewed, and changes to the packages are discussed and dynamically modeled in real time during the meeting. The outcome of the results review meeting is the customer choosing a bundle and proceeding with construction.]

When the bundles were discussed during these meetings, were they displayed on screen or on paper?:

Paper = File Builder; On Screen = NEO

C7a. What role did the results review meeting play in the decision to install the energy efficient equipment you selected?

PROBE: Did you choose different equipment than you were planning, or did you add energy efficient equipment you weren't already thinking of installing?

C7b. In what ways was the information provided at this meeting valuable?

C7c. In what ways could the presentation of this information have been more valuable?

C7d. Xcel Energy has a more streamlined program where energy modeling is not conducted and instead a review of your plans is conducted to identify potential energy savings opportunities and prescriptive incentives for those energy efficiency measures is offered. So you would not receive the whole building energy modeling but could still earn similar incentives for implemented measures. Is this something that would interest you? Why or why not?

C7e. Thinking about energy efficiency equipment in this building, were your initial plans prior to these meetings different from the final plans you implemented?

PROBE: for impact of modeling on choices of EE equipment and energy savings

C8. Next, I'm going to ask you to rate the importance of some factors that might have influenced your decision to install the energy efficient equipment you selected. We'll start with some factors related to the Energy Design Assistance Program, then move onto some factors that aren't related to the program.

Think of the degree of importance as being shown on a scale with equally spaced units from 0 to 10, where 0 means "not at all important" and 10 means "extremely important". Using this scale please rate the importance of each of the following factors in your decision to install the energy efficient equipment at the time that you did.

How important in your DECISION to include energy efficiency design features in this building was…

Program Factors

C8a. The rebates offered by Xcel Energy **0 to 10 rating:**

C8b. The energy modeling offered by Xcel Energy **0 to 10 rating:**

C8c. Support from the 3rd party consultants **0 to 10 rating:**

C8d. Endorsement or recommendation by your Xcel Energy account manager **0 to 10 rating:**

C8e. Recommendation from the Xcel Energy program team **0 to 10 rating:**

C8f. Information from Xcel Energy marketing or informational materials **0 to 10 rating:**

C8g. Past experience with the Energy Design Assistance Program 0 to 10 rating:

Non-program factors

C8h. Previous experience with energy efficient equipment **0 to 10 rating:**

C8i. Standard practice in your business/industry **0 to 10 rating:**

C8j. Corporate policy or guidelines **0 to 10 rating:**

C8k. Payback on the investment **0 to 10 rating:**

C8l. Minimizing operating cost **0 to 10 rating:**

C8m. Positive marketing or public relations for your company **0 to 10 rating:**

C8n. Environmental factors like reduced carbon emissions 0 **to 10 rating:**

C8o. Required to participate to achieve a specific building code **0 to 10 rating:**

C8o.1 What is this code?

C8p. Achieving a certification like LEED **0 to 10 rating:**

C8p.1 What is this certification?

C8q. Recommendation from a design team member that helped you with the project **0 to 10 rating:**

C8r. Were there any other factors we haven't discussed that were influential in your decision to install energy efficient equipment?

You just told me that the following factors were important:
[Read only the items where they gave a rating of 8 or higher in C8a-C8r]

I'm going to ask you to split 100 points between the overall influence of program factors and the overall influence of non-program factors on your decision to install energy efficient equipment. Program factors would be things like incentive payments, and the design assistance meetings. Non-program factors would be things like long-term energy savings, and corporate policies.

Do you have any questions about what I mean by "program factors" and "non-program factors?"
[Ensure understanding before asking C9]

C9. Thinking about your decision to install energy efficient equipment, how many of those 100 points would you assign to the overall influence of program factors, considered as a group?

Percent influence of program factors:

C10. How many of those 100 points would you assign to the overall influence of non-program factors, considered as a group?

Percent influence of non-program factors:

****

Consistency check on program importance score
[Ask If (C9> 7 AND no program factors in C8a-C8g >3) else skip to C13]

C11. You just gave <C9 RESPONSE> points to the importance of the program, I would interpret that to mean that the program was quite important to your decision to install this equipment. Earlier, when I asked about the importance of individual elements of the program I recorded some answers that would imply that they were not that important to you. Just to make sure I understand, would you explain why the program was very important in your decision to install energy efficient equipment?
[IF NEEDED, ask about specific program elements rated highly in C10]

[Ask If (C9<3 AND any program factors in C8a-C8g >7) else skip to C13]

C12. You just gave <C9 RESPONSE> points to the importance of the program. I would interpret that to mean that the program was not very important to your decision to install this equipment. Earlier, when I asked about the importance of individual elements of the program I recorded some answers that would imply that they were very important to you. Just to make sure I understand, would you explain why the program was not very important in your decision to install this equipment?

Now I would like you to think about the action you would have taken with regard to installing this equipment if the Xcel Energy Energy Design Assistance Program had not been available.

C13 Using a scale from 0 to 10, where 0 means "not at all likely" and 10 means "extremely likely" please rate the likelihood that you would have installed exactly the same energy efficient equipment if the Xcel Energy Energy Design Assistance Program had not been available.

CONSISTENCY CHECKS

[ASK C14 IF C8a=8,9,10 AND C13=7,8,9,10]

C14. When you answered ...<C8a RESPONSE> ... for the question about the influence of the rebates, I would interpret that to mean that the rebates were quite important to your decision to install this energy efficient equipment. Then, when you answered <C13 RESPONSE> for how likely you would be to install the same equipment without the incentive, it sounds like the incentive was not very important in your installation decision.
I want to check to see if I am misunderstanding your answers or if the questions may have been unclear. Will you explain the role the incentive played in your decision to install this efficient equipment?

Answer:

C14a. Would you like for me to change your score on the importance of the rebates that you gave a rating of <C8a RESPONSE> or change your rating on the likelihood you would this same equipment without the rebates which you gave a rating of <C13 RESPONSE> and/or we can change both if you wish?

1 (Change importance of rebate rating)
2 (Change likelihood to install the same equipment rating)
3 (Change both)
4 (No, don't change)

[ASK IF C14a=1,3]

C14b. How important was… availability of the rebate? (IF NEEDED: in your DECISION to install this equipment)

0 to 10 rating:

[ASK IF C14a=2,3]

C14c. If the Energy Design Assistance Program had not been available, what is the likelihood that you would have installed this same measure?

0 to 10 rating:

****

Corporate Policy Questions

[ASK IF C8j > 6 ELSE C21]

C15. Does your organization have a corporate environmental policy to reduce environmental emissions or energy use? Some examples would be to "buy green" or to reduce the spend on utility costs by a certain amount ($ or %).

[IF C15 = YES, ASK C16-C20, ELSE C21]

C16 What is your corporate policy?

C17. How did the corporate policy influence your decision in what energy efficient equipment you installed?

C18. Does <COMPANY> ever deviate from the corporate policy when installing equipment?

C19. Did you install any energy efficiency equipment that went beyond the requirements of your corporate policy?

C19a. **[IF C19 = YES]** Was the Energy Design Assistance Program a factor in your decision to install this additional equipment? In what ways?

C20. Could you please rate the importance of the Energy Design Assistance Program, relative to the requirements of your corporate policy, in influencing your decision to install the energy efficiency equipment you did? Would you say the Energy Design Assistance Program was much more important, somewhat more important, equally important, somewhat less important, or much less important than the corporate policy?

1 (Much more important)
2 (Somewhat more important)
3 (Equally important)
4 (Somewhat less important)
5 (Much less important)

Certification Questions
[ASK IF C8p >7 ELSE C26]

C21. In an earlier question, you rated the importance of a certification very highly in your decision making. What certification did you receive for this building?

C22. Did you implement any energy efficiency equipment that went beyond the requirements of this certification?

C22a. **[IF C22 = YES]** Was the Energy Design Assistance Program a factor in your decision to install this additional equipment? In what ways?

C23. Could you please rate the importance of the Energy Design Assistance Program, relative to the requirements of <INSERT ANSWER TO C8p>, in influencing your decision to install the energy efficiency equipment you did? Would you say the Energy Design Assistance Program was much more important, somewhat more important, equally important, somewhat less important, or much less important than achieving <INSERT ANSWER TO C8p> certification?

1 (Much more important)
2 (Somewhat more important)
3 (Equally important)
4 (Somewhat less important)
5 (Much less important)

C24. Did your interest in this certification influence your decision to participate in Xcel Energy's Energy Design Assistance Program? In what way?

C25. Could you please rate the importance of Xcel Energy's Energy Design Assistance Program, versus the requirements of the certification in influencing your decision to install energy efficiency equipment in this building? Would you say Xcel Energy's Energy Design Assistance Program was…

1 Much more important
2 Somewhat more important
3 Equally important
4 Somewhat less important
5 Much less important

LIKELIHOOD OF IMPLEMENTING MEASURES WITHOUT PROGRAM

Now I would like you to think about the action you would have taken if the Xcel Energy Energy Design Assistance Program did not exist.

C26. Would you have chosen to install the exact same energy efficient equipment without the incentives, modeling, or technical support provided by Xcel Energy's Energy Design Assistance Program?

C27. **[IF C26 <> NO]** On a scale of 0 to 10, where 0 means not at all likely and 10 means extremely likely, how likely is it that you would have installed the exact same energy efficient equipment without the incentives, modeling, or technical support provided by Xcel Energy's Energy Design Assistance Program?

SPILLOVER QUESTIONS

Thank you for discussing the energy efficiency equipment you installed through the Energy Design Assistance Program. Next, I would like to discuss any energy efficient equipment you might have installed OUTSIDE of the program.

C28. Since completing the project we just discussed, did you install any ADDITIONAL energy efficiency improvements at this building or at your other buildings within Xcel Energy's service territory that you did NOT receive incentives for?

1 yes
2 no

[Ask IF C28 = yes, else D1]

C29. What energy efficiency equipment did you implement without an incentive?

[Repeat C29-C31 for each up to 2 measures]

C30. I have a few questions about the [first, second, third] equipment that you installed. (If needed, read back measure.]

a. Can you briefly explain why you decided to install this energy efficiency equipment on your own, rather than going through a utility or government incentive program?
b. Why did you not install this equipment during construction of the building?
c. How many of this type of equipment did you install?
d. Please describe the SIZE, TYPE, and OTHER ATTRIBUTES of this measure.
e. Please describe the EFFICIENCY of this measure.
f. When did you install this measure?

C31. Was this equipment recommended by a member of the Xcel Energy Energy Design Assistance program team or a member of your design team?

C32. How important was your experience in Xcel Energy's Energy Design Assistance Program in your decision to install this other energy efficiency equipment? Please use a scale of 0 to 10, where 0 is not at all important and 10 is extremely important.

C32a. **[IF C32 > 6]** Can you explain how your experience with the Xcel Energy's Energy Design Assistance Program influenced your decision to install this additional energy efficiency equipment?

C33. If you had not participated in Xcel Energy's Energy Design Assistance Program, how likely is it that your organization would still have installed this other energy efficiency equipment? Please use a 0 to 10, scale where 0 means you definitely WOULD NOT have installed this equipment and 10 means you definitely WOULD have installed this equipment.

[end loop for each measure]

Section D: Barriers to Participation

D1. Did you consider any additional energy efficient equipment beyond the equipment you installed?

D2. **[IF D1 = YES]** Why did you decide not to install?

PROBE FOR BARRIERS:
Wouldn't own building long enough to recoup energy savings
Wasn't going to occupy the space/pay the utility bills
Up-front costs
Did not need to achieve additional savings
No additional measures suitable for this building
Installed all recommended equipment
Xcel Energy program team or design team advised against adding equipment
Too complicated to operate
Not enough time during design or building phase
Needed to start participation earlier

Section E: Program Components and Satisfaction

We'd like to know how helpful different parts of the Energy Design Assistance Program are to you. I'll read a list of different parts of the program. Please rate each from 1 to 5, where 1 means that part of the program is not at all helpful, and 5 means that part of the program is extremely helpful.

E1a. Introductory meeting

E1b. Results review meeting

E1c. Energy modeling

E1d. Incentive payments

E1e. Recommendations you received from the consultant

Using a scale from 1 to 5, where 1 is extremely dissatisfied and 5 is extremely satisfied, please rate your satisfaction with the following items:

E2a. Your **overall satisfaction** with the Energy Design Assistance Program?

E2a1. IF E2<5: What could Xcel Energy do to increase your satisfaction with the Energy Design Assistance Program?

E2b. **Recommendations** you received from Xcel Energy program staff?

E2b1. Would this number increase, decrease, or stay the same if Xcel Energy program staff had promoted more equipment that saved larger amounts of energy?

E2c The design assistance **meetings**?

E2c1a. What about these meetings was helpful?

E2c2. How could these meetings have been more helpful?

E2d. The energy **modeling** completed through the program?

E2d1. What about the modeling did you find helpful / not helpful?

E2d2. Did the modeling impact your decisions about what equipment to install? In what ways?

E2e. **[IF 2017 participant]** The size of the Energy Design Assistance Program **incentive**?

E2f. **[IF 2017 participant]** The amount of **time** it took to receive your **incentive**?

E2g. **[IF 2017 participant]** The amount of **time** it took to go through the **whole process**?

E3. Is there anything the Xcel Energy Energy Design Assistance Program is doing especially well and should keep doing?

E4. What else could the program do to be helpful?

E4a. Would you be interested in an early design charrette?

1. Yes
2. No

E4b. Would you be interested in commissioning services?

1. Yes
2. No

E4c. Would you be interested in having on-going energy monitoring to ensure savings are realized?

1. Yes
2. No

Section F: Closing

F1. Do you have any recommendations for improving the Energy Design Assistance Program?

F2. We're also interested in keeping up with any trends or emerging market factors relevant to the business new construction industry. Do you see any big developments happening now or on the horizon?

F3. Is there anything we didn't cover that you'd like to mention or discuss about your experiences as a participant in the Xcel Energy Energy Design Assistance Program?

F4. We are going to send you a $25 Tango gift card as a small thank you for your time. Can I verify your email address, so we can get it to the right place?

Thank you. Those are all the questions I have today.

THANK AND TERMINATE

B.3 Early Trade Partner Interview Guide

Introduction

The evaluation team will conduct 2-4 early trade partner interviews to explore the relationship between the product and the state of Minnesota legislation. The purpose of these interviews is to determine the extent to which design professionals see a relationship between the availability of the EDA program and achievability of SB 2030. If the evaluation team determines the legislation may induce market effects or spillover (i.e. design professionals implement SB 2030 standards without participating in the program), then the evaluation plan, surveys, and the NTG approach will be modified to include additional research and questions to qualitatively, and, if possible, quantitatively, describe the effects.

This guide is to be used to interview trade partners who have conducted numerous projects with the Xcel Energy New Construction product and who have a long history of participation with the product. The interviews will be semi-structured, with these questions serving as a basic guide for experienced EMI Consulting staff during one-on-one phone interviews. As a guide for semi-structured interviews, these questions will not necessarily be asked verbatim, but will serve as a roadmap during the conversation.

Early Trade Partner Interview Research Questions

Specific research questions that this contractor interview guide is designed to address are the following:

- Does the existence of SB 2030 create "spillover" in the market?
- If so, how prevalent is this spillover?
- Do market actors implement efficiency in their projects because of a misalignment in their portfolio planning and state funding cycles?

Interview

Thank you for agreeing to talk with me today. EMI Consulting is an independent third-party contractor hired by Xcel Energy to evaluate the EDA program. I expect this conversation to take about half an hour. My goal is to better understand how state legislation requiring energy efficiency in state funded new construction projects interacts with and influences your clients' participation in the EDA program.

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?

A1. First, have you completed any projects <u>required</u> to be built to SB 2030 standards?

Probes:

- Estimated percent of projects

A2. Have you completed any commercial or industrial buildings not required to be built to SB 2030 standards in the last 10 years?

Probe:

- Estimated percent of projects

[If 2 = YES, continue]
[If 2 = NO, terminate]

A3. Of the projects you have completed that were not required to be built to SB 2030 standards, did any of them set (achieve) goals to meet or exceed the SB 2030 baseline anyway? Did any project implement a portion of the concepts or ideas of the standard?

Probe:

- For example: one person may have built a previous building to SB 2030 standards. Then with a subsequent building that wasn't required to meet SB 2030 standards they implemented some efficiency anyway because they learned on the previous project how cost effective it was.
- Estimated percentage of projects
- Do you feel this percentage is similar or different to other companies in your region? (Respondent's perceptions re: spillover from SB 2030 into the market)

[If A3 > 0, continue to A4]
[If A3 = 0, skip to A5]

A4. Why did you design these buildings to SB 2030 standards even though it was not required to do so?

Probe:

- Is it easier to use single, SB-2030-style design procedures for all buildings?
- Customer wanted an energy efficient building
- Did Xcel Energy's Energy Design Assistance (EDA) program's outreach, incentives, modeling impact the decision in any way?
- Demand in market for energy efficiency dictates most buildings are essentially SB 2030?
- Are there certain customers or building types that more typically build to these standards as common practice?

A4.1. How has this changed over time? Are people more likely to build energy efficient buildings now than they were before? Why do you think this is?

Probe:

- Look for influence – Xcel energy, standard business practice, etc.

A4.2. We may want to better understand how the EDA program may make the SB 2030 goals achievable or whether you see the EDA program as something that was driven by the state goals.

- Were you involved with designing projects 10-15 years ago?
  - [If yes, would you be willing to in more depth about this topic if needed?]

- Was anyone in your company?
    - [If yes, are you able to share their contact information so we can talk with them?]
- Do you know of any people, companies or documents that historically track these types of requirements?
- Can you provide any thoughts or comments on how Xcel Energy's product has interacted with the adoption of SB2030 and related state policies?

A5. What are the primary reasons some of your designed buildings do not follow SB 2030 standards?

Probe:

- Increased expense to design and/or build?
- Inconvenient to design and/or build?
- Adds too much time to the project timeline?
- Client aversion to measures related to SB 2030?
- Limited experience designing to SB-2030-style standards?

A6. Of your clients that have prior experience designing/building to SB 2030 standards, do any of them ask for these standards in subsequent design projects even when then don't need to comply to them?

A7. Let's talk about overall schedule considerations now – is there ever a situation where the client asks you to design to SB 2030 standards even if they are still waiting to secure state funding?

Probe:

- The result of this is that a customer may specify/design to SB 2030 so that they can qualify for future funding just in case the building needs to meet SB 2030 standards.

[If A7 = Yes continue to A8]
[If A7 = No, skip to A9]

A8. If your client does not secure state funding after all, do the design specifications change to less stringent standards, do they remain the same, or do the projects not move forward?

A9. Do you have any other thoughts about how SB 2030 does or does not affect the market or companies that are not required to build to SB 2030 standards?

Great- thank you for all your feedback. As I said at the beginning of our call, Xcel Energy would like to provide you with a $50 incentive to thank you for your time. Can you please provide me with an address I can mail this to?

And who would I be sending this to?

If I come up with any additional questions that come from this interview, do you mind if I send you an email or give you a quick call?

B.4 Trade Partner Interview Guide

Introduction

To support the process and impact evaluation of the 2018 Xcel Energy energy efficiency products, the EMI Consulting evaluation team will conduct telephone interviews with up to 15 trade partners (please see the sampling plan for additional details). This guide presents the questions to be covered in the in-depth interviews for the Xcel Energy Energy Design Assistance Program.

This guide is designed to facilitate interviews with trade partners to explore product awareness and motivations for participation, identify barriers to participation, explore opportunities to increase the number and depth of the projects trade partners complete, and learn how business new construction projects vary outside of Xcel Energy service territory. For these interviews, we define trade partners as those companies that supported the design process and construction of a building completed via the Energy Design Assistance Program (e.g., architecture and engineering firms).

The remainder of the introduction provides the research questions which this guide is designed to address and fielding instructions for the interviewees. The following list of objectives are also presented in Table 8, alongside the survey questions intended to address them.

Evaluation Objectives

- Awareness: Identify sources of awareness that drive trade partner participation and strategies to improve engagement.
- Motivations for participation: The evaluation team will identify trade partners' motivations for participating in the product as well as the methods they use to encourage customers to participate. The evaluation team will also assess product strengths and opportunities for product improvement so as to better meet customers' and trade partners' needs.
- Barriers to participation: The evaluation team will identify barriers to participating in the product and opportunities for the product to grow so as to engage trade partners and customers.
- Product satisfaction: The evaluation team will assess trade partners experience and satisfaction interacting with the product.
- Product experience: The evaluation team will assess trade partners' experience using the product to understand what aspects are working well, what aspects they find most valuable, and to identify potential offerings that may improve their experience.
- Market effects: Through the interviews, the evaluation team will seek to understand what impact the product, state legislation, and certifications have had on the market.
- Net-to-gross: The team will ask questions on program attribution, or the impact the program had on their decision to recommend participation in the Xcel Energy Business New Construction program.
- Screening for EEB and EDA: Identify possible strategies to more effectively screen and enroll projects into the EEB and EDA tracks while retaining trade partner engagement.
- Attitudes toward more aggressive efficiency recommendations: The evaluation team will assess the validity of the hypothesis that more aggressive efficiency recommendations by the implementer would negatively impact product participation and that more recommendations would result in higher implementation rates.
- Impact of Design Team Incentive: The evaluation team will identify if the trade partners' incentive is motivating them to participate in the project, provide the required documentation and

information, and appropriately compensate them for their time or if there is a different mechanism that would be more effective.

Table 6: Mapping of interview questions to indicators and contextual themes

Evaluation Objective	Interview Question Number(s)
1 Motivations for participation	A8, B3, C1, C4-C8, D1, D3
2 Motivations for recommending product to customers	F1-F5
3 Barriers to participation	C2-C3, D2, D4-D6, F5
4 Product satisfaction	E1-E4, I1-I8
5 Product experience	A6, B1, C4-C6, D7, I1-I8
6 Market effects	A5, D7, G1-G3
7 Net-to-gross	A8, D7, H1-H4
8 Screening for EEB and EDA	B3
9 Implementing more measures	B4-B8, C8, D5-D6, D8-D9, I7
10 Attitudes more aggressive efficiency recommendations	B4-B8, D8-D9
11 Impact of design team incentive	C5-C6
12 Trends in the business new construction market	A4-A7, B2, D7, G1-G3

Interview

Section A: Screener/Background Information

Thank you for agreeing to talk with me today. EMI Consulting is an independent third-party contractor hired by Xcel Energy to evaluate their Energy Design Assistance Program. I expect this conversation to take about half an hour. 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.

A1. Our records show COMPANY NAME has been involved in a project that participated in the Xcel Energy Energy Design Assistance Program, is this correct? [Provide details as appropriate from data about interviewee]

IF NO: MARK AS NON-PARTICIPANT AND END CALL.

IF YES: Were you personally involved in the project(s)?

IF YES: MARK AS PARTICIPANT.

IF NO: ASK TO SPEAK TO SOMEONE AT THE FIRM WHO HAS BEEN INVOLVED.

A2. What is your title or role at COMPANY NAME?

PROBE: Designer, Developer, Engineer, Contractor, Project Manager, etc.

A3. What are your primary responsibilities at COMPANY NAME?

A4. Can you briefly describe your company's work?

A5. Has this changed over time?

A5a. **IF YES:** Did the Xcel Energy Energy Design Assistance Program have anything to do with this change?

A6. Do you have experience with other utility energy efficiency products?

[If yes]

A6a. How are projects you complete with other utilities different from those you do in Xcel Energy service territory?

A7. When did your company first start working with the Xcel Energy Energy Design Assistance Program?

A8. Our records show you worked on a project through the Xcel Energy Energy Design Assistance Program with [PROJECT NAME]. Was this building required to meet the SB 2030 Energy Standard?

PROBE: Did it receive any funding from the state of Minnesota?

[IF YES, ASK A8a – A8c]

A8a. In what ways did SB 2030 influence the design of this building?

PROBE: Did it influence the design team to include higher efficiency equipment?

A8b. If the building hadn't been required to meet the SB 2030 standard, would your customer have installed the energy efficiency equipment they did?

PROBE: Why / why not? What equipment would they have implemented instead?

A8c. If the building hadn't been required to meet the SB 2030 standard, would you still have participated in the Xcel Energy Energy Design Assistance Program?

PROBE: Why / why not? Influenced by incentive payments via product? Influenced by energy modeling via product? (Look for evidence of free ridership)

Section B: Role in the Product

B1. What work did you complete as part of the project(s) that participated in the Xcel Energy Energy Design Assistance Program?

PROBE: participated in results review meetings, making efficiency recommendations, provide supporting documentation, etc.

B2. Has your company's participation in EDA increased, decreased, or stayed the same over time?

B2a. **IF INCREASE/ DECREASE**: What has caused your involvement to change?

B3. Have you also worked on projects that participated in Xcel Energy's Energy Efficiency Buildings (EEB) program? The Energy Efficient Buildings program offers rebates for smaller, less complicated construction projects that do not need full energy modeling.

B3a. **[IF B3=YES]:** How do you determine which program to enroll your projects in?

B3b. **[IF B3=YES]:** What are the benefits to you of the Energy Design Assistance (EDA) program?

B3c. **[IF B3=YES]:** What are the benefits to you of the Energy Efficiency Buildings (EEB) program?

B3d. **[IF B3=YES]:** Is there one of these that you prefer to use? Why?

B3e. **[IF B3=NO]:** Had you heard of Energy Efficient Buildings before today?

B3f. **[IF B3=NO]:** What would cause you to enroll a project in EEB?

B3g. **[ASK ALL]:** If you were to enroll a project in the EEB program, are there elements of the EDA track you would wish were present? Which ones?

B3h. **[ASK ALL]:** How would you feel if some of the projects you applied to have participate in EDA were approved for EEB instead?

B4. Do you ever recommend specific energy efficient equipment? Why do you / Why do you not make recommendations?

B4a. What types of energy efficient equipment do you recommend? (LED lighting, lighting controls, high efficiency HVAC system???)

B4b. What would cause you to recommend a larger number of energy efficiency measures than you generally do?

B4c. How would customers respond if you recommended a larger number of energy efficiency measures than you generally do?

B5. Are there certain types of energy efficient equipment customers are more receptive to having recommended?

PROBE for characteristics of these measures (e.g., simple to use, high energy yield, short payback etc.)

B6. Under what circumstances would you <u>not</u> recommend a client consider additional or higher-savings energy efficient equipment?

B7. Do customers ever react negatively to recommendations for energy efficient equipment?

PROBE for characteristics of these measures (e.g., complicated, high up-front cost, etc.)

B8. Do members of the [EDA implementer] ever recommend energy efficient equipment?

B8a. **[IF B8=YES]** What do you think about these recommendations?

PROBE for trade partner attitudes toward [EDA implementer] advising customers on measures

B8b. **[IF B8=YES]** To what degree do members of the [EDA implementer] encourage customers to modify their design plans so that the building creates more energy savings than was originally considered (for example, by advocating for additional energy efficient equipment)?

B8c. **[IF B8=YES]** How do customers respond to these recommendations?

B8d. **[IF B8=NO]** Would recommendations from the [EDA implementer] be valuable?

PROBE for trade partner attitudes toward [EDA implementer] advising customers on measures

Section C: Trade Partners' Motivations/Barriers to Participate

C1. What are the reasons you participate in the Energy Design Assistance Program?

C2. What are some things that make it difficult for you to participate in the Energy Design Assistance program?

PROBE: Amount of time? Limited client interest? Program paperwork?

C3. Do you work on any construction projects without participating in the Energy Design Assistance Program?

C3a. **[IF C3=YES] What** causes you to not participate?

C3b. **[IF C3=YES]** What would make you more likely to participate?

C4. In what ways are design team meetings helpful to you?

C4a. In what ways could design team meetings be more helpful to you?

PROBE for indication that respondent feels meetings are not worth their time

C4b. **[IF C4a INDICATES NEGATIVE ATTITUDES]** What would cause you to feel like the design team meetings were valuable for you to attend?

C5. Do you apply for the design team incentive available through the Energy Design Assistance Program?

C5a. **[IF C5 = YES]**: What is the benefit of this incentive to your company?

C5b. **[IF C5 = YES]**: Do you consider the incentive to be payment for your time attending the meeting and providing the required plans and supporting information?

C5c. **[IF C5b = YES]**: How does the design team incentive value compare to your costs for attending the design team meetings and providing the needed information?

C5d. **[IF C5 = YES]**: How long did it take to receive this incentive after submitting the design team incentive application?

C5e. **[IF C5 = NO]**: Why not?

PROBE: Don't know how, too time consuming, too small payment, etc.

C5f. **[ASK ALL]:** Is there a better way Xcel Energy could compensate you for your time spent with the design team meetings?

PROBE: public recognition such as an award, case study, etc.

C6. If energy modeling were no longer a part of the Energy Design Assistance Program, would the number of projects you complete through the program change?

C6a. In what ways?

C6b. Why?

C7. If energy modeling were no longer a part of the Energy Design Assistance Program, would the energy efficiency of the projects you complete through the program change?

C7a. In what ways?

C7b. Why?

C8. What would cause you to complete more projects, or projects with higher amounts of energy savings, via the Xcel Energy Energy Design Assistance Program?

Section D: Trade Partners' Perspective on Customers Barriers

D1. Why do clients include energy efficient equipment in their buildings?

PROBE: energy cost savings, marketing, green building certification, etc.

D2. What challenges do clients face when choosing energy-efficient equipment for their building?

PROBE: up-front costs, limited knowledge about energy efficient equipment, time, etc.

D3. Why do clients participate in the Energy Design Assistance program?

PROBE: incentive payments, help identifying energy saving measures, help with certification paperwork etc.

D4. Have you ever worked with a client who wanted to participate in the Energy Design Assistance Program, but attempted to do so too late in their design process to participate?

D4a. **[IF D4=YES]** Why did they not attempt to participate earlier in their design process?

D4b. **[IF D4=YES]** What could Xcel Energy do to help enroll these projects earlier?

PROBE: Offer an option for holding an early design charrette? Offer a bonus rebate to participants or trade partners to enroll earlier? Streamline the enrollment process?

D5. Do clients ever consider installing greater quantities or higher-saving energy efficient equipment than they actually install?

D5a. **[IF YES]** What are the reasons they wind up installing less/lower-saving equipment?

PROBE: Tried to integrate equipment too late in process?
Short building time line prioritized speed?
Up-front cost too high?
Avoiding equipment they are not experienced with?

D6. Under what circumstances do you think clients would install more energy efficient equipment, or equipment that created larger amounts of energy savings?

PROBE: More knowledge of EE options?
More familiar with successful implementation of EE equipment?
Lower up-front costs?
Greater energy savings?
Less rushed construction schedules?
If client paid utility bills (i.e., no split incentive)?
Future tenant/owner expressed interest in EE?

D6a. Would clients install more energy efficient equipment if a larger number of energy efficiency measures were recommended during design review meetings?

1. Yes

2. No
3. Don't Know

D7. Do clients have ideas about what energy efficient equipment they want to install before the design team meetings?

1. Yes
2. No
3. Don't Know

D7a. **[IF D7=YES]** Is this the equipment they wind up selecting for installation in the final design?

D7b. **[IF D7a indicates clients select different equipment]** Are clients' final equipment selections more or less energy efficient than their original selections?

D7c. **[IF D7a indicates clients select different equipment]** For what reasons do clients select equipment that is different from what they were initially considering?

PROBE for influence of modeling, design review meetings, or consultant recommendations on final customer measure choices

D8. Are customers interested in projects that yield high-levels of savings?

1. Yes
2. No
3. Don't Know

D8a. **[IF D8=YES]** Which types of customers? Are they typically a certain type of building or ownership structure?

D9. Do you ever recommend measures that would yield high levels of energy savings, but that might be more complicated to install or operate, or involve higher up-front costs? Why or why not?

PROBE for perception of recommendations' impact on customer satisfaction

Section E: Product Interaction

E1. We'd like to know how helpful different parts of the Energy Design Assistance Program are to you. I'll read a list of different parts of the product. Please rate each from 1 to 5, where 1 means that part of the product is not at all helpful, and 5 means that part of the product is extremely helpful.

E1a. Introductory meeting

E1b. Results review meeting

E1c. Energy modeling

E1d. Incentive payments

E1e. Recommendations you received from [EDA implementer] staff

E2. Do you believe energy modeling is a key component of the program?

E2a. How does energy modeling affect your client's decisions of what energy efficient equipment to install?

E2b. In what situations (e.g. building types or size) do you think projects need modelling?

E2c. If your clients received analysis and recommendations without the energy modeling, do you think this would change their actions?

E3. How difficult or easy would you say it was to complete the following tasks associated with the Xcel Energy Energy Design Assistance Program on a scale from 1 to 5, where 1 is extremely difficult and 5 is extremely easy?

E3a. Complete product applications

E3b. Submit product applications

E3c. Meet product deadlines

E3d. Satisfy design team incentive requirements

E3e. Submit design team incentive application

E3f. Get in touch with an Xcel Energy representative

E3g. Determine equipment / models that are eligible

E4. **Ask for any E3 responses LOWER THAN 4:** What about this wasn't easy?

E5. From the time work started to project completion, did the project take less or more time than you expected to complete?

Section F: Trade Partner Marketing

F1. What aspects of the Xcel Energy Energy Design Assistance Program do you discuss with potential customers?

PROBE: energy modeling, incentives, long-term savings on energy bills, market value of the building

F2. When in the design process do you typically discuss participation in the product?

PROBE: introduction, discussion of costs, etc.?

F3. Under what circumstances would you include that discussion earlier in the process?

F3a. How could Xcel Energy help to facilitate earlier dialogue?

F4. Who typically brings up the idea of participating in EDA?

PROBE: Customer, trade partner, Xcel Energy staff, etc.

F5. What questions or concerns do customers have during initial discussions about participating?

F5a. Does the design assistance or technical assistance available through the product ever come up in sales discussions with customers?

1. Yes
2. No
3. Don't Know

F5b. **[IF F5a = YES]** When in the conversation is this assistance typically mentioned?
F5c. **[IF F5a = YES]** To what extent does this assistance help or hurt the sale?

Section G: Evolving Market Place

G1. What do you see as new/emerging energy efficiency opportunities for business new construction customers?
G2. What do you see as trends in the market place for energy efficiency programs serving business new construction customers?
G3. What role do green building certifications (like LEED) play the in the construction market?
PROBE: How do these certifications affect building owners design choices?
G3a. Has this changed over time? In what ways?
G3b. Has the number of buildings pursuing this type of certification changed over time?
G3c. Will the number of buildings pursuing this type of certification change in the future?

Section H: Free ridership

H1. On a scale of 0 to 10 where 0 is NOT AT ALL IMPORTANT and 10 is EXTREMELY IMPORTANT, how important was the Xcel Energy Energy Design Assistance Program, **including incentives as well as product services like the design team meetings and energy modeling**, in influencing your decision to recommend that CUSTOMER install the energy efficient equipment they did?

H2. How important was your firm's past participation in the Energy Design Assistance Program in recommending that CUSTOMER install this energy efficient equipment?

H3. Using a 0 to 10 likelihood scale where 0 is NOT AT ALL LIKELY and 10 is EXTREMELY LIKELY, if the Xcel Energy Energy Design Assistance Program, **including incentives as well as product services and information,** had not been available, what is the likelihood that you would have recommended installing the same energy efficiency measures?

H3a. In what percent of projects do you recommend integrating energy efficient design features?

H3b. Thinking only about these projects in which you recommend energy efficient design features, about what percent of these projects do you complete through the Xcel Energy Energy Design Assistance Program?

H3c. For those projects you complete through the Xcel Energy Energy Design Assistance Program, do you recommend specific energy efficient equipment <u>before</u> the design review meeting?

H3d. **[IF H3c=YES]** Why do you make recommendations at this stage of the design process?

PROBE: Standard practice in industry to make initial recommendations?
Experience with customer preferences indicates preferred measures?
Previous experience with recommended equipment via product?

H3e. **[IF H3c=YES]** Are the measures you recommend prior to the design review meeting the ones the client winds up installing?

H3f. **[IF H3e=NO]** What causes them to select alternative measures?

H3g. **[IF H3e=NO]** Does the design review meeting cause them to select alternatives? In what ways does it have this impact?

****

Consistency check
[Ask If (H1 > 7 AND H3 >6 i.e., *Product was important AND would have recommended without product*) else skip to H1]

H4. You just gave <H1 RESPONSE> points to the importance of the product in your decision to recommend that CUSTOMER install the energy efficient equipment they did. I would interpret that to mean that the product was quite important to your decision to recommend equipment. Later, when I asked about what you would have done in the absence of the product I recorded some answers that would imply that the product was not that important to you. Just to make sure I have recorded this properly, I have a couple of questions to ask you.

H4a. When I asked you about the importance of the Product, including incentives and services, you gave a rating of ...<H1 RESPONSE> ... out of ten, indicating that the product and the incentives were important to you. Can you tell me why the product was important?

H4b. When I asked you about the likelihood you would have recommended installing these energy efficiency features without the product, you gave a rating of ...<H3 RESPONSE> ... out of ten, indicating that the product was not that important to you in that you would have recommended the measure anyway. Can you tell me why the product was not that important?

****

Section I: Satisfaction

Using a scale from 1 to 5, where 1 is extremely dissatisfied and 5 is extremely satisfied, please rate your satisfaction with the following items:

I1. Your **overall satisfaction** with the Program?

I1a. **[IF I1<4]**: What could Xcel Energy do to increase your satisfaction with the Energy Design Assistance Program?

I2. Energy Design Assistance Program **staff**?

I3. The size of the design team **incentive**?

I4. The **process** for assessing project savings?

I5. The **design assistance** meetings?

I5a. What about these meetings was helpful?

I5b. How could these meetings have been more helpful?

I6. The **modeling** completed for the project

1. Did the consultant change the bundles during the results review meeting so you saw the impact on the rebate, energy savings and payback during the meeting or

2. Were changes to the bundles done after the meeting and were results presented at a later time?

I6a. What about the modeling was helpful?

I6b. How could the modeling have been more helpful?

I7. What would you change about the Energy Design Assistance Program to help you complete projects with higher levels of energy savings?

PROBE: bigger incentive, different modeling, changes to design team meetings, educating customers about energy efficiency, etc.

I7a. **[IF I7 indicates bigger incentive]** Can you tell me a little more about why a higher incentive is needed?

I7b. **[IF I7 indicates bigger incentive]** How much larger would the incentive need to be to help you complete projects with higher levels of energy savings?

I8. What feedback have your customers given about their experiences with the Xcel Energy Energy Design Assistance Program?

Section J: Closing

J1. Is there anything we didn't cover that you'd like to mention or discuss about your experiences as a participating trade partner for the Xcel Energy Energy Design Assistance Program?

J2. We are going to send you a $25 Tango gift card as a small thank you for your time. Can I verify your email address so we can get it to the right place?

J3. Thank you. Those are all the questions I have today.

THANK AND TERMINATE

ADD RESPONDENT INFORMATION TO GIFT CARD TRACKING SPREADSHEET

B.5 Benchmarking Interview Guide

Introduction

To support the process and impact evaluation of the 2017 Xcel Energy energy efficiency products, 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 six peer utilities.

This document presents the in-depth interview guide for the Business New Construction Product peer utility interviews. Interviews will be conducted with six of Xcel Energy's peer utilities. Table 7 includes a list of ten peer utilities from which EMI will attempt to recruit six respondents. At the request of Xcel Energy, EMI Consulting will prioritize recruiting ComEd and Savings by Design so that these programs are included in the sample. Target respondents are managers of business new construction energy efficiency programs.

Table 7: List of Peer Utilities

Utility	Program Name
ComEd (IL)	Energy Efficiency Program – New Construction
Savings by Design (CA utilities)	Savings by Design
MidAmerican Energy (IA)	Commercial New Construction
New Jersey Utilities (NJ)	SmartStart Buildings
Baltimore Gas and Electric (MD)	Comprehensive New Construction
SnoPUD (WA)	New Construction
Delmarva Power (MD)	New Construction
Potomac Edison (MD)	Custom Buildings Incentives Program
Alameda Municipal Power (CA)	Commercial New Construction
Consumers Energy (MI)	New Construction Incentive Program

The remainder of the introduction provides the research themes which this guide is designed to address and fielding instructions for the interviewers.

Interview Guide Research Themes

- **Net-to-gross (NTG) savings approach –** We will describe the NTG approach of peer utility programs, including the NTG ratio applied (if any), and any relevant details about how this ratio is calculated. This will facilitate a more nuanced interpretation of the savings results in our research.

- **Program description –** We will provide a summary of peer programs identified, including their objectives, relevant features of their implementation strategy, the measure types and incentives offered, recruitment strategy, characteristics of their target customers (e.g., specific market segments or building types), and whether they have an implementer(s). If the program has multiple

implementers we will explore how the that works with the program design. These findings will provide a useful point of comparison for identifying the ways in which Xcel Energy's Business New Construction Product is similar to other new construction programs and where it differs from these programs. We will also use these findings to identify potential alternative approaches to Xcel Energy's product.

- **Market actor engagement practices -** We will identify peer programs' approaches to engaging and motivating owners and design professionals to implement measures. This will include their methods for identifying and presenting efficiency opportunities, information supplied to market actors to support decision making, and how peer utilities' have been successful in driving customers to implement more measures. Interviews will also discuss if peer programs have seen a negative impact on participation if recommendations are more aggressive. We will use this information to better understand how the program could motivate design professionals and owners to implement more measures and higher yield measures.

- **Program requirements –** We will examine peer programs' requirements including building size thresholds, how program offerings vary by building size (e.g., cost-effectiveness of modeling smaller buildings), if offered, how projects are screened into program tracks (beyond just building size), and requirements around minimum achieved savings. This will help the evaluation team gather more detailed information in which to make recommendations to Xcel Energy on how the Business New Construction Product could be modified to increase cost effectiveness.

- **Incentive levels and structure -** We will identify peer programs incentive structures for participants, comparing results to Xcel Energy's incentive levels and structure. The evaluation team will also research if Trade Partners are offered an incentive, and if so, the amount of the incentive and the requirements to receive it. We will also examine if Trade Partners are offered an enrollment or recruitment incentive. We will use this information to identify possible ways for the product to increase participation, the number of measures installed, and the total energy savings per project. It will also be used to understand if the design team incentive is effective or if there is a different mechanism that may be better.

Table 8 identifies the interview questions related to each key performance indicator. Table 9 identifies the interview questions related to each contextual theme.

Table 8: Mapping of interview questions to indicators

Key Performance Indicator	Data Needed	Interview Questions
Program energy savings goals	• 2017 program energy savings goals (MWh) • 2017 program's savings (MWh) • 2017 total energy efficiency portfolio goal (MWh)	B2-B5
Program budget cost of acquisition (e.g. $/MWh, $/Mcf)	• 2017 program budget • 2017 total gross energy savings for each peer program	B6
Customer Participation Levels	• Number of projects completed in 2017	B1
Net-to-gross ratios (NTGRs)	• NTG methods	B3
Total resource cost test (TRC) values	• TRC values	B7

Table 9: Mapping of interview questions to contextual themes

Contextual themes	Data Needed	Interview Questions
Program description	• Objectives of program • Features of implementation strategy • Recruitment strategy • Program staffing • Target customer characteristics (e.g., market segments, or building types)	A1-A7, C1-C2, D1-D5
Net-to-gross (NTG) savings approach	• NTG method, ratio applied, calculation details	B3
Market actor engagement practices	• Identifying and presenting opportunities • Information supplied to decision makers • Promoting larger quantities of measures • Impact of more aggressive recommendations on customer participation	C1-C6, D4-D5
Program requirements	• Building size thresholds • How program offerings vary by building size (i.e. modeling) • Screening projects into program tracks • Minimum required savings	A1, A3-A5, C3
Incentive levels and structure	• Participant incentives • Trade partner incentives • Non-monetary trade partner incentives • Types of measures • Measure and incentive processes	A6-A7, D4

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 business new construction energy efficiency programs. As part of this study, we are reaching out to leaders of business new construction programs to learn about innovative programs and best practices in the field.

We would like to include UTILITY in this study, as your business new construction program has been identified as an [innovative/peer] program. In your interview, we would talk about your business new construction program's design and implementation, as well as its successes and challenges. We would be very happy to share an anonymized version of our report on peer business new construction programs with you once we've completed our research.

[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; ATTEMPT TO CONVERT TO "YES"]**

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?

a. [If not known] Do you include new construction, major renovations, and additions?

   i. [If renovations and if not known] Do you have specific definition of size of the renovation to participate?

b. What are the program's overall objectives?

c. [If not known/confirm] Do buildings have to be over a certain size to participate in the program?

d. Do you accept any building type?

e. [If not known/confirm] Do projects have to obtain a certain minimum percent savings?

f. Is your program run by utility staff or a third-party implementer? *(ex: Franklin Energy, DNVGL, Clear Result)*

i. *IF third-party implementer PROBE for how that works with the program design.*

ii. How is the implementer compensated? E.g. by square foot, by kWh, etc.

g. How many PROGRAM STAFF OR IMPLEMENTER STAFF members support the program? What are their approximate FTEs? *(ex: Prog. Manager, Field Rep., engineer, others? %FTE on this program?)*

h. Have there been any recent changes to the program?

i. Are any changes planned in the near future?

A2. What are the implementation strategies used by staff or implementers?

a. Do you offer technical assistance?

PROBE: Energy modeling?
Facilitate design team meetings?
Early design charrettes?

b. What types of measures do you offer?

PROBE: Prescriptive, Custom, Design

A3. [IF THEY OFFER ENERGY MODELING] Can you please describe your energy modeling?

PROBE: for details regarding real-time modeling or traditional DOE2, or some other tool, cost effectiveness, etc.

A4. Does the program have multiple "tracks" such as an offering for smaller buildings and another for larger buildings?

[IF A4=Yes] How do the program offerings differ by track?

a. Do you offer whole building modeling for smaller projects? If yes, do you find it to be cost-effective? How?

b. [IF A4=Yes] How does your program screen buildings into each track? (e.g. do they use anything other than building square footage such as the complexity of the project, end use, etc.)

A5. Does the program offer different services depending on the size of the building (e.g., modeling for large buildings only)?

PROBE for details

A6. Next, I'd like to talk about your program's efficiency incentives.
[ASK/CONFIRM BASED ON HOLES IN BACKGROUND RESEARCH. CAN ASK QUESTIONS BELOW OR ASK RESPONDENT IF OK TO FOLLOW UP VIA EMAIL]

[IF INCENTIVE INFORMATION IDENTIFIED IN SECONDARY RESEARCH ask a. else c.]

a. On your program's website, I see that you offer incentives for [DESCRIBE OVERVIEW OF PROGRAM INCENTIVE STRUCTURE AND LEVELS FROM SECONDARY RESEARCH]. Is any of that inaccurate?

[IF <u>NO</u> INCENTIVE INFORMATION IDENTIFIED IN SECONDARY RESEARCH ask 6 else c.]

b. Can you recommend a web page or other resource where I can find a list of your program structure and incentive values?

    a. If "NO": What specific measures are offered? What are the incentive levels for each measure?

c. Besides the incentives for installing equipment that we just discussed, does the program offer incentive payments for any other specific activities?

PROBE: Attending design meetings?
"Finder's fee" for enrolling projects?
Enrolling projects early in design phase?

d. Do you offer any early design incentives, like design charrettes?

e. Do you offer or have you considered offering higher incentives for higher project savings? E.g., offer a bonus for projects with higher savings?

A7. **[IF USING NON-PRESCRIPTIVE MEASURES:]** What baseline do you use?

a. What documentation is needed?
b. Who supplies that documentation?
c. Do you track invoices or incremental cost data?
    a. If yes, how?

Section B: Savings Goals/Cost

Next, I'd like to talk about the participation and energy savings achieved through the program in 2017.

[ASK/CONFIRM BASED ON HOLES IN BACKGROUND RESEARCH. CAN ASK QUESTIONS BELOW OR ASK RESPONDENT IF OK TO FOLLOW UP VIA EMAIL]

B1. How many projects were completed in 2017?

B2. What were the program's energy savings goals in 2017? (MWh)?

B3. Are these goals based on gross or net savings?

a. Did/will you apply an NTG ratio to these savings?

b. What NTG ratio do you use?

c. What methods are used to calculate NTG ratio?

d. Are NTG ratios estimated at the program level, project level, or both?

B4. How much net/gross energy savings did the program report in 2017?

B6. 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?

B7. What type of cost effectiveness test is applied to the program?

a. If Total Resource Cost (TRC), what was the TRC in 2017?

Section C: Program Participation - Customers

Next, I'd like to talk about how the program engages customers and trade partners.
[ASK/CONFIRM BASED ON HOLES IN BACKGROUND RESEARCH ON PROGRAM]

C1. How does the program engage potential program participants?

PROBE: What marketing practices do you use to increase customer awareness of the program?

a. What has been the most effective?

b. What has been the least effective?

C2. Do you/your implementer identify specific buildings/opportunities to target for recruitment? E.g. Certain types or sizes of buildings)

a. How do you identify these opportunities?

b. How do you recruit these specific individuals to participate?

C3. Are there any projects or buildings that you don't allow to enroll into the program?

a. If yes, why? (cost effectiveness, too little savings, too late in design, etc.)

C4. Do you/your implementer recommend measures to participants?

a. Why / why not?

b. How do you decide what measures to recommend?

PROBE: all applicable measures maximum savings, cost-effectiveness, impact on load shape, etc.

c. How do you present recommendations to participants?

PROBE: with a report, in a meeting, through their design team, etc.

d. What information is presented about recommendations?

PROBE: savings, cost, ROI, etc.

e. How do participants respond to these recommendations?

PROBE: Any negative responses?

f. Are there any types of measures that participants are particularly responsive to having recommended?

g. Have participants ever responded negatively to having more measures recommended?

PROBE for perceived impacts on customer relationship and participation

h. Do you feel that recommending more measures results in higher implementation?

C5. What do you think is the most effective method for getting a participant to choose a package of measures that yields a high amount of energy savings?

C6. **[IF PROGRAM INCLUDES EARLY DESIGN CHARRETTES]** What impact do the early design charrettes have on participants' measure choices?

PROBE: Increase quantity? Increase energy savings?

Section D: Program Participation – Trade Partners

Next, I'd like to talk about the program's trade partners.

D1. What types of professionals do you work with?

D2. What is the relationship between these trade partners and the program?

PROBE: Registered trade partners? Open participation?

D3. In what ways do trade partners interact with or support the program?

PROBE: Complete customer paperwork? Attend design meetings?

D4. What activities do program staff conduct to encourage trade partners to participate?

a. Does the program offer trade partners incentives?

[IF YES ask b -c else d]

b. What do trade partners have to do to earn the incentive?

PROBE: Enrolling projects? Attending design meetings?

c. Do incentive payments to trade partners scale with the energy savings of the project?

d. Does the program offer things besides incentive payments to encourage trade partners to participate?

PROBE: Training? Marketing assistance? Awards?

e. How do <ANSWER FROM D5d> differ from incentive payments in their effect on trade partner activities?

D5. What role do trade partners play in driving customer participation in the program?

a. Do trade partners recommend measures to customers? Is this part of the program's design?

b. How satisfied are you with the measures trade partners recommend?

c. Do you encourage trade partners to persuade customers to install larger quantities of measures, or measures that would yield higher energy savings?

d. How do you encourage these recommendations? How effective is this method?

Section E: Closing

E1. Great! Thank you so much for your time. Those are all the questions we have for you today. Before we finish, do you have any questions for me, or anything else you would like to add?

APPENDIX C: STAFF INTERVIEW SUMMARY

To support the process and impact evaluation of the 2017 Xcel Energy efficiency programs, the EMI Consulting evaluation team conducted telephone interviews with key staff managing and implementing the Minnesota Business New Construction 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 Business New Construction product:

- Product Manager
- Marketing Assistant
- Engineer
- Account Managers
- Implementer Program Manager
- Implementer Outreach Lead

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

Key Takeaways

Below are key takeaways from staff experiences with the MN Business New Construction product. These key takeaways provide a summary of the program context and feedback received during both the kick-off meeting and the subsequent staff interviews.

- The product has been in operation since 1993. Over its lifetime the product has been very successful, meeting or exceeding its regulated energy savings goals.
- While many staff discussed high product penetration, they also believe the market is not saturated. All staff members believe the product is valuable to customers and that it influences market actors by providing knowledge and information to support customer decision making.
- The Business New Construction product consists of two tracks, Energy Design Assistance (EDA) and Energy Efficient Buildings (EEB). EDA is an integrated design process intended for larger buildings with more complicated systems that benefit from whole building energy modeling. EDA offers an enhanced track for those projects that are pursuing certification, such as LEED or SB 2030, and have more aggressive energy goals that would benefit from earlier product involvement and additional modeling. EEB is a prescriptive savings approach designed for smaller buildings with simpler systems that don't need energy modeling. As more focus is placed on cost-effectiveness, there is a strong desire from product staff to investigate screening metrics or methodologies to ensure projects enroll into the track best suited to their building, its systems, and potential opportunities.
- In 2016 and 2017 the EDA program shifted from 3 tracks (quick, basic, and enhanced) to its current two tracks (standard and enhanced). The shift was driven by the development of the on-line modeling tool. This program change is an important distinction for the evaluation as participants who started projects before 2016 stayed in the old tracks. Therefore, standard track participants who closed a project in 2017 or 2018 may have followed the old standard track which did not include real-time modeling. As such their feedback on items such as barriers, experience, and satisfaction

will need to be taken in context with the program design they experienced and extrapolated to the current program design. The evaluation team will work with Xcel Energy to potentially identify which track customers were on ahead of interviews, otherwise we will ask questions of customers, such as "Did you experience on-line modeling during your results review meeting?" to help identify their track.

- All staff interviewed believe the real time energy modeling is one of the product's main strengths. However, almost all staff also said they believe the product is relying too heavily on repeat customers and repeated or "cookie-cutter" measures. As energy modeling is a major cost to the program, there is question as to whether its benefits are being fully realized and if savings are being left on the table
- There is an apparent disconnect between Xcel Energy goals (net benefits and cost effectiveness), the implementer and design professional compensation structure (square footage), and the participant incentive structure ($/kW, $/kWh, $/Gth).
- The product offers a design professional incentive intended to compensate design teams for their time spent participating in the program. It is unclear whether this incentive is still effective in motivating design professionals to participate and engage.
- The state of Minnesota has had legislation requiring energy efficiency in state buildings since 1991. The current legislation is SB 2030, which requires all state-bonded Minnesota buildings to meet the targets in the table below. SB 2030's mission also includes training architects to incorporate performance standards in building design and incorporating the performance standards in utility conservation programs. Due to this legislation, the evaluation team and Xcel Energy believe there is some risk that market actors will credit energy efficiency updates to the existence of the legislation and/or they would have taken the same actions because of the legislation, potentially increasing free-ridership. We also believe there is risk that portfolio managers would apply SB 2030 requirements across their portfolio so they don't have to manage two sets of requirements, especially as funding cycles vary. While staff believe the existence of the product enabled the passage of the legislation (i.e. measured as market effects), in fact the legislation in some form has existed during the entirety of the Business New Construction product. As the most recent legislation was passed a decade ago and Xcel Energy does not have any documentation of regulatory proceedings, testimony, technical documents or decisions, it will be extremely difficult to estimate market effects.

Year	Reduction compared to 2003 building
2010	60%
2015	70%
2020	80%
2025	90%
2030	100%

Product Activities, Goals, and Resources

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

Based on staff interviews and review of available product documentation, the following sections present the evaluation team's understanding of the key activities performed by product staff, the primary goals of the product, and the resources used to deliver the product.

Activities

- Potential projects are identified through a number of channels including an industry subscription (Construct Connect), reviewing trade publications, reading cities' meeting minutes, and consistent networking and communication with architects, engineers, and past participants. Xcel Energy Account Managers also recruit projects based on their interactions with their customers.
- To build and retain product awareness, outreach activities include having a presence at American Institute of Architects (AIA) and local U.S. Green Building Council (GBC) events. The implementer has an AIA accredited course that teaches the value of energy modeling and talks about the product.
- Once an application is submitted and approved, participants have an introductory meeting. The purpose of this meeting is to educate the participants on the EDA program and its requirements, clarify current project details and building information, identify key contacts, and identify possible energy efficiency opportunities.
- Using the information collected from the introductory meeting a whole building energy model is created. At least three bundles of energy savings options are prepared, where each subsequent bundle layers on additional savings from measures that may have longer payback period or were not initially under consideration.
- The Xcel Energy engineer works with the implementer to review and approve any measure that isn't a standard measure in the modeling tool.
- In the results review meeting the customer is presented with the bundles. The strategies and costs are reviewed, and changes to the packages are discussed and dynamically modeled in real time during the meeting. The outcome of the results review meeting is the customer choosing a bundle and proceeding with construction.
- Enhanced EDA track projects undergo a Construction Document (CD) review to compare the chosen package to what was actually installed so Xcel Energy can identify any exclusions and influence needed changes. The product used to do CD review for all projects but found that for standard track projects by the time the CD review was complete the building was constructed and there was no opportunity to implement corrections. s.
- After 80% occupancy, 100% of participant buildings undergo site verification. Site verification mainly includes visual verification of measure installation but may include some metering for measures such as occupancy sensors.
- Participants are paid $400/kW, $0.04/kWh, and $5/Dth based on verified energy savings.
- If requested by the design lead, Xcel Energy pays design professionals (via a separate application process) a separate flat-rate incentive based on square foot.

Square Footage	< 49,999	50,000 – 99,999	100,000 – 399,999	400,000 +
Incentive Amount	$4,000	$8,000	$10,000	$12,000

Goals

- In talking with the product PM, EMI Consulting and Xcel Energy agreed the historic achievement and 2018 projected savings would be the best representation of program size, especially for benchmarking purposes.

	2017	2018
Gen. GWh	49.3	56.3
Dth	91,715	TBD

- Staff identified various non-energy goals:
  - Several staff reported one goal for EDA is to get as many buildings into the product as possible.
  - Multiple staff interviewed discussed market education as a goal of the product. Product staff want to provide data at the right time to support customer decision making. They also reported that educating customers about opportunities for future projects is important.
  - Two interviewees discussed the importance of successfully maintaining and managing an accurate project pipeline. Related, managing individual projects so they are forecasted correctly in future year is also an important goal for the product. Both Xcel Energy and the implementer discussed pipeline management as the focus of their regular meetings.

Resources

- Depending on the number of projects in the pipeline, the product has 15-20 full time staff serving the EDA program.
- Resources used by Xcel Energy product staff to conduct their jobs include internal data tracking systems, like Salesforce and an Excel tracking database, and access to a construction lead subscription service for TWG staff.
  - Xcel Energy has an internal Salesforce system. Specific data fields tracked by Xcel Energy include rebate information, projected energy savings, trade partner, application dates and project close dates.
  - All project information including prospective projects, where projects are in the pipeline (prospect, application, etc.), people associated with each project, where projects are in the design process, project documents, and project notes are housed within the implementer's online tracking system.
  - The Excel tracking spreadsheet was designed and developed prior to the implementation of Salesforce and includes project names, up to date energy savings and incentive information, projected completion date, and who is on the project team. Staff members use this and Salesforce as checks and balances to make sure the product forecast is correct and generally believe the Excel tracking tool is more accurate and up to date than the data in Salesforce.
- Staff also mentioned wanting to track several types of information not currently tracked in Salesforce, including: incremental cost data, individual measure level descriptions and end use data, documentation of ownership changes, and more detail as to where projects are and if they're moving along, as often it can be months or years between updates in Salesforce.

Product Strengths and Barriers

During interviews, staff identified the following strengths and barriers to implementing this product in 2017. 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

- Staff members highlighted the high market awareness and product penetration. The long program history and good industry reputation encourage active participation from a large portion of buildings.
- All interviewed staff discussed the collaborative decision-making experience created by the real-time modeling as one of the most valuable aspects of the product. The real-time modeling allows project teams to investigate options and to dive deep into systems analysis without having to conduct additional analysis or schedule follow up meetings. This reduces the design team time commitment and streamlines decision making by avoiding the long and arduous back and forth modeling process that is typical of new construction programs.
- Staff also discussed how the modeling process supports A&E firms in design conversations with customers. When customers are on the fence about trying something new or are facing budget constraints, the Xcel Energy modeling process provides data about the energy savings and cost effectiveness of various options under consideration. Staff members discussed how this data can flip a decision for owners to install energy efficient equipment.
- The holistic and turn-key approach the product offers customers was also discussed by staff interviewed. The fact that both electric and natural gas incentives are provided by the product under one umbrella is a benefit, as is the fact that customers don't have to track invoices or fill out a lot of paperwork.

Challenges

- Staff believe market actors see the Business New Construction product as the implementer's program, as opposed to a service offered by Xcel Energy. While this is likely due to the way the product was handled in the past, Xcel Energy is conducting advertising and awareness building to once again become the public face of the product.
- Xcel Energy staff all discussed an unwillingness on the part of implementer to more aggressively make recommendations to participants. This shows up both in the number and type of measures recommended within the modeling capability of the tool as well as recommending technologies that are outside the modeling tool. Xcel Energy staff feel that the implementer's recommendations are "stuck" inside the box of lighting and HVAC, despite the tool having the capability to model many other measures. Additionally, some staff expressed concern about how measures that are approved in other products, such as high-speed dock doors, efficient elevators, or pool covers, but aren't in the implementer's modeling tool aren't recommended in the Business New Construction product. The concern is that the product is missing opportunities with proven technologies that are appropriate to the building's use type and design, but outside the modeling tool.
- Some staff described "split-incentives" as being a challenge for the product. In this case there are two split-incentives; 1) when a developer may sell a building before significant benefits of energy efficiency accrue and 2) when the owner responsible for up-front costs of energy efficiency measures don't pay the energy use bill, which is when savings would be realized.
- While the product has high penetration and awareness with local market actors, there is a lack of awareness for non-local A&E firms and owners. Staff reported in these cases it is challenging to engage, build trust, and get an application in within the required timeframe.
- As new construction programs' savings are heavily dependent on the code baseline, increasing code requirements are an ongoing challenge for the product. This is especially true as product goals shift to cost-effectiveness metrics.

- Two staff members mentioned the flexibility of the EDA reports introduces significant variability in the information collected as requirements are not consistent or clear. The variability makes it difficult for the product to capture information such as end use or measure descriptions, which makes it difficult to analyze measure cost-effectiveness.
- Interviewed staff gave different interpretations of the effectiveness of the design team incentive. While some thought it was important for getting repeat referrals from the design team and architects because the incentive covers their cost of participation, other staff reported design teams are trying to show the ownership group they're leaving no stone unturned and that the incentive doesn't influence their process.

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 2017 Business New Construction product.

- Understand what motivates Architect and Engineer (A&E) firms and customers to participate in the product.
- Assess the customer experience to understand what is working well, what they find are the most important or valuable aspects of the program, and to identify potential offerings that might improve their experience.
- Assess the A&E experience to understand what is working well and what they find are the most important or valuable aspects of the program.
- Assess market actor satisfaction with the product.
- Identify what would motivate market actors to implement more measures and higher net benefit measures.
- Test the hypothesis that more aggressive efficiency recommendations would negatively impact product participation and that making additional recommendations would lead to a higher implementation rate.
- Identify possible strategies to more effectively screen and enroll projects into the EEB and EDA tracks while retaining A&E firm engagement.
- Understand if the design team incentive is still effective or if there is a different mechanism that would be more effective.
- Compare Xcel Energy's program requirements and incentive structure to benchmark utilities' program requirements and incentive structures.

In addition to the evaluation priorities outlined above, staff interviewees identified additional research needs that will not be incorporated into the evaluation plan. These needs are called out below for possible future Xcel Energy research:

- Implement changes to report formatting that retains current flexibility yet reduces variability through consistent and clear requirements for project information.
- Asses how to collect better measure descriptions and end use categorization.

- Investigate ways to get better incremental cost data.
- Investigate the possible benefits of electrification.

APPENDIX D: PARTICIPATING CUSTOMER INTERVIEW RESULTS

D.1 Introduction

To support the process and impact evaluation of the 2018 Xcel Energy energy efficiency programs, the EMI Consulting evaluation team conducted telephone surveys with Business New Construction product participants. This appendix presents analysis results from each of the survey research questions.

D.2 Analysis

Abbreviations:

C, HS – Completed, high savings projects
C, LS – Completed, low savings projects
IP, HS – In-progress, high savings projects
IP, LS – In-progress, low savings projects

Section A: Background

A2: Can you briefly describe your company's work?

Category	C, HS	C, LS	IP, HS	IP, LS	Total	%
Multifamily Development	2	1		2	5	16.7%
Affordable Housing Development		1	1	2	4	13.3%
Construction Management	1		1		2	6.7%
Commercial Development		1	1	1	3	10.0%
Owners Representative				1	1	3.3%
Education	1	2	2	2	7	23.3%
Retail	1		1		2	6.7%
Grocery			1		1	3.3%
Medical/Health-Related			1		1	3.3%
Hospitality			1		1	3.3%
City/Government				2	2	6.7%
Manufacturer/Industrial	1				1	3.3%

Open-ended responses included:

- "Hunt Development is the local rep for 4900 Excelsior LLC; take project through completion and certificate of occupancy then they are out of it; apartment building"
- "Retail store--140,000 sq. ft"
- "Construction manager-General contractor"

- "Build out of a building in Shakopee; architect recommended EDA; worked with TWG and they lead effort on EDA; partnered with Xcel and CenterPoint; building originally constructed in 1999 and finish space…working on getting it to code; Emerson is a manufacturer"
- "126 unit; class a asset; 168 cars underground parking; very nice features in building; onsite staffed 7 days a week; apartments; 60% people retired"
- "College--education…performance commons…name of addition and the Weitz Center; addition to an existing building"
- "Developer"
- "School district"
- "Developer and owners rep and do design work"
- "Opportunity housing; Coyle was wrapped into a larger building portfolio"
- "University"
- "Tenant that will be occupying the building; so built to suit; we have worked with Dept of Economic Development in MN and they shed light on opportunities including EDA"
- "Development consultant and work with housing developers on creating affordable housing; ownership and developers are the same…just assisting"
- "University of MN—education"
- "Construction manager; estimating it and making sure it stays on budget; present cost analysis to owner"
- "Developer/Owners Rep for Scheels store---sporting goods/retail stores"
- "School District"
- "Hy-Vee grocery store chain"
- "Develop and operate hotels. We hire a GM to facilitate the construction, and outside architects and engineers for design, use in-house staff to monitor projects. Also do renovations. We have about 40 hotels in the portfolio right now. We also manage our hotels for longer periods of time. Some we've owned for 30 years, so sometimes we put in a little bit more to make sure the property stays intact"
- "Construction and development; this was a development lead project"
- "A real estate development company. MF housing"
- "Developer/Owner of the properties and this one in particular; MF housing"
- "City facilities"
- "Non-profit affordable housing developer and provider; 45 years; also do job training; two developments on the same site connected by the old grain site"
- "Main Street Companies is the parent company for a lot of development projects. We get involved in renovations of existing buildings and a bit of commercial space… and also new development for apartment buildings."
- "Owners rep that built for them"
- "Non-profit affordable housing developer/manager"
- "School district"
- "Met Council (Metro Transit); build and run metro system in Minneapolis and St. Paul; light rail and bus
- Education; private college"

A3: What is your title or role at your company?

Category	C, HS	C, LS	IP, HS	IP, LS	Total	%
Owner	2				2	6.7%
Project Management		2	2	4	8	26.7%
Business Development/Analyst		1	2	2	5	16.7%
Energy/Engineering Management	4	1	2	1	8	26.7%
Executive Level Management			1	2	3	10.0%
Construction Management		1	1		2	6.7%
Developer			1	1	2	6.7%

A4. Has your organization built multiple buildings?

	C, HS	C, LS	IP, HS	IP, LS	Total	%
Yes	6	5	8	10	29	96.7%
No	0	0	1	0	1	3.3%
Don't Know	0	0	0	0	0	0.0%

Other information participating customers offered:

- "Did one other EDA project--in another apartment building in St. Louis Park; project completed"
- "Yes, that is their business""
- "Last 6-8 years they have done a few buildings that have gone through EDA"
- "3-5 years: 5-10 buildings (MF buildings)…closer to 10; 2-3 per year for MF"
- "Built in 2 phases and they are moving in Oct 2018 and then Phase 2 finished in June 2019"
- "Yes, about 40"
- "From the ground up? This the third building"
- "5 or 6 years on Vikings; US Bank Stadium; TW Performance Cities"
- "Extensive remodeling"

A4a. How many?

- Just this one through EDA; last 25 years he has been involved with 20 buildings
- 2 or 3 have gone through EDA ; there are many Costco's
- 100's
- 3-4 buildings in EDA
- 4
- Multiple
- 9 in the last three years
- 10 buildings are in the district, were built at various times
- 2-3 per year
- 2 to 3
- Major renovations more common (3 new buildings as well)
- N/A
- 100
- 10 project managers so lots going on

- 100's
- 5 in last five years
- 6 buildings
- 3-5 stores each year and remodels on top of this
-
- Lots of buildings and expands the country
- 7
- 10
- 5 or so
- 7 to 10
-
- Multiple
- 3
- 5
- Not sure but probably 6 or so
- 3

A4b. About how many have Xcel Energy as their energy provider?

- All in Xcel; some have CenterPoint Gas
- At least 3
- 1/2
- Not sure how many are in Xcel service area
- All
- All
- Most
- 10
- 1-2 per year
- Most
- All
- N/A
- All over the state
- Most
- NC and renovations; MN, WI, ND
- Some are
- All
- 10-20%
- Don't know
- Some
- 6
- 5

- Yes
- All
- This is the first one.
- All
- Yes
- No, 3 with Connexus
- All
- All

A4c. How many of these buildings have participated in the Energy Design Assistance Program?

Category	C, HS	C, LS	IP, HS	IP, LS	Total	%
All	2	1	2	3	8	26.7%
Most	2	3	3	2	10	33.3%
Some	1	1	3	2	7	23.3%
Few	1	0	0	3	4	13.3%
None	0	0	0	0	0	0.0%
Don't Know/Other	0	0	1	0	1	3.3%

A4d. How many of your buildings have participated in a rebate program offered by another utility? (or Xcel if all in their service area)

Category	C, HS	C, LS	IP, HS	IP, LS	Total	%
All	2	1	2	6	11	36.7%
Most	2	1	4	2	9	30.0%
Some	1	2	3	2	8	26.7%
Few	0	1	0	0	1	3.3%
None	1	0	0	0	1	3.3%
Don't Know/Other	0	0	0	0	0	0.0%

A5. Why did you enroll in the Xcel Energy Energy Design Assistance Program?

- Did not enroll; inherited
- Incentives so lucrative worth spending the extra time required to get the savings
- Maximize rebate; as well as make the best decisions on energy efficiency; Xcel is a great resource to make this happen, EDA is best resource to make this happen
- Value to make sure equipment putting into service meets your long-term energy needs; cost effectiveness of it; rebate that allows you to invest in better performing equipment
- Incentive to do a better job and build a more energy efficient building; lowers the payback of building a higher quality and more efficient building; save lots of money on operating cost
- Fall 2017; carbon reduction; quantify design recommendations; cost and carbon reduction benefits as well as paybacks; join energy efficiency plan with Xcel so see these things coming ; use all of Xcel's programs

- Great deal; energy efficiency is something that makes sense; look at building holistically and have modeling results to back it up; rebates and design team funding makes a big difference; good business decision
- It offers communication between me and the designer. It's based on a third party's opinion instead of just the designer's opinion or instead of just me. Politically, it helps me to be able to say that we're not just relying on one designer, it's been verified by a third party.
- TWG mentioned…submit plans and they model it…and then tell about rebate; Tax credit development; requires them to participate in rebate analysis; process of going through EDA and they are familiar with it; efficient way to do it; and incentive is great for the owners
- Allows us to have design assistance/modeling we need; projected energy use and couple it with the rebate; funds help for these types of projects
- State facility so SB 2030 so assumed we will participate in EDA
- Just knowing that we were constructing a new facility it was a good opportunity to do sustainability related concepts and would receive incentives to help offset the cost
- Required to do so; by the funding partners; by public partners
- Opportunity for rebates; double check to ensure energy design we are thinking aligns with the program and saves what we expect
- Recommendations from Xcel Energy Account Manager
- Able to receive good advice on saving money on energy cost; and rebates available upfront
- Recommendation from the architect
- Rebates available makes sense; also hear feedback on best practices…typically know what we are going to do anyway, but helps to have 2nd opinion
- Incentives. And sometimes the [EDA implementer] or whoever knows things that our engineers don't and usually we find some gems.
- Gone through it before with previous company; a colleague at Xcel that recommended it as well; co-promoted program; and want to be a good steward of our energy use
- Financial incentives from Xcel Energy
- Housing finance agency in this deal and they asked them to pursue it
- Meet the energy savings goals; following the guidelines for it and make improvements that are rebated; have a sustainability coordinator as well; follow states guidelines; use SB 2030 as a guideline
- One is for the rebates and we do lots of green development it only makes sense to model it and get the rebate; helpful to think through all the options and which one is best for us; good way to coordinate with all parties involved and think forward
- I think that was part of a recommendation from the architect. And [participation in EDA] was mandated by the city we're developing in (St Louis Park).
- Xcel Energy recommended it; felt it gave best opportunity for maximizing the energy savings in the facility
- Thought it was required to participate
- Urging of Al Joe, Xcel Energy Representative
- Trying to reduce operating costs/energy conservation; looking at bottom line at long-term costs; good way to get an early handle on all this
- 5 years with college and had experience with EDA before; successful use then and incorporated it into current job and campus

A6. Was the building at [BUILDING ADDRESS] required to meet the SB 2030 Energy Standard?

Category	C, HS	C, LS	IP, HS	IP, LS	Total	%
Yes	1	1	1	1	4	13.3%
No	5	4	6	8	23	76.7%
Don't Know/Other	0	0	2	1	3	10.0%

A6a. In what ways did SB 2030 influence your to include higher efficiency equipment in your design?

- Not really sure since they came in after process started; not sure of all decisions made before they bought building
- Followed the guidelines in SB 2030 for our building; increased costs, but long-term benefits
- Pretty significantly; requirements are increasing every couple years; looking at it from all equipment; downtown atmosphere so have to push on issues to be compliant
- Thinks it is 2030 and they might have struggled to hit it; didn't directly as we build efficiently and get a payback from the upfront investment

A6b. If the building hadn't been required to meet the SB 2030 standard, would you have implemented the energy efficiency equipment you did?

All 3 respondents said yes.

A6c. If the building hadn't been required to meet the SB 2030 standard, would you still have participated in the Xcel Energy Energy Design Assistance Program?

All 3 respondents said yes.

Section B: Interactions with Trade Partners and Consultant

B1. Xcel Energy has hired a third-party consultant to implement the Energy Design Assistance program for their customers. Did you communicate with staff from the consultant during this project?

All 30 respondents said yes.

B1a. In what contexts did you communicate with the consultant staff?

	Count
EDA Meetings	28
Email	8
Phone call	5
Meetings outside EDA process	2
Webinar	1
On site audit	1
Additional phone conversations	1

B1b. What was helpful about your interactions with the consultant staff?

- They put the different packages together and clearly identified opportunities for energy efficiency; displayed it in a way that non-tech people could understand
- Very knowledgeable about doing load analysis and understand where opportunities lie for biggest return on efficiency and rebates; great program given their knowledge on new construction; getting best information
- Most valuable thing is they were able to come back with recommendations with payback and investment information; getting rebate information for the various bundles and what is the ROI
- Flexible on how we communicated; could always get a hold of someone; very prompt and professional; working with good people
- Knowledge of the building and that they created the energy model and had a good idea on how to weight each of the bundles/measures in terms of energy efficiency and cost savings
- Good at clarifying the process; flexible even within the guidelines of program; really worked with them on this building
- It spurred some good conversation. It was an independent review or opinion of the design. Not necessarily changing the design but reviewing some facets within it. It wasn't adversarial, it was supplemental. It was a good, comfortable exchange of ideas, and not a questioning of the design.

  I've been in meetings where… I don't know if it was, not necessarily in this setting, but I've been in some where you hire a third party and it becomes a little adversarial with the design team and the third party. With the [EDA implementer], it was nothing but a good exchange of ideas and things we should review. It was a positive meeting.
- Makes it really streamlined for us; have plans developed and they work with our design team; from development perspective very easy…can see live model when they update things; they are really good at following up on outstanding items, etc.; construction timelines still on schedule; track design team submittals for incentive
- They answered questions regarding design; options for energy efficiency; helped us make good decisions on the bundles
- Very knowledgeable; chance for Q&A on project; liked having several bundles to review so we had a choice
- Really getting a true understanding of the building; have the right equipment and design in place due to meetings; presented different options for us to consider
- Not really; get a rebate out of it, but we have our own modeling and energy consultant and the EDA/TWG weren't able to really handle Passive house
- Verification of our models and exhausted all of our opportunities; see what is available on the higher bundle; good check on what we are already doing; validates we meet the SB 2030 requirements; can really check out that higher efficiency bundle
- Put a true cost perspective on the bundle options and explore what fit within the budget
- Dug into our plans and understood what we are trying to execute; very knowledgeable and did their homework
- Them verifying what is happening; a second set of eyes on the project
- Work together quite a bit; also help us out in MidAmerican Energy territory; good at facilitating and coaching us through the processes; good representation and good relationships with the staff
- See above re: "finding some gems." But there are some things the [EDA implementer] would push and we'd say we'll elect not to do it because it will fail, or it costs too much, that's what we go through.
- Easy to work with; made it easy for us to make decisions that were best for the project
- Understanding what the incentives were from the various energy savings equipment that could be installed and the payback on them.

- Very knowledgeable about potential alternatives and gather cost estimates on…helped our design team
- Definitely have a thorough understanding EE and good job of presenting the options; very good job of what the bundles are, what their role is; and included everyone in meeting…good job given we are new
- Breaking down the meaning of different initiatives that we could choose from; part of project is renovation; help us determine which option made most sense from energy efficiency perspective
- It was interesting to see the different options, what could be done. And to put cost to those different options and see where it made sense financially to do a little bit extra efficiency.
- Facilitated some of the technical information with the ownership; some of the discussions didn't understand and these meetings helped with that
- Straightforward about process and timing and they followed up on their promises
- Observer with the 3rd party interacting with our engineers
- Helpful to get a handle on the different packages they considered and how some of the equipment works together in a coordinated effort to save energy and the ability to customize a package
- 3rd party coming in; design team; owner and everyone working in a vacuum so this puts everyone together on the factors that go into making a good decision; get a higher value with this process

B1c. Did the consultant meet your expectations in terms of being an energy expert and providing you with energy efficiency recommendations?

Category	C, HS	C, LS	IP, HS	IP, LS	Total	%
Yes	6	5	8	10	29	96.7%
No	0	0	1	0	1	3.3%
Don't Know/Other	0	0	0	0	0	0.0%

B1d. How did the consultant influence you to install energy efficiency you weren't already considering for this building?

- Put good packages together and laid out all the options and showed payback and easy to look at costs and savings; make good decisions
- Presented different options and suggested more energy efficient options they reviewed and installed some additional measures
- Really helped us look at the options and make educated decisions on greatest possibilities for our building and how to save money and operating costs; TWG that administers it…they are an industry expert on EDA so have best people guiding us…reputation matches actual performance
- In all cases went with a higher bundle; a more energy efficient bundle; how they influenced: the reports they prepare that allow us to compare and go through the information in way we can sort through and choose the right solution
- In it for the long haul; provided input and feedback on all kinds of opportunities; want to make it is more efficient in the long view; long, useful life
- Came down to seeing everything compiled in one list made it easy to prioritize measures
- Mostly working through tenant versus landlord spaces; they helped encourage tenants to do more energy efficiency measures; working with them on building standards and fixtures and things like that
- No, I think it was… you kind of do a "good better best" kind of thing, and you have to look at where the line is for your payback. Maybe... not suggesting, but maybe pushing us to think about options. They listed a couple options that they added because it seemed like it made a lot of sense. Its multiple items and then you kind of choose between the three scenarios. This participant

emphasized that the consultant didn't influence him to do anything, rather the consultant helped to think through options collaboratively.

- Biggest thing they do is the payback analysis and have everyone in same room to talk about scenarios; everyone can discuss and then decide on whether to implement as they can see all the options
- Part of the process is they would take their drawings; construction drawings; highlight where savings opportunities could exist; something we didn't consider; 3 options…base, savings, higher savings and got to examine different measures in each
- Probably happened a bit beyond what we were going to do; they were working directly with designers and engineers so this helped develop the different packages so I wasn't as involved with every step
- Mostly based on presenting us with payback information
- No influence for this particular project
- Pretty much based on what the engineering firm already set up…they might have pushed a few things on lighting; wanted to make sure we had certain lighting savings and the modeling helped with that
- Total incentives offered and shown in the bundles; looking at the incentives and incremental costs so chose a few additional measures
- Biggest thing is laying out the ROI for additional items
- Would have to ask his mechanical engineers
- Not sure if they influenced us on new measures; strength was facilitation of the process; makes it a smoother process for all involved
- Learn new options, showing payback and ROI
- Biggest thing is we received a more wholistic view; side by side comparison; help us make a better decision on achieving energy goals; could see all the data in one place
- Did the consultant [influence me] or did Xcel Energy via the incentive? The consultant laid out all the different options and the decision was based on where the payback was… So they did their job on exposing me on the different options and the incentives, so yeah.
- Ended up not implementing recommendations as these ideas didn't fit into our budget, but very helpful to look at for future projects
- They selected a bundle and there were 3 levels within bundle and then they will confirm once it is confirmed; building expansion project; some new construction and some expansion; bundle for entire project and they chose a bundle that had more EE then originally thinking
- Weigh options of all the payback and seeing this for all the options
- That would have been more through the workbook itself. As I recall, there was about a 10-page worksheet of options that they gave us. And we went through it and asked questions about it, then put our pencil to paper and figured out what we could economically make work.
- Not sure if they implemented any recommendations that hadn't been considered
- Don't think they did anything extra and things discussed were beyond interest and affordability
- From what he could tell their suggestions accepted….good collaboration and new ideas introduced into the process; some of their ideas were new to the process
- Not sure whether they had a great influence on this project as we are doing lots of buildings and already doing quite a bit that they recommend, but their feedback on what is a best fit is helpful
- Pushed us to make some tweaks to design; engineering firm had gone down the road on certain design and their help improved the design and making sure we were doing the right thing; we had to defend answers and tweak some design; different type of project then they might have been used to (theater) so everyone stepped back and double checked their work

B2a. Would you say they provided not enough recommendations, too many recommendations, or just about the right number?

Category	C, HS	C, LS	IP, HS	IP, LS	Total	%
Not Enough	0	0	2	0	2	6.7%
Just Right	6	5	7	10	28	93.3%
Too Many	0	0	0	0	0	0.0%

B2b. **[IF B3a = Not Enough or Just Right]** If you had received more recommendations, do you think you would have installed more energy efficient equipment?

Category	C, HS	C, LS	IP, HS	IP, LS	Total	%
Yes	1	1	3	0	5	16.7%
No	4	4	5	7	20	66.7%
Don't Know/Other	1	0	1	3	5	16.7%

B2c. Why or why not?

- Gave enough options to work with; more data would be confusing
- Don't have that many different systems so wouldn't be able to do much more
- Question too broad…would have depended on what they recommended
- Opportunities were limited given started with an already constructed building; we also received good recommendations from mechanical contractor
- Pretty familiar with building envelope and we went very efficient; I gave the consultants ideas as well--pool idea he mentioned (listen to recording if need it)
- If those recommendations have a reasonable payback that is shorter than the equipment life then we would want to implement due to carbon reduction goals and cost savings goals; not just dollars, looking at carbon reduction
- Already picked the ones they wanted in the bundle
- You have to have that payback. If I were able to afford it, yes. It's based on payback. I don't need a recommendation that's a 20 to 25-year payback. For B2a: I've done several of these and I time I think it was spot on.
- Too many choices to make quick decisions
- Too many things to consider; this worked to communicate what we wanted and options to consider
- We picked level 3 and not 4; 4 was beyond our budget means; best payback within our budget
- Thinking outside the box and giving us all they did; comes down to what we have to spend in our budget
- Didn't fit for this building; not really special information…can't tell us with operating costs will be; don't tell us anything different than our design team; For B2a: , not considering our building envelope so irrelevant for our project
- As long as it is within 15-year PB and we probably already know about it; they have already exhausted measures that are within that period; harder to get to higher efficiencies within modeling
- Bundle into 3 groups and would like to see broken down into more groups so can be more specific with recommendations; all comes down to the numbers so not sure; look at things independently helps with decision making
- Couldn't use all of them, but everything they were showing us actually nuts and bolts of saving money…your benefit and the customer

- Budget considerations
- Down this road a few times so know TWG well; we are at a point at what works and what doesn't so know what our budget tolerance is
- We operate for a long period of time, so anything with a 5 to 7-year payback, usually we'll do that.
- Presented the best case for what we discussed; we were aligned with what was presented
- Cost; Depends on the incentive.
- Budgeting concerns so there wasn't room to add measures or more efficiency into project
- Not really room to do more than what we are doing; budget wise
- Budget considerations and upfront costs; pay off not happening soon enough
- (Choices about EE respondent made are more about cost, less about knowledge/recommendations of EE options). It would have been difficult to go through more than we did in the planning process.
- The final presentation had three recommendations and that was perfect #
- Not sure if they would have
- Depend on what they brought up
- Probably mix and match more with more options, but not necessarily more measures
- In general, they do a good job of presenting a mix of measures and recommendations; we knew where we were going with this and finite amount of money to work with on this project

B2d. If you had received more recommendations, would it have negatively affected your participation at all?

Category	C, HS	C, LS	IP, HS	IP, LS	Total	%
Yes	2	1	0	0	3	10.0%
No	4	4	8	9	25	83.3%
Don't Know/Other	0	0	1	1	2	6.7%

B3a. What types of energy efficiency recommendations did the consultant provide?

Recommendation	Count	Percent
Other	6	6%
Heat recovery	2	2%
Water heating	2	2%
Daylighting	2	2%
Refrigeration	2	2%
VFDs/ECMs	4	4%
Boiler systems	5	5%
Envelope	13	13%
Controls	18	18%
LEDs/lighting	22	22%
HVAC	23	23%

B3b. Did the type of recommendations meet your expectations?

Category	C, HS	C, LS	IP, HS	IP, LS	Total	%
Yes	6	5	8	9	28	93.3%
No	0	0	1	0	1	3.3%
Don't Know/Other	0	0	0	1	1	3.3%

B3c. [IF B2b = No or Don't Know] what types of recommendations did you expect? (e.g. affecting different equipment like HVAC instead of lighting, or more cutting-edge recommendations instead of standard measures, etc.)

- If those recommendations have a reasonable payback that is shorter than the equipment life then we would want to implement due to carbon reduction goals and cost savings goals; not just dollars, looking at carbon reduction
- By far the biggest crowd pleaser is lighting replacement. We'll do a multimillion-dollar mechanical upgrade… that I'll get no comments on, and if I replace the LED lights I a classroom with a dimmer I'll get more thank yous from people…. That's what they see.
- Considering energy efficiency of the building envelope; didn't model insulation or anything…not looking at the whole picture and that was important for this project
- Bundle into 3 groups and would like to see broken down into more groups so can be more specific with recommendations; all comes down to the numbers so not sure; look at things independently helps with decision making
- It was interesting. I was running another project in WI of a similar size, we did that though Focus on Energy. I was surprised by how closely they were related, the process and the forms and the bundles. And that helps us, we become more familiar with it when everybody is doing the same thing.
- This type, what was recommended.
- As I recall, they essentially had three different packages. And I think the package what would have been totally LEED certified to the more basic things that one would do. There was plenty to digest, I don't think they missed anything.

B3d. Are there any types of recommendations you would like to receive?

- More with HVAC on zoning recommendations; push the envelope a bit more on controls for tenants; education for tenants
- The first one that comes to mind is that everyone is dollar driven. So anytime we have a suggestion where the rebate is well within reach…. I would say those little steps make a lot of sense.
  I guess I'd be curious if the [EDA implementer] knows both electrical and gas rebating processes to wring out the highest rebate dollar. I'd be curious if that was part of their review too – the analysis is bound by some rules that Xcel Energy puts on it and the gas company puts on it. And it might be that by pulling up something out of that and saying we won't put that in the review but put in a separate rebate we'd get a separate rebate that might be bigger…. Maybe we need to do a special application to just the electric company or just the gas company to get a higher rebate… and I don't know, maybe they are doing that, but it would be nice to know that they are.
- Building envelope…nothing else
- No, just breaking it into more groups
- Probably along the lines of more sustainability rather than just equipment. I guess I wasn't expecting that… but because it's all in the same context it would be nice to be versed in that information… Whether it's photovoltaic, solar, or storm water harvesting. Those are two items that urban cities tend to look for out of new developments. A lot of EDA that scores points with

council members when you're traying to get projects approved... anything that is sustainable is interesting.

B4. Who did you get energy efficiency recommendations from?

- Implementer, internal staff and internal planning
- Implementer
- Own energy consultant, architect
- Engineering firm that did the pre-modeling

- B4a. Can you please describe how you chose to do the efficiency you did?

- Upfront costs and maintenance costs and the energy efficiency; the whole package on why they chose the measures they did; meeting with TWG helped figure out which one
- Combination of using equipment in past and receiving the incentives and discussions with engineering/design team and discussions with TWG
- Combination of first cost impact and energy efficiency payback; understanding both of those factors; the meetings with TWG and their guidance was helpful with this fact
- Let's say there were 4 bundles, we looked at projected long-term performance to maintain a lower operating cost of facilities
- He looks long term for the building; what has been perfected and tested…not too cutting edge; go on higher end of efficiency so he doesn't run into durability issues
- Payback with an overlay of what is the best long-term solution for the building--payback with intelligence applied; for example increasing the R-Value of the walls is 80-100 years so don't do
- It came down to payback; what they chose and what actually happened was further apart than how it usually happens; still was very helpful; payback including rebate and efficiency levels
- We went through analysis and rebates and payback and then made final decision (total rebate amount)…$25,000 to $40,000 on rebates lately
- Once they got the options…baseline and two options…looked at price and cost savings; payback period and upfront costs balanced with existing budget; PB around 7 years was considered and within budget
- Hired consultant to design and they worked directly with TWG on coming up with ideas; we selected them as packaged up in bundles and then selected the one that fit best for us
- Architect at meetings helped us understand; budget and based on architect's recommendation and return on investment
- Passive house certification drove this project
- Based on SB 2030 standards; storm water management important too
- Balance of what was already included in the design plus incentives for new measures and what we had as far as budget for this project
- All based on ROI; a long ROI meant we weren't going to do it
- Based on recommendations from our mechanical engineers and estimated payback
- Based on historical experience with strategies we choose; fits within criteria of price, payback and cost to ownership
- Payback, ROI, owning the building for a long time… if we were just to develop and sell the project, your mindset might be a little different, just about initial sale rather than longevity.
- Went through process and very cost sensitive at the time; and property manager involved in discussions and that influenced decisions as well

- The payback and the incentive. I went from… you know, you get the "good better best" scenarios, and in many cases I chose the "better." The "best" payback period is just too long.
- More efficient than code; balanced all the options with the different strategies and paybacks; looking at total cost and paybacks and what fit within our budget constraints
- Chose it based on what was feasible for their budget and the design package
- Looked at building that had just been completed for this group; how was it working and living up to everyone's expectations; look at what else they were recommending and what savings were available; end goal is to save tenants as well as management on cost of building; help the environment too
- Cost was definitely a factor but not the primary one. We look at our return on investment... We're looking at quality and the longevity of what we're doing.
  I think something that's talked about a lot lately is geothermal heat or solar, and we haven't been able to make the costs worth the return. And the complexity of it... They're very capital intensive. (Respondent mentioned additional risk of added cost if drilling a geothermal well if it were to fail).
- First cost important; long term cost of equipment and energy;
- My architect and mechanical engineer built them in and discussed the opportunities with us and went with those
- Left it up to the engineers--his staff
- Energy use is one consideration; history with similar equipment and designs; engineering and facilities capabilities--can we maintain after installed;
- We chose based on what we felt was best lifetime value; overall payback; 50-year horizon so good quality product and equipment desired; maximize value over time; our experience; first time cost is also important, but not as important as other factors

Section C: Motivations, Free-Ridership, and Spillover

C1. When you make decisions about what strategies or equipment to include in your building, what are the things you consider in that decision?

- Capital cost; efficiency of equipment; operating cost including replacement; maintenance of equipment, experience with equipment
- All of these are important, ROI, prior experience to equipment and see B4a
- Upfront costs, energy efficiency of equipment; demonstrate to future customers as a showcase (the HQ building as sustainable)
- Lower operating costs; long-term performance; impact on environment as they are looking to reduce emissions and be sustainable
- See B4a; what is payback on it; upfront costs; will it fit into the building (didn't want to use geothermal for example)
- Carbon reduction, return on investment, maintenance time and cost
- payback; first cost is a big one as they are looking for investors and capital; from efficiency standpoint they like known technologies-need to know the technology will perform so might not be choosing state of the art technology; balance of user experience and efficiency level
- There's multiple factors. The life of the product, and I have multiple users… so it has to be intuitive and user friendly… like with a VFD, I have to have staff that understand how to operate one and how it saves energy. Durability and life cycle. Usability by the end user. Payback period, ROI.
- Payback and total rebate amount; ongoing costs; resident savings

- Tax credit projects so budget constraints; payback period and upfront costs…have to stay within a budget
- payback, maintainability; standardized equipment as far as matching what we have on campus
- Budget considerations--have to stay within budget; sustainability; durability; end-user experience
- Passive house certification; upfront costs; meeting any building standards they need to meet and ongoing operating costs
- SB 2030 standards; maintenance requirements; does it meet 15-year PB cycle; justify investment before replacement; one-off or is it special training and require additional staff
- Staying within the budget; long-term cost benefit is important too
- Upfront costs; ROI is second and 3rd is impact on our design intent
- Estimated payback; state energy and building code
- payback, price, maintenance (total cost of ownership)
- See above
- combination of first cost (most important) and how can that translate to savings on the operational side; also experience with program; no additional grants or not trying to get a certification
- Costs. Reliability. Availability.
- payback, total costs, upfront costs, based on housing they do have to consider whether it is compliant with MN Housing authority; bigger investment now if can do it within budget
- Payback is most important; upfront costs with the savings estimated
- All the ones I just mentioned…previous experience through return on investment; savings for tenants as well; meeting green standards for funding sources
- See above
- First cost, long term cost; actual way the building is being used (very unique building-sports medicine center); rehab and therapy and the other floor has museum and retail store; what equipment best serves these 3 disciplines and break down costs between the three
- Upfront costs and performance long term of equipment and design
- Energy savings translating to bottom line; impacting the general environment (want to be good stewards of the earth)
- Energy use is one; maintenance; life cycle costs; energy savings
- See B4a; try not to be on bleeding edge of technologies…want them to be somewhat proven and want technologies that our staff can maintain over time; non-proprietary equipment; good quality that is going to last

C2. Why did you choose to install energy efficient equipment in this building?

- Mostly because it was the cost-efficient solution for heating, cooling and lighting the building; timeline for completing the building
- Makes financial sense
- Showcase for customers; standard reasons are balance first cost with operating cost; planning on owning building a long time so make sure to consider both; energy modeling from TWG is strength they bring to the table…backs it up with hard data
- Chose to install it as it makes sense financially; long-term owners so cost less over the long haul and it performs better (ECM example)
- Saves money and reduces carbon footprint; this was an addition and the original building is LEED Gold and wanted to maintain value of that original building…didn't get an official LEED rating

- payback; right thing to do and good decision making
- I believe it's the right thing to do. The flippant answer is that I can't buy a T12 lamp anymore, but the true answer is that it's the right thing to do. And the districts made that decision.
- Part of it is lender required (tax credit property); ongoing savings; long-term ownership perspective
- Looking for way to save on operating costs that helps with long term affordability and pass this on to residents
- SB 2030 so required to do so; campus believes in sustainability as well; part of our culture as well
- Sustainability; rebates helped do more measures; helps preserve your building
- Passive house certification
- SB 2030 standards; university standards as well--regardless of state funding
- Current energy codes require a lot of it and also prudent for tax payers for the long-term viability of the building
- We are forward thinkers on taking care of the environment and energy conservation
- Indoor air quality as well; see C1
- Already gave reasons; cost of operations is primary (including energy)
- See above
- Some of the decisions that property management partner had made in the past and what they wanted to do; and Mortensen wants to be good stewards of the environment too
- The incentive.
- Bigger investment now to get what savings they can within budget
- Maintenance costs lower; sustainability considerations; lower operating costs
- Same as above
- See above
- Cost considerations long term and functionality of the building
- Operate for a long time and want to manage our costs and this is an important way to do it
- For budget savings and to keep carbon footprint down
- Priority in all our new or modified facilities
- Motus operandi; always looking to increase energy efficiency; renovations or new builds are really important; drop baseline energy consumption--goal is 3% decrease each year; give ourselves best chance to reduce energy footprint

C3. What type of energy efficient equipment did you install in this building?

- See above
- See above
- Gave this information above B3a
- new efficient boilers; LED lighting, VSD on RTU; occupancy sensors
- See recommendations in B3a and ECM's, wall insulation, pool Seresco (giant dehumidification system--HVAC); roof insulation; lighting controls and sensors; 4 HE boilers; HE water heaters (cml grade); through the wall AC
- LED lighting; VFDs on pumps and fans; heat recovery schemes; occupancy sensors; demand control ventilation; boilers and chillers
- See B3a

- LED lighting with daylight controls on outside, motion sensor controls, dimming capabilities, color rendering for the special ed classroom so they can do some mood controls... VFDs, heat recovery wheels, switching from steam to hot water loops... the list goes on.
- Installed higher efficiency boilers; magic packs; wall insulation; sheet wrapping; LED light bulbs; occupancy sensors in main areas; bath fans; these are main ones
- Chose middle one as far as which bundle; efficient boilers and water heaters; light sensors (occupancy); employed some roofing strategies…R Values suggested by consultant; LF showerheads; Energy Star appliances
- See B3a; LED lighting, HE motors
- Insulation levels are higher; skylights; exterior shading; dimming daylight control; occupancy sensors; manual dimming; improved fan power efficiencies; improved HVAC efficiencies
- HE magic pacs for other buildings; ERB for one building
- Increased air design and manage with VAV and low flow air on unoccupied space; heat reuse and recapture; storm water control; improved building envelope design; lighting controls; plug loads management (shut off circuits)
- Specific envelope strategies glazing and lighting controls
- See above
- DOAS (dedicated outside air unit); LED lighting and other measures; Induction displacement units
- LED Lighting; variable frequency drives; EC fan motors; doors on refrigerated cases
- VTAC, lighting controls, 50% dimming during daytime, higher efficiency water heaters, HVAC, gas furnace
- Can't remember for sure; probably lighting and lighting controls and higher efficiency HVAC
- A lot of electrical components. Upgraded insulation. Upgraded windows.
- He would have to look at building specs; installed some measures that captured heat to help with heating, reduced heating and cooling loads, building envelope measures that help; motion sensors
- Similar to what was recommended; glazing of windows; daylighting controls; occupancy sensors; exterior lighting (LED); HVAC zoning; installing NG hot water heater that is 95%; providing CO detectors that controls ventilation rates during low occupancy; roof R-values
- more efficient Magic Packs; daylight controls in common areas; people are nervous on occupancy sensors in prior project; can't think of anything new as we knew what we wanted to start with
- Can't remember for sure; probably lighting and lighting controls and higher efficiency HVAC
- Lighting LED; HE heating and cooling systems
- State of MN we have Green Communities requirements for affordable housing; covers everything and did what was required and exceeded some expectations on some things; put in top notch windows and lighting and controls; managing water use
- Other than LED lighting can't remember the specific technologies; fairly efficient HVAC system
- See B3a, but we selected energy efficient materials for envelope; lighting controls; heating and cooling controls; occupancy sensors; water saving devices
- Monolithic vapor barrier exterior; additional insulation in roof; solar array on roof; windows are long lasting, thermal pane units; heat with central plant; summer boiler is high efficiency condensing boiler; energy recovery on fan systems; LEDs everywhere; tons of occupancy sensors; little bit of daylighting; sophisticated control systems; plumbing is low volume units

C3a. Why did you choose the energy efficient equipment you did? (for recommendation from the consultant or architect/contractors, they are what was recommended.)'

- For reasons given above
- Design team including mechanical engineers and architect and TWG
- manufacturer and feature types of their equipment entered into decision making; influenced bundle choice
- Not really as I am experienced in building construction; we have experience with this type of work; everyone is using magic packs (furnace for every unit as need fresh air in unit--he doesn't like this)
- Climate Action Plan influences are choice; carbon neutral by 2050; minimum of LEED Silver
- Marketability of building
- Yes
- No regard to the design team; presented our design and then TWG modeled
- Design consultant influenced as well; standardization and trade staff; rely on designer to put it all together
- Recommendations from the architect; what is best for our company in the future
- Yes, design team and certification
- Yes, SB 2030
- Yes, tax payers and design team/architects provided feedback
- Yes, mechanical contractor
- Yes, architect, engineers; all of our primary vendors we deal with
- No
- Team effort so the design team in general including our construction company
- Yes. When my contractor tells me the cost of a high efficiency piece of mechanical equipment, it weighs on my decision.
- MN housing authority construction standards…MN Housing Finance Authority; they provided financing for the deal
- Yes
- green standards for funding is the big one
- See above (cost, quality, longevity)
- Yes, recommendations from architect
- Yes, welcome all the suggestions and they are considered and it has been a great collaborative process
- Yes, our design team including architects and mechanical engineers work with our internal team on what is installed
- Yes, some influence; engineering and architecture firm had their own design vision for the building; in the end we are the owner and we need to choose from all of the idea

C4. Did you learn about the Energy Design Program before or after you FIRST BEGAN TO THINK about including energy efficient design features in this building?

Category	C, HS	C, LS	IP, HS	IP, LS	Total	%
Before	6	5	6	7	24	80.0%
After	0	0	2	3	5	16.7%
Don't Know/Other	0	0	1	0	1	3.3%

C5. Where did the idea for including energy efficient design features come from? [IF NEEDED: Was it suggested by your design team, account manager, during the design assistance meetings, corporate policy or a certification like LEED?]

- Already suggested by energy design team for previous owner and they bought building after started
- Corporate and engineers and her team
- His familiarity with program; LEED certification is important (Silver)--went through LEED process as well; LEED important factor along with the EDA program; architectural goals…appearance and functionality of the building also played a role
- Design team and TWG; all involved
- Himself, his uncle and the consultant
- Engineers and internal team start the process and then good to use the quantifiable information from TWG; quantifies impacts and allows comparison
- Internal personal first
- Design team and school district
- tax credit funding…have to select items so their design team too
- Just aided the process; ideas originated from internal team first
- Design team and previous experience; and EDA consultant
- Architect
- Design team and energy consultant
- For the most part the engineering of record on design and with rest of design team
- Part of the overall plan our company uses for these projects
- Multiple sources….design team, our company
- Mechanical engineers were primary for recommending; they were in EBB and changed to EDA
- Past experience with this type of building and design team
- Internal. We'll always look at something that's going to save money in the long run.
- Property manager and design team is where it first originated (architect first most likely); and our firm has experience too
- Respondent originated this idea.
- Brought it in earlier due to EDA; our design team mentioned EDA and energy efficient measures
- Design team; Xcel Energy Account Manager helped; TWG as well; done it on other buildings
- Design and internal team
- standard practice

- Design team (architect) and Xcel Energy Account Manager
- Design team architect and mechanical contractor
- His engineers and Xcel Energy AM
- past experience with this equipment; our commitment to conservation; and design team mentioned above
- Ideas originated with the design team--engineering firm, architect and us

C6. Did you learn about the availability of incentives through the Energy Design Assistance Program before or after you DECIDED TO include energy efficient design features in this building?

Category	C, HS	C, LS	IP, HS	IP, LS	Total	%
Before	6	5	7	8	26	89.7%
After	0	0	2	1	3	10.3%
Don't Know/Other	0	0	0	1	1	3.4%

C7. When the bundles were discussed during these meetings, were they displayed on screen or on paper?

Category	C, HS	C, LS	IP, HS	IP, LS	Total	%
NEO	1	0	1	1	3	10.0%
FB	0	1	2	2	5	16.7%
Both	4	4	4	6	18	60.0%
Don't Know	1	0	2	1	4	13.3%

C7a. What role did the results review meeting play in the decision to install the energy efficient equipment you selected?

- Helped identify which bundles we would use and made sense to us
- It was pivotal; as went with higher bundle than originally planned
- By then they knew where they were heading and more of a confirmation meeting that this is final decision and we all agreed; important aspect of meeting was that final decision
- Helped guide the process and allowed us to ask questions about the different bundles so we were confident in our decision in what bundle we selected
- Ended up choosing not the highest bundle, but next highest…spent about 90% of the money and got great efficiency
- Comparison of all the options; helped prioritize; all parties at the table and could make decisions in real-time to keep things moving
- Played a role in that it got people on the same page, owner, contractor and design team; good for internal communication
- It's like we talked about, we were doing it line by line, it wasn't just looking at bundles, we were looking at individual items. We had a discussion about each line item and moving that into the bundle that made the most sense.
  (Respondent stated earlier that the consultant recommended a small number of measures that they hadn't considered and ultimately included in the design, but could not remember what these measures were)

- Bath fans were one item; crucial meeting to select the final bundle; take information back to review and decide; sometimes can't select for current project, but use it within the next project if it is a good idea; lower flush is an example…they will do outside research on the idea to decide whether to carry it forward
- Can't think of specific examples, but very interactive meetings and something was suggested that we would incorporate into the design
- We made a decision during meeting so very effective; everyone proceeded based on this review and what we selected
- Allowed us to evaluate the different options and weigh the benefits and costs; not sure if they selected different measures…picked a bundle and things have changed since then; about same efficiency as original bundle they selected
- None
- Validation of existing plan and added a few things for lighting
- Design proceeded based on decision made after this meeting
- Upfront costs and ROI presented at the meeting; we did change some features based on this meeting; snow melt systems; boilers as well; generator too
- Just reaffirmed equipment they were already considering; gave confidence in choice
- Significant impact; review with all the people; brings it out visually and everyone is on same page; purchasing, design team; everyone
- Through the interaction, their suggestions on the bundle package. We rely on our engineers to tell us how much additional cost there is for different items. We have some expertise, but we rely on them to help us tell is this worth it, is it going to create more noise that will affect our guests.
- Side by side comparison; insight on the options in the bundles and the discussion from the team perspective; having everyone in same room discussing their experience
- Ultimately came down to cost vs incentive.
- Impressive to see the PB and the different strategies; made more sense to include in final design; how information was displayed helped immensely; showed benefits the project could receive on savings and incentives
- Looking at rebate versus cost of options; payback…higher efficiency for a few items that were presented in this meeting
- Tool to compare the options and make the wise decision for your development; installed a few measures like more daylighting controls; common area sensors
- I don't think it played… I think that we had already… when they gave us the options, I think we had already picked a lot of those things. So we were already on track for one of the options and just chose that option. There wasn't a lot discussion.
- Some of the selection was made prior to review; design recommendations were submitted before the bundle of recommendations; selection of bundle was partly on what was designed and what we thought made sense--made a few changes in original design
- Minimal role; although we must have done some extra things since we are getting incentives; most was already in our plan
- We collaborated and came to agreement on the bundles and chose bundle that was the best for us to implement
- Similar to past responses; presented life cycle costs; presented all the information needed to make a decision; take it under advisement and then let them know which bundle
- It is where we finalized the decision-making; plug it in and this what we are choosing; hopefully by this time we know pretty much what we are going to do

C7b. In what ways was the information provided at this meeting valuable?

- It helped us determine the what made most sense
- Just in helping make a decision
- Helped make the final decision and make sure the whole team agreed
- Nothing else as far as how valuable…see C7a
- It solidified how we were going to build the building; added more efficient equipment including appliances
- Valuable that the author of the report was there to add commentary
- See c7a; interesting seeing how the carbon piece on the SB 2030 challenge and how it compared
- Like I said before, it allowed professional discussion about these items. And got everybody thinking. It was good for me to hear it because it allows the designer to say, yeah, here's why we did or didn't look at that.
- Crucial meeting to select and review equipment and measures
- Always helpful how the building is operating and how it can be improved
- Gave us savings projections and comparison of bundles; impacts on total budget
- Allowed us to evaluate the different options and weigh the benefits and costs
- Not really useful
- Validation
- Didn't attend meeting
- Laying out the ROI; options they hadn't considered and these were great to see; couldn't use for this building, but can use in design for future buildings
- Pretty much that they got from their engineers; so just a second set of eyes on the project
- See C7a.
- Through the interaction, their suggestions on the bundle package. We rely on our engineers to tell us how much additional cost there is for different items. We have some expertise, but we rely on them to help us tell is this worth it, is it going to create more noise that will affect our guests.
- Because TWG has done this so much it was very valuable to have their experience; and also architect; gave us good information to make decision
- Provided information about the costs and the incentives available
- See C7a
- Good job of presenting and explaining the program; their role; pre and post construction and what to expect; and how to get rebate when completed
- Compare option
- It was nice to be able to ask some questions and have some answers right away. But other than that I don't remember anything.
- Think they ended up with a more efficient system that was installed
- Valuable to the project; talking to other experts sharpen our thinking on energy conservation
- Nothing different; valuable collaboration
- It helped facilitate some discussions between him and his design team on direction to go for equipment and design choice; helped package everything so they could see it; and easy to adjust bundles

- Owners standpoint get to see the totals of everything and get to see the bundle choices from a dollar perspective; both on upfront cost and long-term savings

C7c. In what ways could the presentation of this information have been more valuable?

- Nothing else
- Nothing else
- No, good the way it was; very effective and efficiently managed; one thing they worry about is wasting time on things won't work and TWG is very good about managing this expectation on time
- Very valuable the way presented and TWG did a very good job; team they have worked with at TWG has been very consistent and that is very valuable to them; work with the same people for multiple projects
- Nothing else…good a great job
- Nothing else…really good and met expectations
- They did a good job
- I think I answered that one. I don't know if it was truly… It would be nice to know that [EDA implementer] has input from the gas and electric side.
- Great the way it is
- Nothing else…they do a good job
- Done well; nothing else
- Good the way it was presented; only recommendation is they thought we would receive the whole incentive and then landlord got most of it…so maybe talk about this more upfront
- Annual operating costs; and actual model the building we are building including the envelope; results meeting…annual operating costs would be the same if we changed the equipment…they have different envelopes with different insulation
- The only thing is pushing harder to get real costs for payback estimation…any help on this would be great
- Nothing…went well
- Nothing else
- No. Conference calls are good, a lot of people are traveling.
- Nothing he can think of
- It's still confusing. The whole bundle 1, 2, or 3… I still could not explain to you how it is done. To somebody that doesn't do it every day, it confusing to understand how you're bundling stuff together. So at the end, I stop worrying about the bundles and start selecting the equipment I was thinking of, then the consultant would come back with an overall incentive.
- Good way as presented; really laid out information we wanted to see
- Nothing else
- Complicated reports so maybe simplify for people that aren't as technical; so maybe include a summary that business analysts can understand; get why it is complex but maybe present in a way that non-tech people can understand better
- I don't know. We're very hands on in our company, so everything goes through me, the contractors, I don't know what they could have done to make that more efficient.
- He doesn't think there is anything else
- Nothing else

- Well-run; nothing else
- No, very helpful; had other facilities in which works on and it is very helpful
- Nothing he can think of

C7d. Xcel Energy has a more streamlined program where energy modeling is not conducted and instead a review of your plans is conducted to identify potential energy savings opportunities and prescriptive incentives for those energy efficiency measures is offered. So you would not receive the whole building energy modeling but could still earn similar incentives for implemented measures. Is this something that would interest you? Why or why not?

	Frequency	%
Yes	26	86.7%
No	1	3.3%
Don't Know	3	10.0%

- Not sure given the information that is provided in description
- Yes, the way they were originally going to go…until TWG explained and went the extra mile for modeling…so went with modeling given saved lots more money
- Maybe, prefer modeling as it is more useful, more complete and gives you better information; for some building types it might be more effective as it could be overkill…say for smaller buildings
- Interested; already have participated in this program; reach out to account manager to find out which program is best for them; do a bunch of programs with Xcel
- Yes, if you could simplify the process and get the same money that would work for us
- Yes, nice to use it for projects that aren't quite so big, but projects like this one (millions of dollars) it is worth doing the energy model; easier when we make changes to punch in and model changes and get results
- Yes, EBB program; they have participated…helpful on smaller projects, but EDA is of much more interest; Fisk Building might have been a better fit for EBB; modeling might not have been as valuable for Fisk as other projects
- Yes. With the caveat to say that you lose a little bit of the political side of things [without modeling]. So when you get questions about what you're doing, when you say I'm working with a third party that did energy modeling, that's pretty hard to refute… I don't know if it does a whole lot of good to do the energy modeling, but for me to be able to say to any member of the school board… it's pretty powerful when we're doing multimillion-dollar jobs with tax payer funds. I feel like it protects me.
- Interested in, not sure if they have heard about it…use different programs; need more information to give a why or why not
- Yes, quicker turnaround would help; get consultants in building until we get final report; an abbreviated process would be great, but really need the reports to be accurate and reliable and not sure get that without the modeling
- Renovations and remodeling projects this would be of interest; for smaller projects; for bigger projects and new construction would prefer to see the modeling
- No for new construction, but yes for a renovation of existing building…so for those it would make more sense

- Yes, this would be more useful to them; consultants so don't have one…developers not sure if they have one
- He thinks they have used it on smaller projects so it is of interest…helps; for a new building it might help, but doesn't offer the validation the modeling can offer
- They participate in this program already and they like using it…have an energy monitoring person in the office and she looks at these things and recommends which program is best
- Yes, always looking for more ways to conserve energy and save money
- No, it was good to get the modeling done to reaffirm our mechanical engineers models were accurate
- Yes, in the right application, but probably not for new construction for sure; maybe a remodel or smaller project; do thorough analysis through EDA
- Yeah, we try everything. So we wouldn't hesitate to go through a program.
- Yes, seems like it would be an easier process; but design process as is now is more strategic and provides more information; would be good for a really cost constrained project
- If the incentives are there yes. Anything that makes it more time efficient, I'm interested in.
- Yes, potential to hear more about additional opportunities, do more conversation and looking at costs to see if can be implemented
- Yes, they have done it in the past…if applicable, reach out to account rep and see if this is best option
- Yes, depending on the building and for smaller projects
- Yes. I think it would be… It's hard to speak to that if [a new EE technology came out] but I suppose they'd point that out… the modeling exercise wasn't real necessary.
- Yes, the earlier we can get input the better
- Yes, because we didn't like all the time it took to sit in the meetings given my expertise…doesn't understand technical and had to defer to other people to understand
- Sure, but I think having the modeling is a more thorough approach
- Yes, we do internally a good job of designing facilities; we are one of Xcel Energy's biggest customers (top 10); work closely with them to save energy and make our facilities more energy efficient; close partner with Xcel Energy; streamline the process would be great
- Would want to see what report consists of, might interest us for a tight timeline project (design portion); but modeling is important as it vets the ideas…conceptual and theory to more of what you can actually expect

C7e. Thinking about energy efficiency equipment in this building, were your initial plans prior to these meetings different from the final plans you implemented?

Category	C, HS	C, LS	IP, HS	IP, LS	Total	%
Yes	5	5	7	8	25	83.3%
No	1	0	2	2	5	16.7%
Don't Know/Other	0	0	0	0	0	0.0%

C8. How important in your DECISION to include energy efficiency design features in this building was…

C8a: The rebates offered by Xcel Energy?

	Frequency	%
Not at all important	0	0.0%
2	0	0.0%
3	0	0.0%
4	0	0.0%
5	4	13.3%
6	0	0.0%
7	4	13.3%
8	7	23.3%
9	4	13.3%
Extremely important	11	36.7%
Total	30	100%

C8b. The energy modeling offered by Xcel Energy

	Frequency	%
Not at all important	2	6.7%
2	0	0.0%
3	1	3.3%
4	1	3.3%
5	3	10.0%
6	1	3.3%
7	5	16.7%
8	7	23.3%
9	3	10.0%
Extremely important	6	20.0%
Don't Know	1	3.3%
Total	30	100.0%

C8c. Support from 3rd party consultants

	Frequency	%
Not at all important	2	6.7%
2	0	0.0%
3	0	0.0%
4	0	0.0%
5	7	23.3%
6	2	6.7%

7	6	20.0%
8	5	16.7%
9	5	16.7%
Extremely important	3	10.0%
Don't Know	0	0.0%
Total	30	100.0%

C8d. Endorsement or recommendation by your Xcel Energy account manager

	Frequency	%
0	3	10.0%
Not at all important	1	3.3%
2	3	10.0%
3	3	10.0%
4	1	3.3%
5	3	10.0%
6	1	3.3%
7	3	10.0%
8	5	16.7%
9	2	6.7%
Extremely important	3	10.0%
Don't Know	2	6.7%
Total	30	100.0%

C8e. Recommendation from the Xcel Energy program team

	Frequency	%
0	2	6.7%
Not at all important	1	3.3%
2	2	6.7%
3	1	3.3%
4	0	0.0%
5	4	13.3%
6	4	13.3%
7	1	3.3%
8	8	26.7%
9	2	6.7%
Extremely important	4	13.3%

Don't Know	1	3.3%
Total	30	100.0%

C8f. Information from Xcel Energy marketing or informational materials

	Frequency	%
0	4	13.3%
Not at all important	5	16.7%
2	2	6.7%
3	2	6.7%
4	1	3.3%
5	5	16.7%
6	3	10.0%
7	3	10.0%
8	2	6.7%
9	1	3.3%
Extremely important	1	3.3%
Don't Know	1	3.3%
Total	30	100.0%

C8g. Past experience with the Energy Design Assistance Program

	Frequency	%
0	5	16.7%
Not at all important	1	3.3%
2	0	0.0%
3	0	0.0%
4	0	0.0%
5	0	0.0%
6	1	3.3%
7	3	10.0%
8	9	30.0%
9	2	6.7%
Extremely important	8	26.7%
Don't Know	1	3.3%
Total	30	100.0%

C8h. Previous experience with energy efficient equipment

	Frequency	%
0	1	3.3%
Not at all important	0	0.0%
2	0	0.0%
3	0	0.0%
4	0	0.0%
5	0	0.0%
6	3	10.0%
7	4	13.3%
8	9	30.0%
9	6	20.0%
Extremely important	7	23.3%
Don't Know	0	0.0%
Total	30	100.0%

C8i. Standard practice in hour business/industry

	Frequency	%
0	0	0.0%
Not at all important	0	0.0%
2	0	0.0%
3	0	0.0%
4	1	3.3%
5	2	6.7%
6	2	6.7%
7	3	10.0%
8	11	36.7%
9	7	23.3%
Extremely important	4	13.3%
Don't Know	0	0.0%
Total	30	100.0%

C8j. Corporate policy or guidelines

	Frequency	%
0	1	3.3%
Not at all important	0	0.0%
2	0	0.0%
3	1	3.3%
4	1	3.3%
5	5	16.7%
6	2	6.7%
7	4	13.3%
8	3	10.0%
9	5	16.7%
Extremely important	8	26.7%
Don't Know	0	0.0%
Total	30	100.0%

C8k. Payback on the investment

	Frequency	%
0	0	0.0%
Not at all important	0	0.0%
2	0	0.0%
3	0	0.0%
4	0	0.0%
5	0	0.0%
6	0	0.0%
7	1	3.3%
8	11	36.7%
9	6	20.0%
Extremely important	12	40.0%
Don't Know	0	0.0%
Total	30	100.0%

C8l. Minimizing operating cost

	Frequency	%
0	0	0.0%
Not at all important	0	0.0%
2	0	0.0%
3	0	0.0%
4	0	0.0%
5	0	0.0%
6	1	3.3%
7	0	0.0%
8	9	30.0%
9	7	23.3%
Extremely important	13	43.3%
Don't Know	0	0.0%
Total	30	100.0%

C8m. Positive marketing or public relations for your company

	Frequency	%
0	1	3.3%
Not at all important	1	3.3%
2	0	0.0%
3	4	13.3%
4	1	13.3%
5	2	6.7%
6	3	10%
7	6	20.0%
8	9	30.0%
9	1	3.3%
Extremely important	2	6.7%
Don't Know	0	0.0%
Total	30	100.0%

C8n. Environmental factors like reduced carbon emissions

	Frequency	%
0	0	0.0%
Not at all important	0	0.0%
2	1	3.3%

3	1	3.3%
4	2	6.7%
5	1	3.3%
6	4	13.3%
7	9	30.0%
8	7	23.3%
9	1	3.3%
Extremely important	4	13.3%
Don't Know	0	0.0%
Total	30	100.0%

C8o. Required to participate to achieve a specific building code

	Frequency	%
0	2	6.7%
Not at all important	3	10.0%
2	2	6.7%
3	0	0.0%
4	0	0.0%
5	3	10.0%
6	3	10.0%
7	1	3.3%
8	2	6.7%
9	0	0.0%
Extremely important	13	43.3%
Don't Know	1	3.0%
Total	30	100.0%

C8o.1 What is this code?

- City Code requirement
- MN Energy Code
- National code
- I don't know, that really comes down to code requirements, so I don't know that I can answer that question, we followed a code…
- IBC 2015
- MN State Code
- SB 2030
- MN State Building code
- SB 2030
- National energy code and MN State Energy Code

- Applicable energy codes (MN State Energy Code)
- We have to abide by those, we can't build it we don't abide by the codes. There's a new energy code put out every two years
- MN Energy Code
- MN State Code

- Green Communities, in ST. LOUIS PARK
- Green Communities
- MN State Energy Code

C8p. Achieving a certification like LEED

	Frequency	%
0	10	33.3%
Not at all important	3	10.0%
2	3	10.0%
3	1	3.3%
4	2	6.7%
5	5	16.7%
6	3	10.0%
7	1	3.3%
8	1	3.3%
9	0	0.0%
Extremely important	1	3.3%
Don't Know	0	0.0%
Total	30	100.0%

C8p.1 What is this certification?

- LEED
- Trying match LEED Gold on existing building
- Energy Star
- Green Communities
- We strive being energy efficient, we don't need a trophy or plaque to tell us that we're energy efficient
- Guide towards it, but didn't do a specific LEED level

C8q. Recommendation from a design team member that helped you with the project

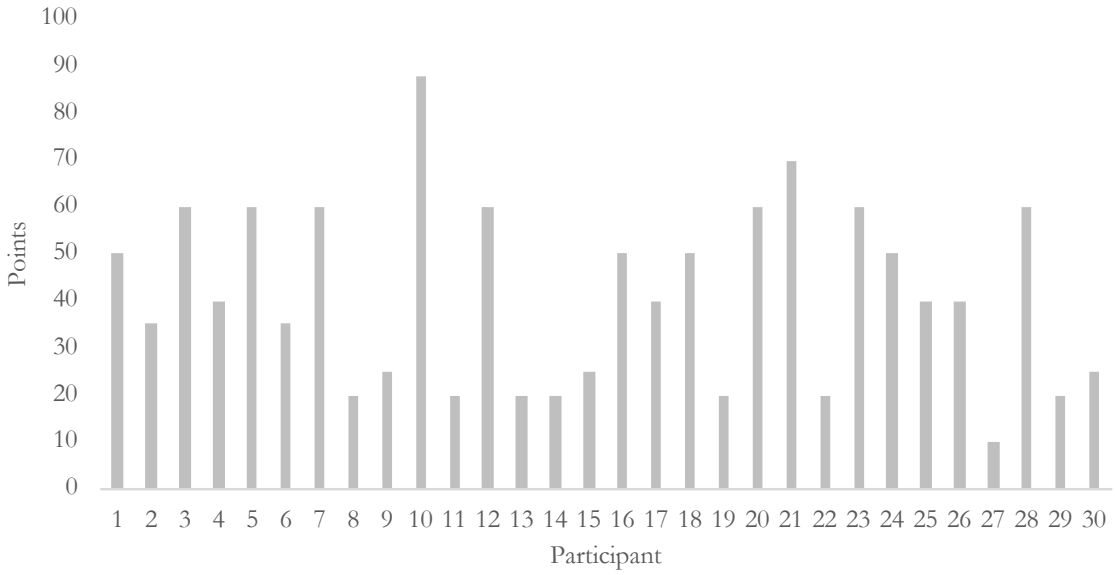
	Frequency	%
0	1	3.3%
Not at all important	0	0.0%

2	0	0.0%
3	0	0.0%
4	0	0.0%
5	1	3.3%
6	2	6.7%
7	7	23.3%
8	5	16.7%
9	4	13.3%
Extremely important	9	30.0%
Don't Know	0	0.0%
Total	30	100.0%

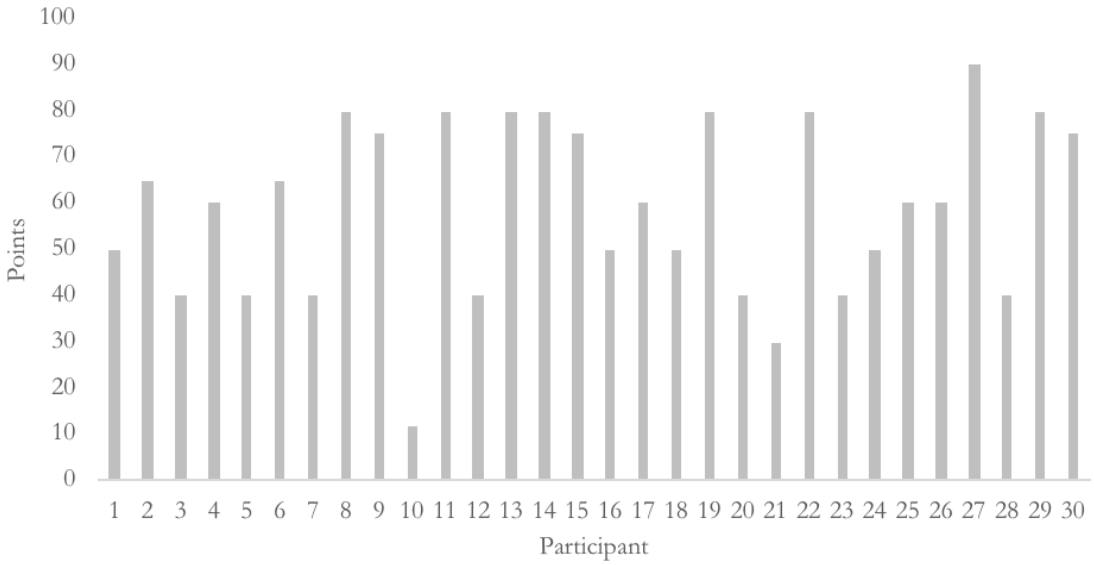
C8r. Were there any other factors we haven't discussed that were influential in your decision to install energy efficient equipment?

- Engineering firm extremely experienced with EDA so that is why lower program scores
- Helps the team to have process to go through to put all of us on the same page
- Initial and operational cost

C9. Thinking about your decision to install energy efficient equipment, how many of those 100 points would you assign to the overall influence of program factors, considered as a group?



C10. How many of those 100 points would you assign to the overall influence of non-program factors, considered as a group?



C11. You just gave <C9 RESPONSE> points to the importance of the program, I would interpret that to mean that the program was quite important to your decision to install this equipment. Earlier, when I asked about the importance of individual elements of the program I recorded some answers that would imply that they were not that important to you. Just to make sure I understand, would you explain why the program was very important in your decision to install energy efficient equipment?

[IF NEEDED, ask about specific program elements rated highly in C10]

Not triggered with any participants.

C12. You just gave <C9 RESPONSE> points to the importance of the program. I would interpret that to mean that the program was not very important to your decision to install this equipment. Earlier, when I asked about the importance of individual elements of the program I recorded some answers that would imply that they were very important to you. Just to make sure I understand, would you explain why the program was not very important in your decision to install this equipment?

Not triggered with any participants

C13. Using a scale from 0 to 10, where 0 means "not at all likely" and 10 means "extremely likely" please rate the likelihood that you would have installed exactly the same energy efficient equipment if the Xcel Energy Energy Design Assistance Program had not been available.

Not asked of participants. See C26 for information.

C14. When you answered ...<C8a RESPONSE> ... for the question about the influence of the rebates, I would interpret that to mean that the rebates were quite important to your decision to install this energy efficient equipment. Then, when you answered <C13 RESPONSE> for how likely you would be to install the same equipment without the incentive, it sounds like the incentive was not very important in your installation decision.
I want to check to see if I am misunderstanding your answers or if the questions may have been unclear. Will you explain the role the incentive played in your decision to install this efficient equipment?

Not triggered for any participants.

C15. Does your organization have a corporate environmental policy to reduce environmental emissions or energy use? Some examples would be to "buy green" or to reduce the spend on utility costs by a certain amount ($ or %).

Three participants responded yes.

C16. What is your corporate policy?

- The policy is wrapped around what current codes are; striving to reduce emissions whether code or go lower
- Carleton College Climate Action Plan
- Part of MN system (all colleges and universities are working on a formal policy

C17. How did the corporate policy influence your decision in what energy efficient equipment you installed?

- reduced emissions was the influence by the corporate policy
- Carbon reduction goals and try to watch EUI in each building and EUI campus wide
- Not a big influence given what we are already doing

C18. Does <COMPANY> ever deviate from the corporate policy when installing equipment?

- Yes
- Yes
- No response

C19. Did you install any energy efficiency equipment that went beyond the requirements of your corporate policy?

- Yes, went beyond code which goes beyond corporate policy
- Maybe, they were nudged over on a couple items; value was quantification and communication of information
- No

C19a. **[IF C19 = YES]** Was the Energy Design Assistance Program a factor in your decision to install this additional equipment? In what ways?

- Yes
- Yes
- No response

C20. Could you please rate the importance of the Energy Design Assistance Program, relative to the requirements of your corporate policy, in influencing your decision to install the energy efficiency equipment you did? Would you say the Energy Design Assistance Program was much more important, somewhat more important, equally important, somewhat less important, or much less important than the corporate policy?

	Frequency	%
1 Much more important	1	33.3%
2	-	0.0%
3	1	33.3%
4	1	33.3%

5 Much less important	-	0.0%
Total	3	100.0%

C21. In an earlier question, you rated the importance of a certification very highly in your decision making. What certification did you receive for this building?

Not asked.

C22. Did you implement any energy efficiency equipment that went beyond the requirements of this certification?

Not asked.

C23. Could you please rate the importance of the Energy Design Assistance Program, relative to the requirements of <INSERT ANSWER TO C8p>, in influencing your decision to install the energy efficiency equipment you did? Would you say the Energy Design Assistance Program was much more important, somewhat more important, equally important, somewhat less important, or much less important than achieving <INSERT ANSWER TO C8p> certification?

Not asked.

C24. Did your interest in this certification influence your decision to participate in Xcel Energy's Energy Design Assistance Program? In what way?

Not asked.

C25. Could you please rate the importance of Xcel Energy's Energy Design Assistance Program, versus the requirements of the certification in influencing your decision to install energy efficiency equipment in this building? Would you say Xcel Energy's Energy Design Assistance Program was…
1 Much more important
2 Somewhat more important
3 Equally important
4 Somewhat less important
5 Much less important

Not asked

C26. Would you have chosen to install the exact same energy efficient equipment without the incentives, modeling, or technical support provided by Xcel Energy's Energy Design Assistance Program?

	Frequency	%
Yes	9	30.0%
No	20	66.7%
Don't Know	1	3.3%

C27. **[IF C26 <> NO]** On a scale of 0 to 10, where 0 means not at all likely and 10 means extremely likely, how likely is it that you would have installed the exact same energy efficient equipment without

the incentives, modeling, or technical support provided by Xcel Energy's Energy Design Assistance Program?

	Frequency	Percent
0	1	8.3%
Not at all likely		0.0%
2		0.0%
3	1	8.3%
4		0.0%
5	1	8.3%
6	1	8.3%
7	2	16.7%
8	2	16.7%
9	2	16.7%
Extremely likely	2	16.7%
Don't Know		0.0%
Total	12	100.0%

C28. Since completing the project we just discussed, did you install any ADDITIONAL energy efficiency improvements at this building or at your other buildings within Xcel Energy's service territory that you did NOT receive incentives for?

	Frequency	%
Yes	8	26.7%
No	22	73.3%
Don't Know	0	0.0%

C29. What energy efficiency equipment did you implement without an incentive?

- More lighting with motion sensors
- Sage glass…no incentives for putting this type of glass in and it saves energy; also updated building automation control systems and no rebates
- Do it even if we don't get a rebate if payback is there; doesn't happen often, but on occasion; look at this upfront
- Typically if we submit for a rebate and they don't say it qualifies we still do it
- We've done higher energy efficiency on windows, added insulation on roofs… so we've done it and we didn't get rebates.
- Different facilities could have installed HE Pumps and HE Motors
- Do it in our portfolio in which our aging buildings need replacement; lighting for example; LED Lighting; occupancy sensors…if rebate available will apply
- If we have to upgrade we do it whether there is a rebate or not, but try to get them when available

C30a. Can you briefly explain why you decided to install this energy efficiency equipment on your own, rather than going through a utility or government incentive program?

- Better than code, but didn't meet program requirements
- I didn't know if they would have been eligible.
- Would apply if knew it was eligible for a rebate

C30b. Why did you not install this equipment during construction of the building?

- Different buildings than one for this project

C30c. How many of this type of equipment did you install?

- Motion sensors several
- Two projects with these features for new construction, many projects in renovations

C30d. Please describe the SIZE, TYPE, and OTHER ATTRIBUTES of this measure.

No responses given.

C30e. Please describe the EFFICIENCY of this measures.

No responses given.

C30f. When did you install this measure?

No responses given.

C31. Was this equipment recommended by a member of the Xcel Energy Energy Design Assistance program team or a member of your design team?

- Member of design team
- No
- Yes, design team

C32. How important was your experience in Xcel Energy's Energy Design Assistance Program in your decision to install this other energy efficiency equipment? Please use a scale of 0 to 10, where 0 is not at all important and 10 is extremely important.

- 7
- Insulation - 8
  Windows - 0
- 0
- 9

C32a. **[IF C32 > 6]** Can you explain how your experience with the Xcel Energy's Energy Design Assistance Program influenced your decision to install this additional energy efficiency equipment?

- Giving us the knowledge of other ideas out there and learned a great deal from the recommendations
- Insulation - We just talked a lot about the heat loss through the top of the building and how we could efficiently add more insulation through what we were doing in the roof blowing the cavities in the ceiling, so it made sense and the cost was not high... (They learned about this opportunity though the program so pursued it without an incentive)

C33. If you had not participated in Xcel Energy's Energy Design Assistance Program, how likely is it that your organization would still have installed this other energy efficiency equipment? Please use a 0 to 10, scale where 0 means you definitely WOULD NOT have installed this equipment and 10 means you definitely WOULD have installed this equipment.

- 8
- 5
- 10
- Insulation 2
- Windows 10
- 7

Section D: Barriers to Participation

D1. Did you consider any additional energy efficient equipment beyond the equipment you installed?

Category	C, HS	C, LS	IP, HS	IP, LS	Total	%
Yes	5	5	5	8	23	76.7%
No	1	0	4	2	7	23.3%
Don't Know/Other	0	0	0	0	0	0.0%

D2. **IF D1 = YES]** Why did you decide not to install?

- Didn't fit the ownership requirement for maintenance, life, payback, etc.
- Installed the measures recommended
- First cost and payback
- Payback too long (20 years)
- Didn't fit with our building; didn't make sense (geothermal)
- Solar panels and different controls; might not qualify for rebates anyhow; nothing was really modeled so barriers are for the roof/wall insulation; too long of payback
- Upfront costs of getting rid of boiler were too high and putting in a whole new energy system for building….too high of cost
- Upfront capital costs were prohibitive
- Wasn't within budget
- Upfront costs
- Upfront costs and ROI not there (note: these are things he said they considered above and did not include)
- Budget considerations; limited budget
- Payback too long
- Cost
- Budget constraints and some things required by the MN Housing Finance Authority
- Still doing it outside of EDA
- Upfront costs; budget considerations
- Upfront costs
- Balance between Upfront costs and long-term savings
- Comprehensive; was considered…anything we didn't do was budget considerations

- Designed a cooling tower for cooling needs and removed it because we could access existing geothermal
- First cost considerations primarily; few things in top bundle that we had prior experience with that wouldn't be a good fit for this particular building

Section E: Program Components and Satisfaction

We'd like to know how helpful different parts of the Energy Design Assistance Program are to you. I'll read a list of different parts of the program. Please rate each from 1 to 5, where 1 means that part of the program is not at all helpful, and 5 means that part of the program is extremely helpful.

E1a. Introductory meeting

	Frequency	%
0	0	0.0%
Not at all helpful	3	10.3%
2	1	3.4%
3	7	24.1%
4	4	13.8%
Extremely helpful	14	48.3%
Don't Know	0	0.0%
Total	29	100.0%

E1b. Results review meeting

	Frequency	%
0	0	0.0%
Not at all helpful	1	3.3%
2	0	0.0%
3	0	0.0%
4	5	16.7%
Extremely helpful	24	80.0%
Don't Know	0	0.0%
Total	30	100.0%

E1c. Energy modeling

	Frequency	Percent
0	0	0.0%
Not at all helpful	1	3.4%

2	1	3.4%
3	4	13.8%
4	7	24.1%
Extremely helpful	16	55.2%
Don't Know	0	0.0%
Total	29	100.0%

E1d. Incentive payments

	Frequency	%
0	0	0.0%
Not at all helpful	0	0.0%
2	1	3.3%
3	0	0.0%
4	6	20.0%
Extremely helpful	23	76.7%
Don't Know	0	0.0%
Total	30	100.0%

E1e. Recommendations you received from the consultant

	Frequency	Percent
0	0	0.0%
Not at all helpful	1	3.3%
2	1	3.3%
3	2	6.7%
4	13	43.3%
Extremely helpful	13	43.3%
Don't Know	0	0.0%
Total	30	100.0%

Using a scale from 1 to 5, where 1 is extremely dissatisfied and 5 is extremely satisfied, please rate your satisfaction with the following items:

E2a. Your overall satisfaction with the Energy Design Assistance Program?

	Frequency	%
0	0	0.0%
Not at all satisfied	0	0.0%
2	1	3.3%

3	0	0.0%
4	11	36.7%
Extremely satisfied	18	60.0%
Don't Know	0	0.0%
Total	30	100.0%

E2a1. IF E2<5: What could Xcel Energy do to increase your satisfaction with the Energy Design Assistance Program?

- Again, timing and getting it scheduled and get the final report out quicker
- Building envelope including what the operating costs would be for the building
- Provide better cost and life analysis on equipment/building measures
- Nothing really
- Free money is always a good thing… but I think it's pretty solid for us.
- Larger incentives, sustainability options (e.g., solar, storm water harvesting)
- Nothing could have done…still have to go through final verification process
- Not finished yet
- Nothing off the top of my head, unless they to want to offer more rebates.
- No, I don't give 5's
- Better if I could better understand program so maybe more explanation
- Nothing really; out of norm project; has had better experience with the program, but that is mostly because this was a much different building then others and we were probably a bit further along in design then usual

E2b. Recommendations you received from Xcel Energy program staff?

	Frequency	%
0	0	0.0%
Not at all satisfied	0	0.0%
2	1	3.4%
3	3	10.3%
4	8	27.6%
Extremely satisfied	16	55.2%
Don't Know	1	3.4%
Total	29	100.0%

E2b1. Would this number increase, decrease, or stay the same if Xcel Energy program staff had promoted more equipment that saved larger amounts of energy?

Category	C, HS	C, LS	IP, HS	IP, LS	Total	%
Increase	0	1	0	1	2	9.5%
Decrease	0	0	0	0	0	0.0%
Stay the Same	4	3	5	7	19	90.5%

E2c. The design assistance meetings?

	Frequency	%
0	0	0.0%
Not at all satisfied	1	3.4%
2	0	0.0%
3	3	10.3%
4	12	41.4%
Extremely satisfied	13	44.8%
Don't Know	0	0.0%
Total	29	100.0%

E2c1. What about these meetings was helpful?

- Helpful to do remotely; have the ability to conference others in
- Great as is…see above…unless they give more money
- Quantification and communication and additional comments by TWG engineers and being face to face at the table
- Provided opportunity for conversation for whole team; get them on the same page and discuss pros and cons of strategies
- See earlier answers re: getting all stakeholders on the same page and benefit of having third-party modeling as justification for decisions.
- Brings people together in one place
- Architects could way in as they were in the meeting together…having the group together is important
- Laying out the ROI for each option and seeing new options for our buildings
- They're helpful in the way that they enlightened me on the opportunities for incentives. And on the opportunity to learn more about reduced operating costs.
- Already shared above
- Same as above
- Face to face, answering questions immediately (see way above)
- Good for her architects and see them have the discussion with the consultants
- Really helpful was the clarity that the meeting provides; asking questions on changing something in a bundle how will it impact us…discuss in meeting is good rather than remodeling the whole building

E2c2. How could these meetings have been more helpful?

- No; clear at the beginning and they worked with her on the timing; engineers charge her for the time so need to keep the time shorter
- No…good job
- None
- More specific recommendations

- See earlier answers re: [EDA implementer] submitting rebate applications strategically to maximize rebate value if they aren't already (e.g., some for gas only program, some for electric)
- Nothing else
- She would have liked the consultants to work with the architects ahead of the meeting and then made recommendations to us
- Breaking out the bundles into more selections
- Nothing he can think of; overly impressed with the level of detail and professionalism they incorporate
- Nothing else
- Probably talk more about sustainability [e.g., solar, storm water harvesting]
- Nothing else
- Good as is
- I don't think I was really involved with those, that was more with my builder and architect.
- Too technical is why give it a four instead of five; presented more in a business fashion then technical fashion
- Less technical and present to the business owner
- Nothing he can think of

E2d. The energy modeling completed through the program?

	Frequency	Percent
0	0	0.0%
Not at all satisfied	2	6.9%
2	0	0.0%
3	3	10.3%
4	9	31.0%
Extremely satisfied	15	51.7%
Don't Know	0	0.0%
Total	29	100.0%

E2d1. What about the modeling did you find helpful / not helpful?

- Don't remember
- Provided good information
- A little bit of a black box in the model; understanding the assumptions that have to be incorporated into the model; so more sensitivity analysis on particular equipment/design features used in the model
- See earlier answers re: getting all stakeholders on the same page and benefit of having third-party modeling as justification for decisions.
- Nothing that stands out…no additional feedback
- Nothing else on modeling; see above for helpful
- Options presented beyond their normal way of thinking

- Validation
- Breaking out the bundles into more selections
- Great job, nothing else
- It puts all of the mechanical systems and the architecture and brings it all back down to a monetary value. Whether that [monetary value] is payback, or incentive, or cost for that improvement…
  MAKE IT MORE HELPFUL? I don't have an answer.
- Point out the PB analysis; very helpful
- Get on the same page
- Generally very helpful
- Nothing that he didn't already say; see above

E2d2. Did the modeling impact your decisions about what equipment to install? In what ways?

- Don't remember
- Yes
- Yes, better information behind their decisions; feel confident in decisions
- Yes
- Yes
- Yes
- Yes
- (The meetings and recommendations surrounding the modeling did. They influenced the respondent's team to add a small number of measures they wouldn't have otherwise thought of. The respondent did not remember what these measures were)
- Yes, bath fans and recommendations
- Yes
- Yes, in the context the modeling showed us the savings it impacted what we chose
- Yes
- No impact
- Confirmed energy savings of what they were doing
- No, comes down to the money so even though it helped show us the final numbers…just need the final numbers to decide what to do and stay within budget
- Yes
- Yes, verified and reaffirmed
- Yes, collaborative and visual presentation helped
- See above
-
- [The modeling told me what the rebates and incentives would be]
- Helped to choose motion sensors; low cost and improved PB
- Yes; see above
- Yes
- No
- Yes
- Modestly
- Yes

- Yes
- Yes

E2e. The size of the Energy Design Assistance Program incentive?

	Frequency	%
0	0	0.0%
Not at all satisfied	0	0.0%
2	0	0.0%
3	0	0.0%
4	4	36.4%
Extremely satisfied	7	63.6%
Don't Know	0	0.0%
N/A	16	145.5%
Total	11	100.0%

E2f. The amount of time it took to receive your incentive?

	Frequency	%
0	0	0.0%
Not at all satisfied	0	0.0%
2	2	7.7%
3	2	7.7%
4	4	15.4%
Extremely satisfied	2	7.7%
Don't Know	0	0.0%
N/A	16	61.5%
Total	26	100.0%

E2g. The amount of time it took to go through the whole process?

	Frequency	%
0	0	0.0%
Not at all satisfied	0	0.0%
2	0	0.0%
3	2	7.7%
4	5	19.2%
Extremely satisfied	3	11.5%
Don't Know	0	0.0%

N/A	16	61.5%
Total	26	100.0%

E3. Is there anything the Xcel Energy Energy Design Assistance Program is doing especially well and should keep doing?

- Like the program; thinks it is helpful and appreciates it; the whole process is good
- Working with her on meeting time; nothing besides that; very helpful
- Efficiency of how they execute the process; efficiency of the meetings and interaction time is great…keep doing this…very effective meetings as far as not wasting our time; interaction with customers is great
- Overall program is a great program to provide incentives for EE equipment; great partnership
- As long as they keep coming with the big rebates I will keep going through it…it is a process, but works for what we get; about as perfect as you can get
- Quality of the consultants is important and TWG is high quality; comprehensiveness of report is important
- Offering whole building incentives
- As I've stated before, having one point of contact is energy and time saving for everybody. (Respondent is referencing how the program facilitates all stakeholders to sit down for planning and design consensus).
- Continue with incentives…the dollar value
- Run fairly well as is…so no comments or suggestions
- Hired consultant putting the reports together and the different levels/bundles that show the savings, payback and other information
- The modeling and the meetings are great and the presentation of the options
- Nothing new; already said it…please keep providing rebates
- Promoting it early on in the process and this is good; in the past promoted it too late
- People that they put with the program and keep consistent all the way through project is good; their follow-up is good; they make sure they stay on top of everything
- The conference calls and the [EDA implementer] organizing them rely helps.
- No. They're overall doing a good job.
- Mentioned meetings…intro meeting is good as it gets everyone on same page on the strategies to consider; results review is good; so the process overall is good
- TWG did an excellent job presenting it and keep doing it this way; presented in layman's terms and easy to understand for all; could talk with all involved
- Just do it all; keep doing for the customers
- I would keep bringing up options to developers. And giving them the experience to learn about new products.
- I can't identify a single issue….overall it is a good program
- Nothing else

E4. What else could the program do to be helpful?

- Nothing
- Nothing else
- Nothing
- Nothing else

- They have some guru's that really know their stuff so not really lacking anything
- Nothing else at this time
- See earlier answers re: [EDA implementer] submitting rebate applications strategically to maximize rebate value if they aren't already (e.g., some for gas only program, some for electric)
- Nothing else
- Nothing else
- Nothing else at this time
- When the final walk throughs are done, it would be nice to be a part of those.
- Sustainability as discussed earlier. In general those products [like solar and storm water harvesting equipment] are becoming prevalent and more mass market friendly. They're going to be used more as the prices drop down so it would be helpful to have somebody keeping us in front of that technology.
- See above
- Good as is
- No

E4a. Would you be interested in an early design charrette?

Category	C, HS	C, LS	IP, HS	IP, LS	Total	%
Yes	4	3	6	4	17	56.7%
No	1	1	3	6	11	36.7%
Don't Know/Other	1	1	0	0	2	6.7%

E4b. Would you be interested in commissioning services?

Category	C, HS	C, LS	IP, HS	IP, LS	Total	%
Yes	4	4	3	5	16	53.3%
No	2	1	5	5	13	43.3%
Don't Know/Other	0	0	1	0	1	3.3%

E4c. Would you be interested in having on-going energy monitoring to ensure savings are realized?

Category	C, HS	C, LS	IP, HS	IP, LS	Total	%
Yes	5	4	7	6	22	73.3%
No	1	0	2	4	7	23.3%
Don't Know/Other	0	1	0	0	1	3.3%

APPENDIX E: TRADE PARTNER (ARCHITECTURE AND ENGINEERING FIRMS) INTERVIEW RESULTS

E.1 Introduction

To support the process and impact evaluation of the 2018 Xcel Energy energy efficiency programs, the EMI Consulting evaluation team conducted telephone surveys with Business New Construction product trade partners. This appendix presents analysis results from each of the survey research questions.

E.2 Analysis

Section A: Screener/Background Information

A2: What is your title or role at your company?

- Architect
- Owner and architect
- President, original owner, run the electrical engineering dept. Electrical Engineering Principals
- Project architect. Coordinate with engineers, design meetings with clients.
- Project Manager
- I provide developmental project management. We help either developers who need additional capacity
- Adviser
- Principal
- I've been at Cunningham for two years, I'm an architect. I work on schools mainly. We have a sustainability advocacy role, I'm in that as well.
- Mechanical engineer, primarily HVAC
- The project architect
- Senior Mech engineer
- Senior project manager
- Mech engineer
- Project manager

A3: What are your primary responsibilities at your company?

- Project manager and designer

- Design projects, work with clients, work with contractors like engineers or landscape architect, develop building permit drawings and select products to be used on projects
- Communication to owner and consultants, coordination of staff in house, meeting schedule, meeting budget, getting project out on time, follow-up on project - construction administration
- Architect
- Overall direction of mech system design, quality control, directing other designers.
- Commissioning and energy eService, do their in-house energy modeling

  organizing the team, main point of contact for client, organize the process

A4. Can you briefly describe your company's work?

- They do mostly schools. This brings lots of functions that schools need (cafeterias, science rooms, pools, etc.). They've used EDA with St Michael Albertville for football filed with dome and ice arena.
- We do a mix of project types including residential renovation commercial renovation, new builds, multifamily, hospitality…. A little bit of everything.
- We are a mechanical, electric, plumbing, and engineering firm.
- We do everything. We're an architecture and engineering firm with about 10,000 employees across the world
- Architecture and design firm in different markets
- We're a full-service real estate adviser.
- We're a small two principal architectural firm. We do a variety of work. Mostly private development.
- We do mechanical and electric for commercial and indurate and residential buildings
- Small firm with two architects.
- A & E Firm. Work on healthcare, public buildings, we have an arts and education group. University work.
- 90% is for non-profit working affordable housing and mixed use
- Dunham is a mech and Electric consulting firm working on existing and new buildings.
- A&E firm

A5. Has this changed over time?

Category	Frequency	%
Yes	2	14.3%
No	7	50.0%
No Response	5	35.7%

A5a. **IF YES:** Did the Xcel Energy Energy Design Assistance Program have anything to do with this change?

- These days we're doing a lot of casinos and assisted living… It has evolved in recent years with an emphasis on energy systems, [The program] iOS a factor. That's become relatively routine because we've done it so much. Other programs, like specialty financing, where if you a project in the city of St Paul using tax funds, they'll often insist it will be a LED utilidor something... they have specialty requirements.

- We've been doing it for nearly 40 years, so I would say yes…. Energy is a big portion of that, in the 80s, and coming off the oil embargoes and the saving of energy… most recently more on the systems, some of the biggest changes. Of course there's also societal changes like housing and baby boomers downsizing.

A6. Do you have experience with other utility energy efficiency products?

Category	Frequency	%
Yes	3	20.0%
No	12	80.0%

A6a. **IF YES:** How are projects you complete with other utilities different from those you do in Xcel Energy service territory?

- We've done work in Iowa where it's basically a similar concept as EDA. They're even admitted by the [EDA implementer].
- You know, Xcel is the predominant [utility in our region]… There's some real rural utilities that don't have energy assistance but I have in the past worked with them… Other utilities programs were geared a little more toward trying to take you off the grade, they offered generator packages to go offline and support grocery stores in going off line and not losing merchandise.
- "Yes. Minnesota Power, Rochester Public Utilities.

  Those are much more reactive, much more go knock on the door and explain what you want to go for, EDA is very structured and formulaic and seems to get involved with most project without my prompting… (No difference in the types of projects they complete between programs). In terms of the approach to them outside of Xcel's territory we're more likely to use prescriptive rebate programs. EDA is a little more unique in their approach of a program that overrides all prescriptive rebates."

A7. When did your company first start working with the Xcel Energy Energy Design Assistance Program?

Category	Frequency	%
First Project	3	20.0%
One Other Project	2	13.3%
2-3 Other Projects	1	6.7%
10 Years	1	6.7%
More than 12 Years	1	6.7%
15 Years Ago	6	40.0%
Don't Know	1	6.7%

A8. Our records show you worked on a project through the Xcel Energy Energy Design Assistance Program with [PROJECT NAME]. Was this building required to meet the SB 2030 Energy Standard? **PROBE:** Did it receive any funding from the state of Minnesota?

Category	Frequency	%
Yes	1	6.7%
No	11	73.3%
Don't Know	3	20.0%

[IF YES, ASK A8a – A8c]

A8a. In what ways did SB 2030 influence the design of this building? **PROBE:** Did it influence the design team to include higher efficiency equipment?

- As far as mechanical, getting higher efficiency equipment. Where it was boilers, or air handlers, the lighting obviously and the daylighting and occupancy sensors. I know there's some roofing specs as well.

A8b. If the building hadn't been required to meet the SB 2030 standard, would your customer have installed the energy efficiency equipment they did? **PROBE:** Why / why not? What equipment would they have implemented instead?

- Yes. We try to be a leader in that.

A8c. If the building hadn't been required to meet the SB 2030 standard, would you still have participated in the Xcel Energy Energy Design Assistance Program? **PROBE:** Why / why not? Influenced by incentive payments via product? Influenced by energy modeling via product? (Look for evidence of free-ridership)

- Yes. I think we benchmark all our buildings, we were one of the first cities to do that, and find out which buildings are using more than they should… and see what you can do to stay ahead of the curve as far as energy usage. And the council is pretty progressive on that. So we're always looking for ways to conserve energy.

Section B: Role in the Product

B1. What work did you complete as part of the project(s) that participated in the Xcel Energy Energy Design Assistance Program? **PROBE:** participated in results review meetings, making efficiency recommendations, provide supporting documentation, etc.

- We've been looking at this project for about five years, it's gone through several design iterations… and when I got involved it was a go. The bond referendum had passed… I caught it in the latter part of schematic design… There were several meetings with the school and the hockey group, we probably went back and forth for about a month and a half to get the floor plan figured out... We work with Halberg Engineering in Whiteburg lake, they do all our lighting and... technology elements. Dan Zitzer was the electrical engineer, they've worked with the [EDA Implementer] many times.
- Mostly I was there as a client consultant for meetings in which we would be reviewing the different strategies. I was there in order to provide feedback, some piece of it was education for me [about the different levels of EE], and implementing some of their suggestion. The ones that really affected my work were the building assemblies, and most of those we were already meeting or very close. These were costly having to do with insulation.
- We do a little bit of all of that (see probes). Generally our involvement… we're basically kind of herding the job in certain directions as it relates to what energy reducing programs are implemented. We've done it so many times in fact that there's a couple of people we meet with at the [EDA

implementer] that they know what we're going to do. It's all LED lighting, and all controls... so it's predominately meetings though.

- Most of the items are related to mechanical and electrical. So our primary role on this project was really coordination with the energizers. So we connected the [EDA implementer] with the engineers and we say through those meetings together. And we also included the client so he was aware of everything that was happening. And as the architect we were there to support the client so we could do overlying we could to achieve the highest possible reimbursement for the client.
- I went to the required meetings, submitted plans and specifications, coordinated with the staff there.
- Attended meetings, reviewed documents during meetings.
- For this project, our architect provided all the documentation and I attended the meetings.
- Basically, they've gotten only schematic drawings to date and performed their initial overview and description of where they could be of assistance to the owner.

  The process has languished for a number of reasons… mostly governmental approval planning and zoning. It's also one piece of land with two ownership parties.
- I went to the meetings… it was mainly being engaged in the meetings and documentation involved with the project itself.
- Attended meetings, advise the owner, give input into the bundles
- I contacted a friend I have who works for the [EDA implementer]. He set up the initial meeting that set the project into the Xcel program. They did some early bundle analysis of the mechanical and electrical and insulation in the building. And we had a meeting with a couple people form the [EDA implementer] and Mike Meyers from Xcel Energy, and the building owner and a mechanical engineer who sat in on the meeting.

  I was a participant. I wasn't the leader of the meeting... One thing that came up was needing or wanting to use some energy efficient PTAC units and the mechanical engineer who was at the meeting did research and came up with some suggestions that were forwarded to the contractor and that was incorporated not their design. We knew all along we wanted LED lighting, so electrical sub proposed this lighting package and I went through those selections and revised some things or made some proposals for different fixtures so we would have all LED lighting... We knew what areas we had to target because the [EDA implementer] told us...

  ([EDA implementer] suggested areas to look into for EE, design team came up with specific options for those areas (e.g., [EDA implementer] says look at windows, design team suggests specific windows), the owner was interested in all recommendations as long as they were cost effective.
- We had initial scoping meetings, provided them with documentation of the design, there was the review of their report meeting, and we had to give them feedback on which bundles we felt like we could actually do - what the design was saying, or what we would have to change to meet the bundle.
- Supervised development of project
- Attended a goal setting meeting, we also provided our schematic mechanical narratives, and then Dunham was the fingers of record through schematic design, and then the project went design build, so after that point we were not involved, so none of us attended the preliminary results meeting.
- I'm always involved in the initial kick of meeting… I help to attend the bundle selection meeting, send back the documentation for the selected bundle, send documentation for the scope of work… review the reports that come out for accuracy, review their final verification reports.

B2. Has your company's participation in EDA increased, decreased, or stayed the same over time?

Category	Frequency	%
Increased	0	0.0%
Decreased	2	13.3%
Stated the Same	6	40.0%
No Response	7	46.7%

B2a. **IF INCREASE/ DECREASE**: What has caused your involvement to change?

- We think that our involvement has kind of reduced a little bit. For two reasons - one, we're so familiar with it because we've done it on so many projects. But two, the process has gotten dumbed down a little bit. And the thing that I struggled with is that the [EDA implementer] and I've done this so many times that we're not thinking about it... it bothered me... its dumbed down now.... This may be coming from the [EDA implementer], but maybe it's coming from us... This doesn't appear to be as sophisticated as it was at one time. Maybe looking for more nuanced recommendations. And like I said, one of the problems is that we're going through the same thing, making the same decisions, so now we've been there, done that, think we know the answer.
- Consistent over time. Particularly in the commercial market the proliferation of the design build trilogy DDs and CDs has probably reduced our participation in EDA.

B3. Have you also worked on projects that participated in Xcel Energy's Energy Efficiency Buildings (EEB) program? The Energy Efficient Buildings program offers rebates for smaller, less complicated construction projects that do not need full energy modeling.

Category	Frequency	%
Yes	4	25.0%
No	7	43.8%
Had Not Heard of It	2	12.5%
No Response	3	18.8%

B3a. **[IF B3=YES]:** How do you determine which program to enroll your projects in?

- Its project size.

B3b. **[IF B3=YES]:** What are the benefits to you of the Energy Design Assistance (EDA) program?

- On paper, it would appear to be a more sophisticated program. But I'm sure not that's the case. (see dumbed down comment)

B3c. **[IF B3=YES]:** What are the benefits to you of the Energy Efficiency Buildings (EEB) program?

- I haven't done enough of those to say. They're both going the same direction.

B3d. **[IF B3=YES]:** Is there one of these that you prefer to use? Why?

- We would prefer the EDA if it happened the way it really should happen

B3e. **[IF B3=NO]:** Had you heard of Energy Efficient Buildings before today?

Category	Frequency	%
Yes	3	20.0%
No	11	73.3%
N/A	1	6.7%

B3f. **[IF B3=NO]:** What would cause you to enroll a project in EEB?

- Absolutely. If it was still as efficient on our end… If it's not…This project was interesting because we went into it not knowing that we were ongoing to use the EDA program. So we didn't build it into the scheduled. So we were still able to participate in the program because it was minimal impact on schedule and budget... So if it his other program could do that, it would be very welcome.
- Would need to know more about EEB
- It's possible we could use that for a fire station or something that isn't big enough to meet the other standard.
- I'm not familiar with the other program so I don't know what the other program offers.
- I'm sure it's got its place… I can't think of a project I'm currently working on that probably wouldn't want the modeling to demonstrate… if you're not modeling, how do you demonstrate the cost savings or the payback periods?
- See above re: size and "what makes sense"
- Depends on scale of the project. If it's smaller projects where we're doing one or two things, then we'd save the time, and if the scope of work is limited.
- Depends on what the benefits to the owner would be for EEB and EDA. If the project would only fit in EEB, then definitely. But if it would still be eligible for EDA, I don't see why we would recommend something else.
- (have considered participating for projects that didn't get into EDA early enough)
- I'd have to learn more about it.

B3g. **[ASK ALL]:** If you were to enroll a project in the EEB program, are there elements of the EDA track you would wish were present? Which ones?

- The [EDA implementer] essentially did the whole work and developed the product, the product being a report, a very through report. Essentially what we did is just provided them information: floor plans, square footages…. Our involvement was essentially "here's our stuff, go to it.""

  In the report: Essentially, what they were using in terms of energy, the type of fixtures they were using, and if they switched fixtures to something else there was a cost savings over time."
- They have experts comes in and do an energy model of your building and recommend three different tracks for energy savings. That was extremely valuable. The biggest hurdle is having clients who are willing to get that extra step to get the data, to do the energy modeling. No one wasn't to pay for it. Having that covered by the program was key... The fact that the program covered [the modeling] was great, it took that hurdle away... The fact that [my clients] could invest in just the infrastructure to make the energy more efficient, then they could reap the returns on that investment.
- I think there's more analysis involved in the EDA. I'm not sure it couldn't be done on the smaller projects, too, they've got it so automated.

- Depends on how streamlined it was.
- I couldn't tell you that.
- Modeling
- It helps the engineers and owners to understand the make up of the final building, what would be most energy efficient and walk through what the owner may or may not want…. Most so this happens during the design team meetings.
- The cost. So much on my end is that I can prove energy savings, but I don't always access to what the incremental cost is… you're kind of giving that whole life cycle to the power, and that speaks well to most people… putting a cost to it.. That all talk s to them.
- When we've been able to do extensive modeling… it was really helpful to have that done early in the process to look at different mechanical systems to help them choose. It seems like more recently because of the size of our projects and the limitations of EDA that's become les possible because the buildings are too small to fit in the more complex modeling program.
- Historically, I do think EDA has focused a lot of owners on at least considering EE options. Everyone expects it now, [EDA] has normalized that if you will. I think the fact that they essentially self-fund and provide participation reimbursement is helpful and allows it to continue to go.
- I think the payback analysis that can be done in regards to different strategies…. Is extremely helpful for both architects and owners.

B3h. **[ASK ALL]:** How would you feel if some of the projects you applied to have participate in EDA were approved for EEB instead?

- That's livable.
- I would have to see the program and understand it a little more. But the whole building helps us understand what's going on.
- That would be fine if you end up in the same place. I found a lot of this program somewhat difficult to follow. So if things were put in more layman terms it would be easier to follow."
- The experience I've been having across a couple firms I've done EDA projects with is that the EDA process is not started earlier on enough in the project to truly be effective. So it seems like typically what happens is they're brought mid to late "D" and three isn't a lot of opportunity for change given their bundle recommendations. So what we end up seeing is that... we likely implement a few strategies that are low hanging fruit, but in terms of large-scale big picture stuff it's not as appropriate in the phases they bring in.

  I'm trying to think of the benefit of EDA vs the EEB. One of the things we really value from the EDA is getting the EUI numbers. Having a recent EUI number is really important for that.

  Thinking about one particular project] getting the client on board with EDA in this particular project has been difficulty. And if the financial incentives were the same between the EDA and EEB, I'm wondering if this building would be a better fit for EEB depending on where in the process and what the client was looking for... Thinking about the clients particularly, some of them are to as engaged or concerned about sustainable design, however the notion of financial incentives are really important so they want to make sure they go through the process. But given clients and given this type of scheduling and phasing, it might seem like the EEB might be more desired in those instances.
- I'll address this during model questions later.

- I would be inclined to… even on a major renovation, I would be thinking about getting rebates. Then I would contact Xcel and tell them what we were doing, and they could tell me what programs were available and what might fit the project.
- I don't know. I don't know that I'd mind that much. Ultimately, I don't hold the pocketbook. It would depend of if we felt there was as difference in the incentives. If an owner felt that thy would have gotten more money through EDA but Xcel didn't let me do it... Or maybe if there's more of a criteria about the scale or the timeline or something like that.
- Depends on how incentives would change.
- I don't know. I don't have enough experience with EEB to know what that would mean. Seems like one of the values of EDA is things that don't have prescriptive rebates and I don't recall how those things are handled in EEB… and the other question would be the incentive differentials between them. "
- I would be disappointed

B4. Do you ever recommend specific energy efficient equipment? Why do you / Why do you not make recommendations?

Category	Frequency	%
Yes	13	86.7%
No	2	13.3%

B4a. What types of energy efficient equipment do you recommend? (LED lighting, lighting controls, high efficiency HVAC system?)

Category	Frequency	%
Solar	1	4.0%
LEDs/lighting	2	8.0%
Controls	6	24.0%
Daylight	1	4.0%
HVAC	2	8.0%
High EE RTU	9	36.0%
Building Orientation	1	4.0%
Envelope	1	4.0%
Condensing Boilers	1	4.0%
Mechanical Systems	1	4.0%

B4b. What would cause you to recommend a larger number of energy efficiency measures than you generally do?

Category	Frequency	%
If the project had stated goals (Like LEED or SB 2030)	4	23.5%
If the client is interested / asking	5	29.4%
If the client is going to build and hold the property	1	5.9%
Affordable	3	17.6%
More familiar with technology (like heat wheels)	1	5.9%
It's our core offerings / values that our project pursue SB 2030	1	5.9%
Fit for the Customer	2	11.8%

B4c. How would customers respond if you recommended a larger number of energy efficiency measures than you generally do?

- I think they would think about it. They would contemplate it for sure. If you had materials that would support me in that recommendation, that would be helpful for sure. You know, money talks, so, here's a way to improve your energy bill… they're interested in the returns on their investment. I would certainly recommend things more if I had that kind of data and document in hand.
- Most of our customers are too first cost oriented. It's got to be an upside for them. If the financing says you've got to do it, they'll do it. Left on their own, they will go lowest first cost possible and they'll even fight us on our code interpretations. I get this all the time as it relates to lighting... A lot of the inspectors and stuff, most cities no one's even sure who's enforcing it...
- They would ask how much does it cost. And it's not considering lifetime cost, it's considering up front cost.
- Ones I've encountered so far are open to that.
- Every client is a little bit different. Every client is a little sensitive… [They are} wondering if they're going to be there for 5 years to see some of that savings, so it's mostly monetary driven.
- Depends on payback
- They've responded pretty well [to EE features]. We don't do that many large projects in a year, but we did a fraternity house and the owners there were responsive to spending some additional money because they were going to be long-term residents in the building. If they had a payback period of 25 years or something, that was going to make sense for them... so it depends on how long your client is going to own the building.
- It varies. Some will be open and say tell me more about it. But developer driven projects try to… they just kind of roll their eyes and don't want to have anything to do with it. They were passing on the energy cost to the tenant.
- They would expect to see payback numbers on it, and even lifecycle costing to understand the impacts. At that point we're offering more analysis and more options, not necessarily recommending at that point… we might have a recommended range, pick somewhere in here.
- Hopefully positively as long as there was no adverse effect on their budget.

B5. Are there certain types of energy efficient equipment customers are more receptive to having recommended? **PROBE** for characteristics of these measures (e.g., simple to use, high energy yield, short payback etc.)

Category	Frequency	%
Solar	3	16.7%
Lighting	4	22.2%
Condensing Boilers	2	11.1%
Variable Speed Drives	2	11.1%
Updating Glazing	2	11.1%
A Slight Increase in Insulation	1	5.6%
Cost Determines Receptiveness	4	22.2%

B6. Under what circumstances would you <u>not</u> recommend a client consider additional or higher-savings energy efficient equipment?

Category	Frequency	%
High Cost	10	55.6%
Fit with Client Interest	1	5.6%
Personal Knowledge	1	5.6%
Tight Schedule	1	5.6%
Type of Buyer (Developers they wouldn't make recommendations, owner/tenant they would)	1	5.6%
N/A	4	22.2%

B7. Do customers ever react negatively to recommendations for energy efficient equipment? **PROBE** for characteristics of these measures (e.g., complicated, high up-front cost, etc.)

Category	Frequency	%
Yes	8	53.3%
No	3	20.0%
N/A	4	26.7%

B8. Do members of the [EDA implementer] ever recommend energy efficient equipment?

Category	Frequency	%
Yes	10	62.5%
No	4	25.0%
N/A	2	12.5%

B8a. **[IF B8=YES]** What do you think about these recommendations? **PROBE** for trade partner attitudes toward [EDA implementer] advising customers on measures

Category	Frequency	%
N/A / Refused to Answer	7	46.7%
Good/Well Thought Out	8	53.3%

B8b. **[IF B8=YES]** To what degree do members of the [EDA implementer] encourage customers to modify their design plans so that the building creates more energy savings than was originally considered (for example, by advocating for additional energy efficient equipment)?

- I don't think they directly push it a lot. They push it by identifying the economic incentives that would make it a good idea for the owner to-do it.
- They have a good understanding of the situation, and they understand the client's position. They don't seem… they recommend things that probably aren't affordable for the client, but they do it in a way that's not forceful, the make it clear that anything you can do is better than nothing.
- Making it a normal part of their process.
- No. I think that their job is to just put the evidence out there.
- I don't remember
- They make recommendations.

B8c. **[IF B8=YES]** How do customers respond to these recommendations?

- Client thought it was useful.
- This resonates with customers, economics.
- They responded well. But said they only have so much money. I don't think they saw it as a waste of time, and certainly because of the financial incentive for the client to listen and to participate. IF that incentive wasn't there, we probably wouldn't have done it.
- they value the information and the payback periods.
- I don't remember.
- It's mixed. Usually I find we take the middle bundle. Everybody says I don't want to pay for that, but then again nobody wants to take the low bundle…
- Positively.

B8d. **[IF B8=NO]** Would recommendations from the [EDA implementer] be valuable? **PROBE** for trade partner attitudes toward [EDA implementer] advising customers on measures

- I don't know…. I guess it couldn't hurt.
- I think this works pretty well. I would actually say it would be a benefit for the [EDA implementer] to take more a of a leadership role in making recommendations. They're looking at a lot of projects, and I feel like they have the experience to know what is and isn't going to work. So they could say here are some of the reasons other developers have chosen or not chosen to choose EE equipment. And I feel like they don't do that very much,

- Yes. It would be probably very appropriate.
- I think you'd need to know the basis of their rational for that. Are they discerning a specific payback threshold? That would be the question, how did they come up with their list of items.

Section C: Trade Partners' Motivations/Barriers to Participate

C1. What are the reasons you participate in the Energy Design Assistance Program?

- The [EDA implementer] approached us and let us know there as this program available and that they provided this service free of charge and that there would be an energy savings. So they let the owner know they were participating in it.
- The client bought them in.
- We think it's good for our projects. But we would not be willing to just throw time at the jobs unless we were compensated, and we are compensated. [The design team incentive] is the best thing they've come up with and it has to happen… if owners had to hire us to do the additional work they would have a heart attack.
- Personally, I think it's the right thing to do… but as a company we are really pushing to be more sustainable and consider energy use in our buildings. You know, you mentioned SB2030. So we're very involved in that throughout our company. And that's something historically our company has struggled with. It's very important for us as a company and for me personally.
- Rebate for the owner
- Me specifically, I'm probably more the devil's advocate, I want to make sure I'm not getting equipment that I'm going to have trouble with. And the city overall, we're pretty progressive on energy conservation, getting the latest greatest thing.
- We usually recommend it to our clients because there's a rebate incentive… And Xcel covers the time for the team to spend doing it so it's not a cost to the owner to participate, so the architect and other's time is covered to participate. And it does help to look at that lifetime analysis approach... it helps to look at, OK there's an up-front cost but there's also an energy savings, it helps you to understand the operating cost... I wouldn't be able to figure that out without the modeling.
- It came from the client. I don't know if his mortgage banker kind of steered him in that direction, he's looking at the use of solar panels
- For me, it's understanding what I've found to be the most helpful is understanding what the systems of greatest impact are. So in this case it was tech… and then they would have a few recommendations. So kind of just best practices and what [the consultant[is seeing in other buildings.
- Owners are typically looking for the rebate… and they can show that they're doing the proper judiciary reconcile thing.
- "I contacted Brian Was (?). I had heard about the program [at an AIA Minnesota meeting] and knew that the [EDA implementer] offered modeling… So I was not clear on why the [EDA implementer] doesn't do the modeling that's required by the city. They could not prepare the documents that the city required for energy modeling... I never was clear on that.... [The modeling] was a major reason... I don't think its uncommon for architects to do energy modeling to get their building to conform to the international building code.

  (It would be helpful if the EDA program would change their modeling to comply with the international building code requirements)"

- It's a good program. The reason I participate is because it's part of the project. If it wasn't required by the project, the project didn't sign up, I probably wouldn't be participating. That would depend on the owner.
- We work primarily with non-profits, and for them every penny in the budget counts and can go a long way toward making their building a possibility. So having the financial incentive to help them do EE upfront helps out a bit, and knowing they will be saving so much on an annualized basis is really helpful for them.
- Architects and owners and our own firm management is making that decision… All commercial and instructional buildings… is expected to participate in EDA.
- It's requested by our clients… Clients are usually the ones who initiate that discussion.

C2. What are some things that make it difficult for you to participate in the Energy Design Assistance program? **PROBE:** Amount of time? Limited client interest? Program paperwork?

- It was seamless.
- Nothing was difficult. The [EDA implementer] called, did an interview, was very very thorough. Got a little of information from me, form the client, put together a report, an made. Presentation.
- I don't see any big road blocks.
- I thought it was very simple. It's been a very pleasant process. They aren't lacking too much or too little or bombarding us with emails. They're very willing to work with us.
- The process is not that difficult so ok with it
- I guess I didn't see anything difficult about it. We only had a few meetings.
- For smaller projects that moving quickly, adding a layer of design and process is sometimes not feasible.
- We're in the same community, so it's pretty easy to get a hold of everybody, we can have a face to face meeting, to that makes it nice.
- They obviously require a degree of specificity so that their energy models are accurate. And I think that process could be somewhat streamlined so that they're not necessarily getting that information in the meeting so that we're to spending too much time in the meeting filling out the boxes.
- I don't know. I think they do what they can… its only 4 or 5 meetings. We have some money for design time that's theirs, so we get properly compensated.
- It was pretty easy. It was a pretty simple process. Xcel made it pretty easy.
- I think the biggest thing is timing. Sometimes I we've jumped in where we're already going down a path, and it's going to take time, and the [EDA implementer] is advocating changes, and in the meantime, we're going to keep designing…

  More outreach to designers including architects [would help with this]. Because you may not know every owner that's out there but the designers are a smaller group and they're going to tell the owners. Over the years, I think I've had only one presentation from Xcel about the program. That would help us understand what it is, how it applies, and when to do it. Owners may know about this but not know when to participate.

- No, it's pretty easy… The one thing that I wish was a possibility for more projects was more in-depth modeling we could use to make better decisions early on.

- (unknowns about tenant space, what's going in there, makes it hard to evaluate energy loads.)
- Timing of the program… to actually be relevant to our design process and give us the information when we need it and not to be too late in the game or too early when we don't know what our systems are… Having conversations early on with the design team leads about the right time to engage is.

C3. Do you work on any construction projects without participating in the Energy Design Assistance Program?

Category	Frequency	%
Yes	13	86.7%
No	1	6.7%
N/A	1	6.7%

C3a. **[IF C3=YES]** What causes you to not participate?

- Good question. If we hadn't, it was lack of knowledge.
- I wasn't aware of it.
- That's a good question. Oat's not really our decision. We can make a recommendation. We ask on every project. Some owners think it as great idea, some think it's a waste of time and energy.
- We should participate. And we will. I don't think a lot of us were very aware of it.
- They're too small. If they qualify, we have them participate.
- The size of the project, the client's willingness to participate, thinking that it would add time to the overall delivery.
- The projects properly don't fall under the requirements, a lot of small projects. The largest of the ones that qualify we do put through the program… the small ones, they're too small in size or too small or scope.
- One of the reasons is they were too far along before they realized that they could do this. This was a lot earlier, now we all know about it so we bring it up. It was lack of knowing the opportunity. Also sometimes, this is in Colorado, I don't think we did EDA because we were already pursuing aggressive energy goals and we didn't think the feedback we'd get would fit in. We'd already made decisions on systems... so working with the EDA program would have taken time and effort. It ended up with LEED platinum.... We may have been pursuing other incentives, instead of doing the EDA... This was a while ago. around that time I think [EDA] was still in flux [in Denver] as to how it was going to be rolled out. And there are energy modelers on every corner in Denver.
- We do a lot of small rehab projects that might not really fit into that program. So there are some that wouldn't be eligible.
- Too small for EDA.

C3b. **[IF C3=YES]** What would make you more likely to participate?

- He'll participate in the future now that he knows.

- You know, there's one part about it that's confusing to me, it kind of just came on the scene as something the client was doing and I was confused about where it was coming from, and who applied for it, and how I was supposed to be involved. SO I would say I actually knew almost nothing about it.
- Owners deciding to
- We will…. [Sometimes] the client may not be interested in doing it…
- Address the concerns above: (The size of the project, the client's willingness to participate, thinking that it would add time to the overall delivery.)

C4. In what ways are design team meetings helpful to you?

- We went through a sort of a preliminary review of the report… after we did that, they made modifications to the report and issued a final report. I reviewed it myself to make sure they had the names and places correct…It was very good to sit in with them and to hear the engineers talk about what they had to do and how I was going to assist them.
- For me, it was a little but superfluous because I was mostly done with the project, but I acted as a consultant to the client about what the [EDA implementer] was presenting would be beneficial to the project.
- It's communication.
- I think that really just brought everybody to the table. And everybody was talking, and that just really helps. To me it was getting everybody in the room and having the [EDA Implementer] there with the client and having them talk rough this was very helpful. It was a very useful time spent together.
- Help us sort out possibilities
- To me, it's to find out what exactly they're thinking about… and over time I've learned what works and what doesn't work.
- It's helpful to look at a couple of alternatives and, like I said, to be able to understand not only the upfront cost but how that impacts expenses down the road.
- It kind of laid out the high-level potential options we could go. Sort of laid out the multiple choice in a primary way, here's x, y and z.
- To see how the money falls out on different options.
- It's basically jumping through the hoops. You get the directions… to get the incentives.
- When they come in with the recommendations, it's… I guess they've always been pretty good, they cut to the chase. They are efficient, it doesn't drag on.
- We've been able to… and this is for projects with a more streamlined process… they're able to, live in the meeting, incorporate what are reasonable upgrades we might consider. That's helpful for us to see and for clients to see, and it's helpful for us all to be in the same room to talk through that.
- The first one serves as a little bit of an energy charrette, those project goals might not have been articulated up to that point. That's rare, but it can be a check in point for the team. More often it's a standard… exchange of project data.
- Were able to test out the different design options quickly and easily to see the impact of different approaches.

C4a. In what ways could design team meetings be more helpful to you? **PROBE** for indication that respondent feels meetings are not worth their time

- No. But they could have been better for me if I took more time to read entire repot.
- They seemed a little late in the game. I understand there has to be a building design in order for them to model it, but we'd already gone through a building permitting process… the city tinkered with our wall assemblies with no end, by the either we were done with it I didn't want to touch those assemblies again, then to have a consultant come in and say we should change them... Having someone come in earlier would have been beneficial to that process.
- Recently meetings have all gone to go to meeting or something over the computer, and I communicate with somebody better face to face.
- Thinking from the client's perspective, a lot of it was over his head. So if there's a way to simplify it… but for somebody who doesn't understand it, would be better if it was simpler. If the [EDA implementer] could have used different diagrams or different ways of explaining.
- Nothing off the top of my head.
- If it was more in layman's terms.
- The meetings are very scripted… The [EDA implementer] has kind of got this... It helps because it very much keeps you on task, but I do think there could be more dialogue, especially for owners who may not be enumerated about how systems work, so just an overview of how the systems work and why you would pick one over the other... it assumes a fairly high level of knowledge going in... and we're working developers who are no in the nitty gritty of systems design. So there could more of… a layman's explanation. [And how they would operative and how they would have energy]
- I think the [EDA implementer] is just sort of waiting in the wings. The client has fallen back and not chosen to get fully engaged with them… If the client were more engaged, there might be more benefit to those meetings.
- Not without expanding scope…. They could probably consult us on better building construction methods or how contractors could revise their scope of how they do their building…. But this is energy analysis not construction process analysis.
- They were pretty helpful… They didn't last a long time. It takes some time. When you think about going to the meetings, getting everybody on the same page, working with the contractor…
- Maybe an explanation of what all these different things mean. I understand it, but I don't always understand the specifics of what they're getting at. Like, what do you mean by demand control ventilation specifically? Is that CO2 sensors in this location or that location?... Where? How Many?
- It might depend on my project. In some cases, some of our clients haven't gone through it before, so it's helpful for them to get some of the background… for those of us who have been doing it for 15 years, it feels like we've heard this before.
- I don't know if there's an option where the kick-off meeting for experienced teams could be different than for new teams… there could be an abbreviated version, maybe only focus on changes [to EDA].
- Trying to get bundles aligned with the very specific pieces of information we're trying to strategize about, it can be hard to get things put into the right categories. Sometimes EDA is limiting because it's working at a high level, so we can't always do a model specific to the exact building we're doing... so we have to say it's just kind of like this, only kind of like what we're trying to do.

C4b. **[IF C4a INDICATES NEGATIVE ATTITUDES]** What would cause you to feel like the design team meetings were valuable for you to attend?

Category	Frequency	%
N/A	4	100.0%

C5. Do you apply for the design team incentive available through the Energy Design Assistance Program?

Category	Frequency	%
Yes	13	86.7%
No	1	6.7%
N/A	1	6.7%

C5a. **[IF C5 = YES]**: What is the benefit of this incentive to your company?

- Pay for time.
- It goes back to the discussion of us not planning for it. It gave us a little flexibility, even though we burned through that pretty quickly. I think it really shows that there's commitment to this program and shows that there's an understanding that that's how budgets work.
- Covers costs
- Compensation for time worked
- That's helpful. With the tight budgets, we also have very tight fees. So knowing that it's some extra effort for us… its helpful to have that.
- Pays for time
- Helps to compensate for the time it takes out of our day

C5b. **[IF C5 = YES]**: Do you consider the incentive to be payment for your time attending the meeting and providing the required plans and supporting information?

Category	Frequency	%
Yes	9	100.0%
No	0	0.0%

C5c. **[IF C5b = YES]**: How does the design team incentive value compare to your costs for attending the design team meetings and providing the needed information?

- Math the standard rebate for her time.
- It generally works reasonably well. Some jobs are better than others.
- I think it was close… If it could be, where you document the hours you spend on this effort and we reimburse up to this amount… I think it would better if we could get fully reimbursed for the time.

- Generally it's good but there's a big change at 50,000 sf to 100,000 sf , smaller projects are harder to meet the costs than larger. The dollar amounts might be getting dated.
- I think that it's worthwhile. The important thing I that making sure our have the right team members in the meetings. And since that time is reimbursed, it's a good incentive. I think it would be more challenging to sell this to our company f we had to absorb those costs'
- It will cover the costs. If we were a larger firm with higher billing rates, it might not cover our time.
- It's usually relatively in line. It depends on the project. When we've been studying more mechanical systems, there's more time spent on that than we'd be eligible for as an incentive.
- It's generally close…. As engineers, we're tending to do a little more than the architects are, but the architects don't always see it that way… We're usually doubling up meetings for other purposes, so we're usually not traveling just for the EDA. … It's not a severe pain point.
- It's pretty reasonable

C5d. **[IF C5 = YES]**: How long did it take to receive this incentive after submitting the design team incentive application?

- Still in process, she hasn't invoiced client which will make him apply for it.
- Don't know
- I have no idea.
- 2 months, feels like a long time
- Still have to invoice for it
- It varies. There are some where it seen fairly quick turnaround. In some other projects recently, we had to resend the form several months later.
- don't know
- It's pretty quick

C5e. **[IF C5 = NO]**: Why not? **PROBE:** Don't know how, too time consuming, too small payment, etc.

- They I'll the customer for their time directly. Other people (customer or architect) get the design team incentive)

C5f. **[ASK ALL]:** Is there a better way Xcel Energy could compensate you for your time spent with the design team meetings? **PROBE**: public recognition such as an award, case study, etc.

- It would be better off if the incentives were not tied to hours but tied to, like for example, if there's a $10k incentive for the design team, so unless it's a big job with hundreds of thousands of fees, and then the A + E would divvy up to $10 k if that's the case... so the system is that we should be billing our hours against that. But it's almost impossible to keep track with all these little pieces. I think they should just be compensating on a flat rate. The way we do it is that 50% goes to A and 50% goes to E.... The ones you do well on are OK and the ones you don't do well on, they make up for it.
- I don't think so. Those things would be a nice bonus but it always comes down to the project cost. Our PMs have to hit target, they have to come in on budget. I don't think that we're going to be featured in the next magazine means we don't need to meet our budget.

- I think most architects would be interested in a case study or possibly a follow up on energy savings so they had education on how much difference it does make in terms of dollars. Maybe you could go online and see a list of all the buildings that have participated and who the architects were.
- Case studies are always interesting. Even hearing about what other developers and architects are doing through the EDA program is nice… seeing what we can learn from other people is useful and being able to share what we've learned is good.
- I'm not excited about other options like that…. We have a number of projects that go through EDA and mixed results of achievement relative to the selected bundle. So at the end we often have a letter that says you've achieved 105%, but also some that say 85-90%. So that leaves us coming in below expectation.... That would make us hesitant to say we want Xcel propitiating the outcomes.
- You can't submit for the incentive until the end of a project. And it's hard to keep track of something like that, it would be better to phase it, or receive it at the very beginning. It's hard to hang on to everything for so long.

C6. If energy modeling were no longer a part of the Energy Design Assistance Program, would the number of projects you complete through the program change?

Category	Frequency	%
Yes	7	50.0%
No	4	28.6%
Don't Have Enough Information to Say	2	14.3%
Depends on the Building	1	7.1%

C6a. In what ways?

C6b. Why?

- There would be no reason to study alternative strategies if you didn't have a model to back it up with.

C7. If energy modeling were no longer a part of the Energy Design Assistance Program, would the energy efficiency of the projects you complete through the program change?

Category	Frequency	%
Yes	2	15.4%
No	3	23.1%
Not Sure	8	61.5%

C7a. In what ways?

C7b. Why?

C8. What would cause you to complete more projects, or projects with higher amounts of energy savings, via the Xcel Energy Energy Design Assistance Program?

- Awareness of program
- Owner interest, first cost.
- I would do it again. I think it's the strength of the reimbursement both for the owner and for the design team. I would also say we need more awareness that this program exists. It should almost be, as soon as we start a project somehow the [EDA implementer] needs to be aware and knock on our door.
- If there's a program for pure interior re-models. Nothing more he's aware of
- All the buildings since I've been here have done it.
- Maybe Xcel could work with lenders to say that maybe they should finance a greater part of the building [which could enable larger investments in EE].
- See above re: client interest and size of project
- More rebates. Just more money for the owner would be more incentives to do the program
- No suggestions
- As always, higher incentives. That would really start to open people's eyes. Other than that… What would motivate owners is if they get money back. Motivating designer, money helps too. Publicizing the process with the designers helps too, so they know when to do it. Making people familiar with it takes two meetings and discussion... (Designer are sometimes reticent to spend time on EE programs - publicize that this is a limited time commitment).
- Having the more in-depth modeling would be hopeful.
- I do think mech systems selection is the biggest untapped opportunity in buildings. And in that, I think connections to district energy, some of those decisions are more valuable to owners. I know Xcel Energy has tried as part of enhanced EDA to get in sooner, I don't know how successful that's been... We have at times specifically told owners to not participate in Enhanced EDA because they might lose incentive dollars [relative to EDA]... The fuel source neutrality has at times hampered them... particularly for heating in our climate.
- I would say to keep getting the word out to the customers that EDA exits. The client has to want to participate.

Section D: Trade Partners' Perspective on Customer Barriers

D1. Why do clients include energy efficient equipment in their buildings? **PROBE:** energy cost savings, marketing, green building certification, etc.

- There's two aspects. First, they like the aspect of savings money. I think now that we're an LED world not fluorescent, the longevity… is a huge thing. Our clients are very familiar with what's new in energy and what other schools are doing, and at least here in MN that everybody is going to better efficiency and everybody likes to save the future cost.
- Long term savings.
- Fist cost, finances.
- Usually it's return on investments and sometimes it's because they share the benefit that we need to improve the buildings we design. But most of the time it's ROI… but when they include them it's because they underestimated the ROI and they can afford that investment.
- (City is a leader in this, very important for the city)
- (See earlier comments re: cost vs. investment)

- Generally, like I said, if it's somebody more long term they're looking to recoup some of their investment and save on energy costs.
- Simple payback
- They're always cost conscious. If they're keeping the building and intend to keep it a while, they're looking at the long-term operating expenses. Sometimes there's a feel-good factor that they're doing the right thing.
- The institutional ones it's usually to meet some sort of targets. The healthcare and public ones usually have to do with economics like ROI. And it also has to fit in, it can't be disruptive to the maintenance and facilities group.
- They're looking for savings in operating costs… they're really very good people, they're vision oriented and trying to not only help their residents but also have environmental goals. And to be honest, the funding sources do require a base line of energy efficiency.
- A lot of our clients pursue energy efficiency because they're looking for long-term operating cost savings. I think a lot of them are motivated by some other factor in terms of LEED, definitely the SB2030. Minneapolis has a disclosure ordinance, I don't see a lot of people talking about that yet, but it might come up more.
- To reduce their operational costs.

D2. What challenges do clients face when choosing energy-efficient equipment for their building? **PROBE:** up-front costs, limited knowledge about energy efficient equipment, time, etc.

- Monetary. Do they have the money to make the switch? Nest schools want to make the switch, it's just a matter of finding the money.
- Return on investment. They're looking for savings over the next 30 years, usually the return has to happen over 5 years for the client to really want to do it.

  [up front cost] is definitely a hurdle. There was one item in their report that was a significant hurdle because of the cost and said, we just can't do that.
- Cost.
- Up front cost
- Costs, see above
- Budget.
- It's all about that life cycle cost analysis. The biggest barrier is initial cost and the ability to finance it.
- Up-front costs. And everybody wants everything tomorrow, so if there was a delay because of where the equipment had to come from or timing, that would be sort of a negative.
- Ongoing maintenance costs, up-front costs
- One would be money. One would be if it takes more time, causes the construction period to be longer.
- Money is the obvious one. Familiarity is the other.
- Up-front cost. Maintenance.
- First costs. Project schedule. Familiarity. Increased operational maintenance costs
- Up-front cost.

D3. Why do clients participate in the Energy Design Assistance program? **PROBE:** incentive payments, help identifying energy saving measures, help with certification paperwork etc.

- This was first time.
- They were looking to make the building a little bit greener, have some savings, and marketing was one aspect of it. They do recognize that completion may increase and that being green] might give them credibility.
- It reduces their operation cost and provides a financial incentive.
- Incentive payments and finances
- for the rebate
- (City is a leader in this, very important to the city)
- (See earlier comments re: cost vs. investment – They participate for incentive and ROI mostly)
- Don't know, client brought the program to respondent
- Payback, incentives
- I think our client was simply curious. And he thought, well let's find out about this. If it didn't take much time to sit in the meeting he was happy to do that with the tidbit that perhaps he would save some money.
- (they get to see the life cycle costs).
- Reduce upfront costs. See impact of EE choices on costs. Learn about different EE options
- Incentives
- Incentives

D4. Have you ever worked with a client who wanted to participate in the Energy Design Assistance Program, but attempted to do so too late in their design process to participate?

Category	Frequency	%
Yes	4	28.6%
No	10	71.4%

D4a. **[IF D4=YES]** Why did they not attempt to participate earlier in their design process?

- Lack of awareness. The other side of the coin is often you have different parties involved in this project. You have one PM who doesn't like the program, then in a later stage, have another PM who wants to participate.
- Specifically, with this one project, we've discussed the need to have a kick-off meeting way back in schematic design, and it's just been postponed, postponed, and postponed. So in a large part it just has to be a part of the schedule of the design process. At the previous firm I was at, the attendees did not include the client. So those are two different scenarios, but the outcome was largely the same.
- I think in part it's not being clearly defined in the schedule for each project. And if there's a PM or a person who's kind of in charge of client relations making sure that the importance of the process is clearly articulated. I think sometimes the EDA process is touted as a way to get incentives for the design we already have in the plan.... I think [this attitude] comes from the architectural team. It's our responsibility to make sure that this is integrated into the process and that the client is engaged.
- Some developers want to push things quite far along to get their funding… or their municipal approval process has required them to push things farther along.

D4b. **[IF D4=YES]** What could Xcel Energy do to help enroll these projects earlier? **PROBE:** Offer an option for holding an early design charrette? Offer a bonus rebate to participants or trade partners to enroll earlier? Streamline the enrollment process?

- I suppose they could police the process better. I don't know how they police, I don't hear about it.
  Early design charrette of early participation bonus could help. Do a sales pitch.
- I don't know. We're asked to keep projects confidential, so we would never reach to EDA… But I think there are a handful of projects we've had where the confidentiality is worth more than participation in EDA.

D5. Do clients ever consider installing greater quantities or higher-saving energy efficient equipment than they actually install?

Category	Frequency	%
Yes	10	66.7%
No	3	20.0%
N/A	2	13.3%

D5a. **[IF YES]** What are the reasons they wind up installing less/lower-saving equipment?
PROBE: Tried to integrate equipment too late in process?
Short building time line prioritized speed?
Up-front cost too high?
Avoiding equipment they are not experienced with?

- 100% of respondents indicated cost

D6. Under what circumstances do you think clients would install more energy efficient equipment, or equipment that created larger amounts of energy savings?
PROBE: More knowledge of EE options?
More familiar with successful implementation of EE equipment?
Lower up-front costs?
Greater energy savings?
Less rushed construction schedules?
If client paid utility bills (i.e., no split incentive)?
Future tenant/owner expressed interest in EE?

- Reduced up front cost. Or if we found a school and leaders that knew this was a good direction to go… money is a huge motivator, if they have the dollars… but sometimes people in e leadership position realize this is the right way to go even besides the monetary invective.
- Expense, affirmabilities
- Cost.
- Awareness. Helping them be aware of what's available and the advantages.
- lower up-front costs
- If funds were available.

- See above. Re: costs
- See above re: costs and payback
- Payback, ROI
- Cost, long term occupancy.
- See above. Re: costs
- See earlier, cost, awareness.
- A lot of them it is payback. Is the additional first cost justified? For some of the more exotic things... Whenever we talk about new technology, a lot of times our question is tell me two or three buildings that have it… a lot of people don't want to be the first one to do something...
- If budget is available

D6a. Would clients install more energy efficient equipment if a larger number of energy efficiency measures were recommended during design review meetings?

- Definitely. I think it's a matter of getting it in there and getting it budgeted, and if the price is right, they'll go for it. I do know that with the ice arenas we were looking to do a better EE cooler, but it was probably more than $100k more than the one that they took.
- If budget allowed
- Only if cost was a good fit
- Yes and no. I mean, that would certainly help. We try to sell these ideas all the time and a lot of time they just don't stick. I don't know what the solution is… we can talk about this and talk about the advantages and the ROI and sometimes it still doesn't stick. I think a lot of it comes down to a will be EE.
- they do a good job and ok with what they do
- No.
- Probably not. I don't know.
- See above re: costs and payback
- I think the [EDA implementer] list is pretty extensive.
- I think they probably would… But often the owner is not directly involved in the design process, often the architect will coordinate that work…. The owner doesn't want to get involved with the minutia, so the architect would have to get this from the mechanical and lectical guys, because the architects don't necessarily know what the latest and greatest in mechanical systems are.
- depends if we don't increase the complexity… If the owner gets a list of 150 things that they have to go through and choose… I think limited complexity is good for the owners.
- (If the budget were available, yes. If not, no)
- See earlier re: recommendations
- Yes.

D7. Do clients have ideas about what energy efficient equipment they want to install before the design team meetings?

- Yes
- No
- Don't Know

Category	Frequency	%
Yes	6	40.0%
No	2	13.3%
Varies	5	33.3%
N/A	2	13.3%

D7a. **[IF D7=YES]** Is this the equipment they wind up selecting for installation in the final design?

Category	Frequency	%
Yes	6	54.5%
Varies / Depends	2	18.2%
No Response	3	27.3%

D7b. **[IF D7a indicates clients select different equipment]** Are clients' final equipment s elections more or less energy efficient than their original selections?

- Varies drastically.
- NA
- It was more EE (for this one client)
- Sometimes (see above)

D7c. **[IF D7a indicates clients select different equipment]** For what reasons do clients select equipment that is different from what they were initially considering? **PROBE** for influence of modeling, design review meetings, or consultant recommendations on final customer measure choices.

- Maybe it's just an updated technology or a newer piece of equipment.
- NA
- They are a very long-term holder of properties. So when they build something, their outlook is, will my grandchildren own this building. So they're looking for a long-term investment philosophy
- (increased awareness. In EDA, we usually pick the bottom or the middle bundle)

D8. Are customers interested in projects that yield high-levels of savings?

- Yes
- No
- Don't Know

Category	Frequency	%
Yes	14	93.3%
N/A	1	6.7%

D8a. **[IF D8=YES]** Which types of customers? Are they typically a certain type of building or ownership structure?

- Driven mostly by budget.
- The ones that are actually going to own and operate the buildings are always more interested in the operating savings.
- I think that really varies depending on who the client is. Healthcare facilities use a lot of energy so there's definitely benefit to using EE equipment for healthcare facilities. Some laboratories are energy conscious too.
- (This is a single client, the city. They implement EE whenever they have budget)
- I'd say that the clients I work with that are family business tend to hold their buildings longer [and so are more willing to invest in EE], or companies that own the building but also operate the company within it to tend to have longer term approach. Companies that intend to charge back the utilities back to their clients tend to not have a longer-term approach.
- No pattern
- Colleges, hospitals, larger installations. I think residential and office buildings tend to be less interested. Long time owners.
- Long term occupants. Universities.
- Institutional. Higher education. Non-profit, cause they're also trying to make a statement and they don't have to prove an ROI if they fundraise for what they want to do. Public sector, they're up there with institutional.
- Long-term ownership (which is most of their clients)
- Definitely something tied to mission. If it's a college lab building, a nature center, a nonprofit, a lot of those tend to have more interest in EE.
- I do a lot of work with college and university clients, they're interested.

D9. Do you ever recommend measures that would yield high levels of energy savings, but that might be more complicated to install or operate, or involve higher up-front costs? Why or why not? **PROBE** for perception of recommendations' impact on customer satisfaction

- N/A
- Only if it affects the cost. It is always about the money. The only time it's been about the site limitations or completeness of the install would be geothermal.
- That's a given. The more EE it is the more complicated it is to install.
- Yes
- Sure
- (no does not make recommendations)
- No, engineers and architects recommend
- (Respondent doesn't recommend per se, more accurately works with other design team members to give clients options)
- (this figures in - could cause Michelle to scale back on recommendations)
- (This is a factor in his recommendations).

D9a. Why or Why not? **Probe:** For perception of recommendations' impact on customer satisfaction.

- BNA
- Depends on the client, the cost, and the project details
- (Respondent doesn't recommend per se, more accurately works with other design team members to give clients options)

- An owner will say we've never owned that, I don't want to worry about that.
- Yes, that's s consideration

Section E: Product Interaction

E1. We'd like to know how helpful different parts of the Energy Design Assistance Program are to you. I'll read a list of different parts of the product. Please rate each from 1 to 5, where 1 means that part of the product is not at all helpful, and 5 means that part of the product is extremely helpful.

E1a. Introductory meeting

Category	Frequency	%
Not at All Helpful	-	0.0%
2	1	7.1%
3	3	21.4%
4	3	21.4%
Extremely Helpful	7	50.0%
Don't Know	-	0.0%

E1b. Results review meeting

Category	Frequency	%
Not at All Helpful	-	0.0%
2	-	0.0%
3	-	0.0%
4	7	50.0%
Extremely Helpful	7	50.0%
Don't Know	-	0.0%

E1c. Energy modeling

Category	Frequency	%
Extremely Difficult	-	0.0%
2	-	0.0%
3	2	20.0%
4	2	20.0%
Extremely Helpful	6	60.0%
Don't Know	-	0.0%

E1d. Incentive payments

Category	Frequency	%
Extremely Difficult	-	0.0%
2	-	0.0%
3	-	0.0%
4	3	42.9%
Extremely Helpful	4	57.1%
Don't Know	-	0.0%

E1e. Recommendations you received from [EDA implementer] staff

Category	Frequency	%
Extremely Difficult	-	0.0%
2	-	0.0%
3	-	0.0%
4	2	50.0%
Extremely Helpful	2	50.0%
Don't Know	-	0.0%

E2. Do you believe energy modeling is a key component of the program?

Category	Frequency	%
Yes	8	66.7%
No	3	25.0%
Depends on Project	1	8.3%

E2a. How does energy modeling affect your client's decisions of what energy efficient equipment to install?

Category	Frequency	%
Positive Affect	6	54.5%
No Effect	3	27.3%
Didn't Know	2	18.2%

E2b. In what situations (e.g., building types or size) do you think projects need modelling?

- N/A see above
- Houses need this less, unless they're extremely modern or complicated houses where we need to see exactly where the heat loss and solar gain is happening.
- Nothing in particular, no one where it's most useful. It varies with mindset of the owner.
- I don't know
- For a brand-new building it would be pretty good, it would get a little more difficult when remodeling buildings… when you're going into spaces that have been there and changing things around.
- see above.

- (Refused – hasn't had experience with similar programs but minus modeling so doesn't know how things would work without modeling. Sound like he really values modeling)
- Larger ones epically
- Depends on the project, see above

E2c. If your clients received analysis and recommendations without the energy modeling, do you think his would change their actions?

- N/A see above
- If it was related to residential, I think there's enough data to back up recommendations. Otherwise, I think the energy modeling is pivotal. It's very difficult to convince someone who making a investment without the data to back up why.
- I don't know.
- It might. Modeling makes the whole thing more credible.
- No
- They wouldn't believe the results as much, not sure how reliable this would be
- No
- see above, re: what would program be without modeling?
- (Refused - hasn't had experience with similar programs but minus modeling so doesn't know how things would work without modeling. Sound like he really values modeling)
- No. see earlier

E3. How difficult or easy would you say it was to complete the following tasks associated with the Xcel Energy Energy Design Assistance Program on a scale from 1 to 5, where 1 is extremely difficult and 5 is extremely easy?

E3a. Complete product applications

Category	Frequency	%
Extremely Difficult	-	0.0%
2	-	0.0%
3	-	0.0%
4	2	33.3%
Extremely Helpful	4	66.7%
Don't Know	-	0.0%

E3b. Submit product applications

Category	Frequency	%
Extremely Difficult	-	0.0%
2	-	0.0%
3	-	0.0%
4	1	16.7%
Extremely Helpful	5	83.3%
Don't Know	-	0.0%

E3c. Meet product deadlines

Category	Frequency	%
Extremely Difficult	-	0.0%
2	-	0.0%
3	2	20.0%
4	2	20.0%
Extremely Helpful	6	60.0%
Don't Know	-	0.0%

E3d. Satisfy design team incentive requirements

Category	Frequency	%
Extremely Difficult	-	0.0%
2	-	0.0%
3	-	0.0%
4	3	42.9%
Extremely Helpful	4	57.1%
Don't Know	-	0.0%

E3e. Submit design team incentive application

Category	Frequency	%
Extremely Difficult	-	0.0%
2	-	0.0%
3	-	0.0%
4	2	50.0%
Extremely Helpful	2	50.0%
Don't Know	-	0.0%

E3f. Get in touch with an Xcel Energy representative

Category	Frequency	%
Extremely Difficult	1	11.1%
2	1	11.1%
3	2	22.2%
4	2	22.2%
Extremely Helpful	3	33.3%
Don't Know	-	0.0%

E3g. Determine equipment/models that are eligible

Category	Frequency	%
Extremely Difficult	-	0.0%
2	-	0.0%
3	-	0.0%
4	6	66.7%
Extremely Helpful	3	33.3%
Don't Know	-	0.0%

E4. **Ask for any E3 responses LOWER THAN 4:** What about this wasn't easy?

- It goes back to <name kept anonymous> not knowing anything about the program until we actually had this meeting I my office with the report, and I didn't even know they were going to be there.
- Xcel Energy rep – We haven't done it much, they're just busy

E5. From the time work started to project completion, did the project take less or more time than you expected to complete?

- About the time I expected
- It's been a very slow, completed unrelated to EDA.
- about as expected
- About that I expected, maybe a little less time
- Similar to the other ones
- Project in progress
- We're about 40% of construction
- The project overall just barely started construction, it was supposed to have started several months ago.

  They've had some significant delays (no influenced by EDA though)

Section F: Trade Partner Marketing

F1. What aspects of the Xcel Energy Energy Design Assistance Program do you discuss with potential customers? **PROBE:** energy modeling, incentives, long-term savings on energy bills, market value of the building

- N/A first time
- N/A first time
- We don't say too much about it, we're a sub-consultant, working with an architect. We just ask if they want to do it.
- This was his first EDA Project
- energy efficiency and models and incentives
- (The city does with all their buildings)
- Looking at different equipment scenarios and up-front costs vs operating costs, and the incentive payment

- N/A customer brought the program to him
- The economic part. That you can get money back and save energy. … I've never had a client that said they're not doing any of that.
- We discuss the incentives, how helpful the modeling is, and at some point, we briefly describe what the process is like.
- If we were going to nudge somebody, we would nudge the architect [not the owner]

F2. When in the design process do you typically discuss participation in the product? **PROBE:** introduction, discussion of costs, etc.?

- N/A first time
- first introduction of project
- N/A
- schematic design
- (The city participates with all their buildings)
- At the beginning.
- N/A customer brought the program to him
- Customers generally bring EDA up. They usually bring it up pretty early in the design process.
- Early on

F3. Under what circumstances would you include that discussion earlier in the process?

- N/A first time
- N/A
- N/A
- Sometimes required
- (The city participates with all their buildings)
- N/A customer brought the program to him
- N/A

F3a. How could Xcel Energy help to facilitate earlier dialogue?

- Having some information on hand about the program would be very helpful. It's very helpful when I'm meeting with a client. I have a folder of information. I would recommend the same approach that my materials suppliers do – call me, then stop by the office to drop off the materials for me... If I have to go to, even if it's like have a free lunch over here, that's just something I have a hard time with.
- N/A
- Raise awareness of the program.
- no answer
- [The city engages with EDA] fairly early on… [No benefit to engaging until] Not until you've got the building somewhat figured out.
- N/A customer brought the program to him
- N/A

F4. Who typically brings up the idea of participating in EDA? **PROBE:** Customer, trade partner, Xcel Energy staff, etc.

- Client
- Client
- Trade Partner
- I think it was me. Because I knew it was a program with really nothing bad could come.
- Trade Partner
- NA
- Trade Partner
- Customer 1 of 1 times respondent participated
- Customer
- Trade Partner
- Trade Partner

F5. What questions or concerns do customers have during initial discussions about participating?

- No. Our client has done it before.
- NA first time
- No
- The question was, does it matter? Can we afford anything? (The client was skeptical they could afford EE).
- usually not a big deal
- (The city participates with all their buildings)
- None
- NA customer brought the program to him
- If they haven't done it before, they might ask about timing of the incentives, or just about the process, what's involved.

F5a. Does the design assistance or technical assistance available through the product ever come up in sales discussions with customers?

- NA first time
- No
- NA
- see above
- (The city participates with all their buildings)
- NA customer brought the program to him
- I think we talk about that in the context of the modeling.

F5b. **[IF F5a = YES]** When in the conversation is this assistance typically mentioned?

- NA
- NA
- Early On

F5c. **[IF F5a = YES]** To what extent does this assistance help or hurt the sale?

- NA
- NA
- It helps

Section G: Evolving Market Place

G1. What do you see as new/emerging energy efficiency opportunities for business new construction customers?

- I'm somewhat familiar with PV and turbines… but I wouldn't consider myself an expert on mechanical systems.
- I would say the multifamily sector is going to be a place where's there's a growing market,
- From an electric perspective, we kind of went through a big learning curve with LED lighting and controls, and we've come a long way on that. I think there's a revolution coming on with HVAC with variable speed compressors and things like that. The thing is that there's such a smattering of really good and really bad manufactures... so probably HVAC and heat pump systems are going to be the biggest new whatever.
- I don't know
- LEDs are big right now, and are getting better and better and less expansive.
- Solar, LED fixtures… I guess from an outsider stand point the LED fixtures, the different levels of it, if there was more consistency about the warmer range or the cooler range… I know there's a broad spectrum… but it looks different from people have been used to with incandescent.
- No
- Solar. Super insulating.
- Some of the things we've looked at in the past and haven't been able to do because of cost, my hope is that in the future some things that were off the charts will be more realistic for more of our clients. Different options for solar for example, and now LEDs are what we do pretty much everywhere.
- Magnetic bearing or oil-less chillers are somewhat new. Dedicated outside air systems, some of these two-wheel heat recovery systems.

G2. What do you see as trends in the market place for energy efficiency programs serving business new construction customers?

- I would say the multifamily sector is going to be a place where's there's a growing market

G3. What role do green building certifications (like LEED) play the in the construction market? **PROBE:** How do these certifications affect building owners design choices?

- I am LEED certified, so I would hope that they do more as far as encourage architects and owners to design thoughtfully… and do the things we need to do to make the carbon footprint as small as possible. For certain people [certifications are moving the market], for others I sense a cynicism... that they don't think it's important and that they think it's an added expense to get that certification.
- I wish it played a bigger role. Right now it's not plaguing a role for me at all.

- I think that it's… they raise awareness and they set targets. They set the bar. I think they're very useful, they set the bar. And they raise awareness. My perception has changed, it used to be why don't we do this on every project, but I've been LEED certified for 9 years and I have not once been a LEED professional on project, so it's just not used.
- as a model it's good but getting smaller and smaller
- Yes. Probably not so much LEED, but Energy Star we strive to meet that… It makes sure you're going for the highest… going for equipment that's energy star rated, or scheduling occupancy.
- The principles [of green building certifications} are part of our work, but actually doing the paperwork to get the certifications, no… People think green building or something is a very high level, but the standards might be lower than they really understand. Some of those thresholds are not very hard to meet when it comes to window systems etc.
- For us, Green Communities and Energy Star are the most prevalent in our work because they relate do the funding of our work.
- We don't see much with Energy Star… LEED I think is maybe shrinking a little bit into those projects that are have an owner that really need those things… the city of Minneapolis and St Paul tend to encourage that or even put that into their negations for their project approvals, you're going to do B3 or LEED.

G3a. Has this changed over time? In what ways?

- There has been a change, but I think certain people in the industry still have that cynicism. I see more LEED certified engineers than architects.
- No
- No
- costs money and it's a lot of work
- As it becomes more… I guess 15 years ago no one hardly knew about that stuff, and now it's more out there.

G3b. Has the number of buildings pursuing this type of certification changed over time?

- I think in the last 10 years there's been a lot and. Lot of firms use that as a marketing tool, but I'm sort of seeing that plateauing.
- I don't know
- No
- (yes, see above)
- Yes. With our funding sources, at one point there was no overall sustainability program across projects, it was just whatever client should make work within the budget. But now we have certain guidelines we have to meet. And beyond that it's based on the client and what they do with the budget.

G3c. Will the number of buildings pursuing this type of certification change in the future?

- I think in the last 10 years there's been a lot and. Lot of firms use that as a marketing tool, but I'm sort of seeing that plateauing.
- I don't know
- I think it's staying the same. I don't see certification as the reason why… I don't think people are interested in getting a silver plaque on their wall, even if people are interested in EE, I don't think it's the certification itself that's driving the upward trend in EE.
- Yes

Section H: Free-Ridership

H1. On a scale of 0 to 10 where 0 is NOT AT ALL IMPORTANT and 10 is EXTREMELY IMPORTANT, how important was the Xcel Energy Energy Design Assistance Program, **including incentives as well as product services like the design team meetings and energy modeling**, in influencing your decision to recommend that CUSTOMER install the energy efficient equipment they did?

Category	Frequency	%
Not at All Important		0.0%
2		0.0%
3		0.0%
4		0.0%
5	2	20.0%
6	3	30.0%
7	2	20.0%
8	1	10.0%
9	2	20.0%
Extremely Important		0.0%
Don't Know		0.0%

H2. How important was your firm's past participation in the Energy Design Assistance Program in recommending that CUSTOMER install this energy efficient equipment?

Category	Frequency	%
Not at All Important		0.0%
2		0.0%
3		0.0%
4		0.0%
5	1	12.5%
6		0.0%
7	1	12.5%
8	5	62.5%
9		0.0%
Extremely Important		0.0%
Don't Know	1	12.5%

H3. Using a 0 to 10 likelihood scale where 0 is NOT AT ALL LIKELY and 10 is EXTREMELY LIKELY, if the Xcel Energy Energy Design Assistance Program, **including incentives as well as product services and information,** had not been available, what is the likelihood that you would have recommended installing the same energy efficiency measures?

Category	Frequency	%
Not at All Important		0.0%
2	1	7.1%
3	1	7.1%
4	1	7.1%
5		0.0%
6	2	14.3%
7	5	35.7%
8		0.0%
9	1	7.1%
Extremely Important	1	7.1%
Don't Know	2	14.3%

H3a. In what percent of projects do you recommend integrating energy efficient design features?

- N/A
- If I knew about this program before, I may have brought the program to them, in which case I would have felt more repowered to make suggestion. Some of my job was walking the line between making good design recommendations and making sure that the client still trusts us with their project. And if the client thinks I'm trying to sell him the whole time, has' probably going to find a different architect. Probably 80%
- 100%
- 75%
- all
- None
- Re: above: For the client in this project, the speculations of the marketplace, that's what the market would have demanded. Everyone wants Energy Star appliances and high efficiency furnaces, so they would done that anyway.
- See earlier comments re: not recommending but providing different energy scenarios. This is respondent's standard practice.
- 100%
- 100%
- 100%
- 100%

H3b. Thinking only about these projects in which you recommend energy efficient design features, about what percent of these projects do you complete through the Xcel Energy Energy Design Assistance Program?

- N/A first time
- About 5% of projects through EDA
- This was his first EDA project personally
- all
- NA
- STOPPED HERE - respondent out of time
- This is respondent's first EDA project, has been in business for about 20 years.

- 5%
- We work all over the country… Of the ones I do in Minnesota, it's 80%
- 60%. Most of our major projects do (because too small)
- "Eligible for EDA - 75%
- All projects over all - 5%"

H3c. For those projects you complete through the Xcel Energy Energy Design Assistance Program, do you recommend specific energy efficient equipment before the design review meeting?

- Yes
- Yes. Maybe a very little.
- no
- See earlier comments re: not recommending but providing different energy scenarios. This is respondent's standard practice.
- Yes

H3d. **[IF H3c=YES]** Why do you make recommendations at this stage of the design process?
PROBE: Standard practice in industry to make initial recommendations?
Experience with customer preferences indicates preferred measures?
Previous experience with recommended equipment via product?

- Standard practice, knows what will work
- We went into it knowing we had a limited budget so didn't want to talk about things that weren't realistic, but we did mention it.
- not asked; ran out of time
- At the very least… we pick more efficient equipment, there's going to be higher efficiency equipment on all LKPB projects (SO BUSINESS STANDARD PRACTICE)

H3e. **[IF H3c=YES]** Are the measures you recommend prior to the design review meeting the ones the client winds up installing?

- Pretty typically, yeah'
- Yes
- not asked; ran out of time
- They install this type 80%

H3f. **[IF H3e=NO]** What causes them to select alternative measures?

- Owner preference, whether it be for manufacture or type of system.

H3g. **[IF H3e=NO]** Does the design review meeting cause them to select alternatives? In what ways does it have this impact?

- The modeling sometimes causes them to change their preference, maybe for different levels of efficiency

****

Consistency check

[Ask If (H1 > 7 AND H3 >6 i.e., *Product was important AND would have recommended without product*) else skip to H1]

H4. You just gave <H1 RESPONSE> points to the importance of the product in your decision to recommend that CUSTOMER install the energy efficient equipment they did. I would interpret that to mean that the product was quite important to your decision to recommend equipment. Later, when I asked about what you would have done in the absence of the product I recorded some answers that would imply that the product was not that important to you. Just to make sure I have recorded this properly, I have a couple of questions to ask you.

H4a. When I asked you about the importance of the Product, including incentives and services, you gave a rating of ...<H1 RESPONSE> ... out of ten, indicating that the product and the incentives were important to you. Can you tell me why the product was important?

H4b. When I asked you about the likelihood you would have recommended installing these energy efficiency features without the product, you gave a rating of ...<H3 RESPONSE> ... out of ten, indicating that the product was not that important to you in that you would have recommended the measure anyway. Can you tell me why the product was not that important?

****

Section I: Satisfaction

Using a scale from 1 to 5, where 1 is extremely dissatisfied and 5 is extremely satisfied, please rate your satisfaction with the following items:

I1. Your **overall satisfaction** with the Program?

Category	Frequency	%
Extremely Dissatisfied		0.0%
2		0.0%
3	1	8.3%
4	5	41.7%
Extremely Satisfied	6	50.0%
Don't Know		0.0%

I1a. **[IF I1<4]**: What could Xcel Energy do to increase your satisfaction with the Energy Design Assistance Program?

- Not asked; ran out of time
- The program isn't helping influence architecture (additional comments earlier)

I2. Energy Design Assistance Program **staff**?

Category	Frequency	%
Extremely Dissatisfied		0.0%
2		0.0%
3	1	8.3%
4	4	33.3%
Extremely Satisfied	7	58.3%
Don't Know		0.0%

I3. The size of the design team **incentive**?

Category	Frequency	%
Extremely Dissatisfied		0.0%
2		0.0%
3	2	28.6%
4	2	28.6%
Extremely Satisfied	3	42.9%
Don't Know		0.0%

I4. The **process** for assessing project savings?

Category	Frequency	%
Extremely Dissatisfied		0.0%
2	1	11.1%
3	3	33.3%
4	4	44.4%
Extremely Satisfied	1	11.1%
Don't Know		0.0%

I5. The **design assistance** meetings?

Category	Frequency	%
Extremely Dissatisfied		0.0%
2		0.0%
3	3	25.0%
4	4	33.3%
Extremely Satisfied	5	41.7%
Don't Know		0.0%

I5a. What about these meetings was helpful?

- Modeling
- Gave everyone a chance to sit down and talk
- Not asked; ran out of time

- Getting everyone together for face to face meeting, [EDA implementer] laying out some high-level ideas

I5b. How could these meetings have been more helpful?

- Make it's easy to understand for everybody in the room
- not asked ran out of time

I6. The **modeling** completed for the project

1. Did the consultant change the bundles during the results review meeting so you saw the impact on the rebate, energy savings and payback during the meeting or
2. Were changes to the bundles done after the meeting and were results presented at a later time?

Category	Frequency	%
Extremely Dissatisfied		0.0%
2		0.0%
3	4	33.3%
4	4	33.3%
Extremely Satisfied	4	33.3%
Don't Know		0.0%

I6a. What about the modeling was helpful?

Category	Frequency	%
Real Time Modeling	6	50.0%
Old Path	3	25.0%
Both	2	16.7%
Have Not Reviewed Modeling Yet	1	8.3%

I6b. How could the modeling have been more helpful?

- See above re: modeling earlier on
- See way above
- See above – credibility
- When it did occur in real time it was helpful to see the changes and how decisions really impact the building.
- N/A – haven't reviewed modeling yet
- see above – slow payback, ROI, incentive
- Provides incentives and life cycle costs
- see comments earlier

I7. What would you change about the Energy Design Assistance Program to help you complete projects with higher levels of energy savings? **PROBE:** bigger incentive, different modeling, changes to design team meetings, educating customers about energy efficiency, etc.

- I couldn't answer that as expertly as the [EDA implementer], I give them the information and the do the modeling.
- No, just bring me a folder of information

- Increase the incentives.
- Awareness. Simply design review meetings
- More rebates
- Nothing (respondent is early in process)
- increase rebates
- No
- architecture comments. Bigger incentives.
- Do higher level of modeling for all projects). Part of the issue with not pursuing some of the more costly EE improvement is, even if they have long term operating befits, it's the initial cost and being able to fit that in the budget. So if there were some way besides the incentive to offset... some kind of priority for tings the client would love to do but can't make the up-front cost work, like if there were some way to get more PV on projects... that's just a huge hurdle.... [Financing] could potentially be helpful. Some of these projects have really complicated funding, so that would be a question for the developers.

I7a. **[IF I7 indicates bigger incentive]** Can you tell me a little more about why a higher incentive is needed?

- That's why their involved in the program. It there wasn't economic incentive, they wouldn't be involved with the program. Going back to thinking about the two program tracks, it might be good to spend less money on the modeling and more on the invectives.
- Not asked; ran out of time
- Because we always have a budget… if we knew were getting more budget back, we'd probably do it more often than not.
- see above
- (gets people's attention, as per earlier)
- See O160

I7b. **[IF I7 indicates bigger incentive]** How much larger would the incentive need to be to help you complete projects with higher levels of energy savings?

- 25-50% higher. But I've had meetings with owners where they've said, you know we're only getting $50,000 back? I'm not sure it's worth it.
- not asked ran out of time
- No, I couldn't tell you without knowing what the cost was.
- I don't know
- (depends on the project, the budget, and the cost of the measure they can't afford)

I8. What feedback have your customers given about their experiences with the Xcel Energy Energy Design Assistance Program?

- They were thrilled. There was a big savings so they were very happy
- No feedback from client. I think he was pleased with it, because it was very thorough… he was trying to get investors to agree to spend money on a few extra things and I think the energy modeling data was helpful.
- I can't think of any examples. By the time the job is done and the went through the verification we're not involved much anymore.

- They liked the incentive.
- not asked ran out of time
- No
- They appreciate the knowledge
- He just wants his rebate.
- No feedback received
- They're all happy that there's some incentive for them to do the EE projects.

Section I: Closing

J1. Is there anything we didn't cover that you'd like to mention or discuss about your experiences as a participating trade partner for the Xcel Energy Energy Design Assistance Program?

- You've talked about the architects' incentive program that I was unaware of, and that's she one thing that would be interesting to see what those are.
- I think the two key pints is the dumbed down statement which not sure is fair, maybe it's just routine is a better word. And the issue re: some of their processes, where some of the information is a little bit confusing. Sometimes the numbers [in the model] lack credibility. And maybe that's a good argument for not doing the modeling.

APPENDIX F: PEER UTILITY BENCHMARKING RESULTS

1.1 Introduction

To support the process and impact evaluation of the 2018 Xcel Energy energy efficiency programs, the EMI Consulting evaluation team benchmarked the Xcel Energy Minnesota (MN) Business New Construction program against peer utilities located across the country. The objective of the benchmarking research was to understand how peer utilities are approaching key issues related to implementing and improving new construction programs based on a comparison of peer utility programs' design, delivery, and processes. The evaluation team's findings are informed by in-depth interviews with program managers at four utilities, and by secondary research into the new construction programs offered by seven additional utilities. The criteria used to choose per utilities included:

- Comparable program designs to Xcel Energy's product,
- utilities with the same or more stringent energy code,
- size,
- incentive structure, specifically different incentive structures from Xcel Energy's,
- program requirements and offerings (like minimum savings, early design assistance, and commissioning services).

The interviews and secondary research focused on assessing product design, delivery, and key performance indicators (e.g., participation levels, free-ridership) of peer utilities. Key themes the evaluation team explored with peer utilities included:

- Net-to-gross (NTG) savings approach and results,
- Incentive levels and structure including whether peer utility programs offer a trade partner incentive and the requirements for them to receive it.
- Program requirements including building size thresholds, how program offerings vary by building size (e.g., cost-effectiveness of modeling smaller buildings), how projects are screened into program tracks, and requirements around minimum achieved savings
- Program descriptions including their objectives, relevant features of their implementation strategy, the measure types and incentives offered, recruitment strategy, characteristics of their target customers, and whether they have an implementer(s),
- Market actor engagement practices including their approaches to engaging and motivating owners and design professionals to implement measures, their methods for identifying and presenting efficiency opportunities, information supplied to market actors to support decision making, and how peer utilities' have been successful in driving customers to implement more measures.

The remainder of this memo provides a summary of key takeaways and the findings related to the five key themes listed in the above bullets. The final section provides a summary of incentive levels from each peer utility. The synthesis of findings places an emphasis on helping Xcel Energy interpret market actor perspectives and identifying actionable opportunities for improving product operations and marketing by offering a comparison of how peer utilities are addressing key issues the new construction market is facing.

1.2 Key Findings

Overall, peer utilities utilize similar implementation strategies. All peer utilities offer customer prescriptive and/or custom incentives for a variety of energy efficient equipment that exceed code. They all focus marketing and outreach activities on trade partners (architectural and engineering firms, design firms, etc.) through events such as conferences, The American Institute of Architects (AIA) meetings, webinars, and tracking construction starts as they all use trade partners to recruit and enroll buildings into the programs. in order to have staff approach those projects. All the peer utilities' requirements around building type, building size, minimum savings achieved, and other eligibility requirements are similar.

Additional key takeaways and details are:

- Some peer utilities offer higher incentives than Xcel Energy's current incentive level. Many of the peer utilities offer incentives significantly higher than Xcel Energy's.
- None of the peer utilities have different implementers for different tracks. Three of the peer utilities have one implementer for all tracks, and one implements their program in-house.
- Peer utilities reported energy modeling has mixed importance to their customers. Some customers find the modeling valuable, and some find it tedious. In three of four of the peer utility programs the energy modeling is completed by the trade partner.
- Two of the peer utilities offer a design team incentive. Both of these incentives are based on the customer incentive, which peer utilities reported motivates the design firms to promote higher yield packages. A third utility recently phased out the design team incentive and has since experienced a significant drop in participation.

1.3 Detailed Findings

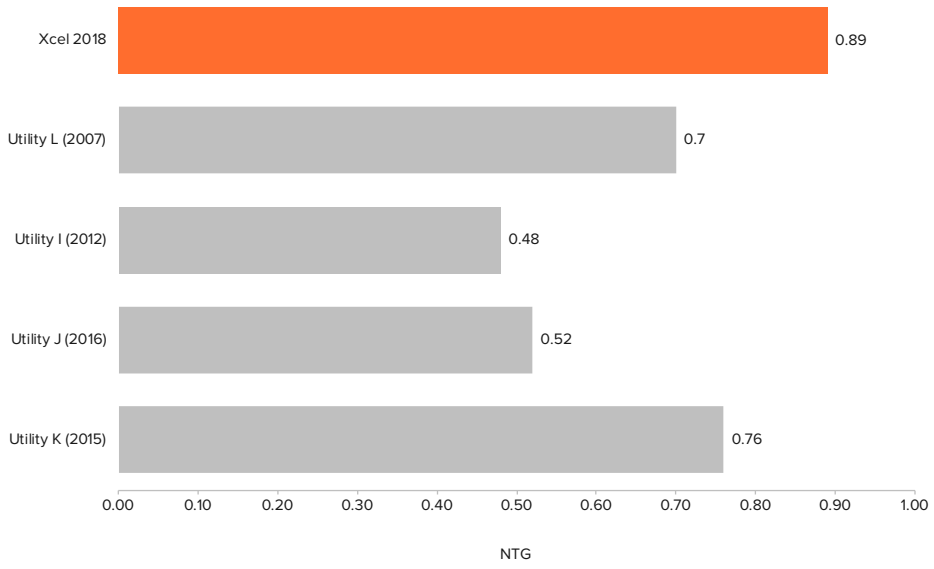
In this section, we provide the results for each of the key evaluation themes. The evaluation team were not able to collect data on TRC values, program goals, program savings, budget or staffing levels.

Net-to-Gross Ratio

The recommended NTG value for the MN Business New Construction Product is higher than the NTG values the evaluation team found for several peer programs. None of the program managers the evaluation team interviewed provided NTG values for their programs. Instead, the evaluation team supplemented the interviews with values drawn from publicly published sources. These results are summarized in Figure 1.

Direct "apples-to-apples" comparisons between new construction program NTG results should not be made, as each program is different.

Figure 1. Peer Program NTG Values



Incentive Levels and Structure

The evaluation team found that some peer utilities offer higher incentives than Xcel Energy's current incentive level, as shown in the Appendix. In some cases, the incentive level is significantly higher than the Xcel Energy Business New Construction Product's current incentive level; six of the eleven utilities offer incentives above $0.20/kWh and one offers up to $0.40/kWh.

It should be noted, that a direct "apples-to-apples" comparison of these incentive values should not be made, as there are inherent differences between the programs such as the modeling required and who completes it (discussed in the Program Requirements section), the measures installed, and the percent of the total cost covered by incentives.

Of the peer utilities interviewed, two of them offer a design team incentive. In one program, the lead design firm gets 10% of the customers' incentive value. The customer incentive is structured into three tiers where the incentive is scaled for higher savings. The program manager reported that "this incentivizes the design firms to promote high-yield packages." The implementer does the energy modeling for this program, similar to the Xcel Energy product. The second program offers the design team 33% of the customers' incentive. This program does implementation internally (i.e., no implementer), but requires the trade partner to do the energy modeling. The design team incentive is paid after construction and verification, unless the savings are 30% higher than code, in which case 50% of the injective is paid when the utility accepts the design and the remaining is paid after verification.

A third peer utility program used to offer a design team incentive but has recently phased it out. They reduced the incentive from $25,000 to $12,000 and eliminated it in 2017. The program manager, however, reported that, as the design team incentive was reduced, participation "dropped off pretty significantly," going from 15-20 projects before 2017 to 1-2 projects after 2017.

Program requirements

The key program requirements of peer utilities and Xcel Energy are shown in Table 1, below. All the peer utilities' requirements around building type, building size, minimum savings achieved, and other eligibility requirements are similar. One utility, Utility E, does not allow for a direct comparison as their program only applies to lighting. Xcel Energy's requirements on the minimum savings is also in the middle of peer utilities' requirements; two have a lower requirement, two have the same requirement, and two have a higher requirement.

All the peer utilities screen projects into different program tracks based on building size. The threshold to define a "small" building ranges from 5,000 square feet to 75,000 square feet, with most using 50,000 square feet. No peer utility interviewed conducts energy modeling for smaller buildings, as doing so is not cost effective.

Three of the peer utilities reported that energy modeling is completed by the trade partner. One of these programs uses open modeling; one program used to be open modeling but now only accepts LEED energy models; and the third program requires customers to use a pre-qualified trade partner to complete the modeling. The fourth peer utility has the implementer conducts the modeling. However, this utility discussed how they are considering eliminating the modeling component of the program in the future. They want to improve the cost-effectiveness of their program and wonder if the modeling is worthwhile, given they have a Technical Reference Manual (TRM) in their service territory. Most of the peer utilities reported energy modeling has mixed importance to their customers. One utility representative explained, "Not all of our customers want [the modeling], although many do, and they appreciate it." Another utility representative reported, "Some [customers] find it valuable, some find it tedious."

Table 1. Peer Utility Program Requirements

Utility	Building Types	Size Constraints	Other Eligibility	Min. Savings
Xcel Energy	New construction, additions, or major renovations	<50,000 sq ft for EEB >20,000 sq ft for EDA Standard >50,000 sq ft for EDA Enhanced	Third party verified green building certification for EDA Enhanced	EEB must include at least 2 measures >5% for EDA Standard >30% for EDA Enhanced
Utility J**	New construction or major renovation	>5,000 sq ft	"Applications submitted early in design process" "significant upgrades to two end-uses" Equipment must be operational for 5 years	>1 measure
Utility I**	Non-residential buildings only	>20,000 sq ft		>10% better than code
Utility H	New construction, additions, or major renovations	>5,000 sq ft	Must include mechanical system replacement	>5% better than code
Utility G**		P4P>50,000 sq ft Smart start<50,000 sq ft or those that want simple project		MF>15% better than code C&I>5% better than code
Utility F	New construction or major renovation	>75,000 sq ft	Projects with accelerated design or building schedules not eligible	>20% better than baseline interior lighting >10% better than ASHRAE 90.1-2010
Utility E	New construction, addition, major renovation, or "major change in occupancy type"	>10,000 sq ft interior lighting >20,000 sq ft exterior lighting	Pre-approval before buying equipment	Total connected lighting load >35% better than 2015 Energy Code allowance
Utility D		Technical assistance <50,000 sq ft Comprehensive design >50,000 sq ft		

*** indicates peer utilities that were interviewed*

Program Descriptions

All the peer utilities interviewed reported similar implementation strategies to the Xcel Energy product. The main objectives for all the programs are customer engagement and to achieve higher performing buildings in their service territory. They all target similar project types (e.g., new construction and major renovations), as reflected in the "Building Types" column of Table 1 above. Most of the programs offer a whole building approach – meaning incentives are based on achieved savings, as opposed to specific measures or pieces of equipment. Some of the peer utilities also offer a systems approach where incentives are based on end-use equipment such as HVAC or lighting. The tracks and incentive levels are included in the Appendix.

Three of the programs use an implementer, and one operates the program internally. None of the peer utilities have different implementers for different tracks. Only one peer utility shared implementer compensation; administration is a fixed flat fee, while technical assistance, outreach, and marketing is based on time and materials. All the programs use trade partners to recruit and enroll buildings.

Market actor engagement practices

All peer utilities focus marketing and outreach activities on trade partners through events such as conferences, The American Institute of Architects (AIA) meetings, webinars, and tracking construction starts in order to have staff approach those projects. Two peer utilities reported following news articles, and one uses their economic development team to track potential leads. Two of the interviewed utilities conduct one-on-one meetings or webinars with A&E firms for outreach. One of these utilities has a dedicated energy advisor that is assigned to participating A&E firms. It is their responsibility to meet with participating firms, provide education, and help them navigate through the program. One peer utility cited a lot of design firms would say "we would do it but owners don't want it". So, they have recently started to target customer engagement and education as well as A&E firms.

Appendix

Table 2. Peer Utility Program Requirements

Utility	Track	Condition	Incentive Value
Xcel Energy	EEB	<50,000 SF Must include at lease 2 measures	Custom and prescriptive per measure
	EDA Standard	>20,000 SF	$400/kW $0.04/kWh $4/Dth
	EDA Enhanced	>50,000 SF	$400/kW $0.04/kWh $4/Dth
	Design team incentive	EDA and EDA enhanced	$4,000 <49,000 SF $8,000-50,000-99,000 SF $10,000 100,000-399,999SF $12,000 400,000+ SF
Utility A	Not LEED certified	Not LEED certified	Measure dependent, incentives pair through other programs
	LEED certified	LEED Silver	$0.10/kWh
		LEED Gold	$0.12/kWh
		LEED Platinum	$0.14/kWh
Utility B	Whole Building Approach	For large or comlex projects	$0.10/kWh saved if exceeding code by 10% $0.15/kWh saved if exceeding code by 15%
	Systems Approach	For small or less complex projects	Incentives for exceeding code by 10% for systems: $0.10/kWh - lighting $0.11/kWh - HVAC & refrigeration $0.10/kWh - Motors "and other system" $0.04/kWh - Daylighting

Utility	Track	Condtion	Incentive Value	
Utility C	Only one program track	**Reduction in building electric consumption using current ASHRAE 90.1 as baseline**	**Lighting**	**> 10% below Base LPD - $0.34/Watt > 20% below Base LPD - $0.68/Watt**
		Retrofit of existing building shell, electrical & electric mechanical retrofits to greater efficiency components and processes	Building improvements	Up to 50% Project Cost, 75% of Inc. Cost for new construction or major renovation
		Reduction in building electric consumption using current ASHRAE 90.1 as baseline	New Construction	Up to 50% Project Cost, 75% of Inc. Cost for new construction or major renovation
		Adjust Electrical, Electric Mechanical, & Control System set points to improve system performance to existing building conditions and use	Retrocommissioning	Up to 50% Project Cost, 75% of Inc. Cost for new construction or major renovation
		Obtain Building Operations Certification by attending a certified training program	Building Operation Training	Up to 50% Project Cost, 75% of Inc. Cost for new construction or major renovation
		Comprehensive Energy Audit for commercial/industrial facilities or manufacturing processes recommending installation of efficient equipment	Audit & Education	Up to 50% Project Cost, 75% of Inc. Cost for new construction or major renovation
Utility D	Comprehensive Deisgn Support	Many incentives listed measure-by-measure on the website		
		Many incentives listed measure-by-measure on the website		
Utility E	Only one program track	NA	Lighting, interior	$0.10/sq ft
		NA	Lighting, exterior	$0.25/sq ft
		"Industry standard practice is baseline"	Process equipment, control upgrades	$0.10/kWh

Utility	Track	Condtion	Incentive Value	
		"Industry standard practice is baseline"	Process equipment, control upgrades	$0.20/kWh
Utility F	Comprehensive Design	20% better than baseline, Interior lighting power density at least 10% more efficient that ASHRAE 90.1 - 2010	NA	"up to 90% of the incremental cost of installing the energy efficiency measures or to buy down the cost to a 1-year payback period, whichever is less"
	Green Building	Savings above those required by LEED certification	Energy savings	$0.25-0.40/kWh saved
		NA	Enhanced commissioning	50% of cost (up to $20,000)
		NA	Modeling	50% of cost (up to $20,000)
		NA	Design asssitance	Up to $5,000
Utility G	Only one program track	Many incentives listed measure-by-measure on the website		
Utility H	Only one program track	NA	Incentives for owners	Identified as available but details unspecified
		NA	Incentives for design team	Identified as available but details unspecified
Utility I	Whole Building Approach (owner incentives)	10-30% above Title 24 requirements	NA	$0.10-0.30/kWh saved (scales with percent above baseline)
		40% or more above Title 24 requirements	NA	$0.40/kWh saved
		NA	End use monitoring	+10% of other incentive values
		NA	Peak demand reduction	$100/kW per website, $150/kW per handbook

Utility	Track	Condtion	Incentive Value	
	Whole Building Approach (design team incentive)	10-30% above Title 24 requirements	NA	$0.033-0.10/kWh saved (scales with percent above baseline)
		30-39% above Title 24 requirements	NA	$0.10/kWh saved
		40% or more above Title 24 requirements	NA	$0.13/kWh saved
		NA	Peak demand reduction	$33/kW
		NA	Therm savings	$0.33/therm
	Systems approach (owner incentives; design team incentives not available)		Interior lighting	$0.05/kWh saved per website, $0.08/kWh saved per handbook
			HVAC	$0.15/kWh saved $1/Therm saved
			Service hot water	$1/Therm
			Other systems and processes	$0.09/kWh saved per website, $0.08/kWh per handbook $1.00/Therm per website
			Peak demand reduction	$100/peak kW per website, $100/peak kW per handbook
			Therm savings	$1.00/Therm saved
Utility J	Accelerate Performance	$0.14/kWh up to 5 million kWh, reduced incentive for larger savings $0.70/therm up to $50,000		
	Comprehensive Assistance	$0.10/kWh up to 5 million kWh, reduced incentive for larger savings $0.50/therm up to $50,000		
	Expedited Assistance	$0.07/kWh up to 5 million kWh, reduced incentive for larger savings $0.35/therm up to $50,000		
	All tracks	Design team incentive - 10% of total incentive received by owner		

Utility	Track	Condtion	Incentive Value
Utility K	Pay For Performance	Submittal of energy reduction plan	$0.08-0.16/sq ft, up tp $60,000 (contingent on proceeding with construction)
	Pay For Performance	Submittal as-built energy reduction plan and commissioning report	$0.80-1.40/sq ft, up tp 75% of incremental cost
	Pay For Performance	Submittal of building performance report demonstrating achievement of ENERGY STAR certification	$0.35-0.40/sq ft, up tp 25% of incremental cost
	SmartStart Buildings	These are measure-based incentives	Measure-based incentives. Value vary significantly by measure category and equipment specifics.