

# Xcel Energy

## Process Evaluation of the Self-Direct Custom Efficiency Program—Colorado

**FINAL**

**December 21, 2011**





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Prepared for: Xcel Energy

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## EXECUTIVE SUMMARY

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Xcel Energy is looking for meaningful ways to improve the elements of its demand side management (DSM) business programs, its customer-reach capabilities, and the operation efficiency of their programs so that they can successfully meet program goals and objectives. To assist Xcel Energy in this aim, Xcel Energy selected, through a competitive Request for Proposals (RFP) process a third party vendor (comprised of Tetra Tech, Evergreen Economics, and Michaels Energy—hereafter the “Tetra Tech team”) to conduct objective evaluations of their demand side management (DSM) business programs in Minnesota and Colorado. Furthermore, the RFP process selected a DSM business programs evaluation provider for a three-year period (2010–2012) in order to provide research continuity, comprehensive portfolio-level results, and best practices evaluation services.

The Tetra Tech team evaluated the Colorado Self-Direct Custom Efficiency program in 2011. This executive summary provides an overview of the process evaluation of the Self-Direct Custom Efficiency program in Colorado.

### I. PROGRAM OVERVIEW

Xcel Energy, the fourth-largest combination electricity and natural gas company in the United States, offers a comprehensive portfolio of energy-related products and services to 3.4 million electricity and 1.9 million natural gas customers. In Colorado, Xcel Energy has 195,169 commercial customers and 4,415 industrial customers. These include electric only, gas only, and electric and gas customers.

Xcel Energy’s Self-Direct Custom Efficiency program in Colorado provides increased rebates to large commercial and industrial electricity customers who engineer, implement and commission qualifying projects at their facilities. Under the Self-Direct Custom Efficiency program, the customer performs the design, engineering, measurement, verification, and reporting of energy efficiency projects approved by Xcel Energy. Eligible business customers must be in the Colorado service territory, have aggregate peak demand at all meters of at least two megawatts (MW) in any single month, and have an aggregate annual usage of at least 10,000,000 kWh. Rebate amounts are based the energy savings of the project, up to \$525/kW or \$0.10/kWh, capped at 50 percent of project incremental costs.

Due to the complexity and scope of Self-Direct Custom Efficiency projects, program participation is a multi-step process. Customers first receive a rebate application from their Xcel Energy account manager, who makes sure that they meet the program’s eligibility requirements. Pre-qualified customers then identify energy efficiency opportunities in their building and submit a detailed energy efficiency improvement plan to Xcel Energy. Upon program review and pre-approval of the improvement plan, customers are notified of their project’s approval and their requested rebate amount, and a monitoring plan is finalized to verify the projects results. Before the implementation can begin, the customer must conduct pre-installation monitoring and have the data approved by Xcel Energy. After the pre-installation data is approved, the customer implements the project and submits a completion report. Finally, once the completion report is approved by Xcel Energy, the rebate is issued to the customer.

### II. EVALUATION METHODOLOGY

The Tetra Tech team conducted a comprehensive process evaluation of the program. The evaluation research included: 13 Xcel Energy staff internal review interviews, eight participant interviews, three



nonparticipant interviews, eight qualitative trade ally interviews, and a benchmarking study of 11 other utility programs including six program manager interviews.

### III. SUMMARY OF KEY FINDINGS

Xcel Energy's Self-Direct Custom Efficiency program in Colorado, now in its third year of implementation, has seen considerable customer interest and has achieved early success. In 2010, the program exceeded its initial annual energy savings goal, with ten completed projects resulting in nearly nine GWh of savings. The program has continued to see strong participation in 2011 and has met its annual goal of six GWh. Participating customers report high satisfaction with the program and vendors are optimistic for the future of performance contracting due to increasing customer prioritization in addressing energy costs; a shift in corporate attitude toward sustainability; and pent-up demand from the recession.

At the same time, program staff also identified some potential challenges as the program moves forward. Perhaps the biggest challenge the young program faces is forecasting participation levels and finding balance within Xcel Energy's business portfolio offerings. Specifically, the Custom, Standard Offer, and Process Efficiency programs have the most potential overlap with the Self-Direct Custom Efficiency program. Gaining a better grasp of the market for the program and why customers choose to participate in one program over other is an ongoing challenge in predicting future participation and setting appropriate goals. In addition, the scope and complexity of some custom projects lead to lengthy and unpredictable lead times, making it difficult to estimate when projects will close. This, coupled with the small volume of large projects, makes managing progress toward annual goals challenging.

The lingering effects of the recession and uncertainty in the current economic climate present the challenge of overcoming capital barriers and sustaining participation. At the same time, if interest in the program continues to strengthen and participation in the program grows, additional internal support or procedure adjustments may be needed to process additional projects. Along with these challenges, the program faces the ongoing implementation challenge of sufficiently educating customers and trade allies of the complex participation process and measurement and verification (M&V) expectations. Program staff report incorporating in 2012 program plans a response to this challenge through increased vendor education on program M&V requirements.

The remainder of this section presents the key findings resulting from the multiple research activities conducted for this process evaluation and the evaluation team's corresponding recommendations. Findings and recommendations are presented in the areas of program design, program delivery, and satisfaction.



#### IV. PROGRAM DESIGN

**Xcel Energy's Self-Direct Custom Efficiency program's design has been recognized as best in class.**

Xcel Energy's program design was recognized as setting best practice for serving large customers, as recognized by the American Consortium for Energy Efficiency (ACEEE) recognition of Xcel Energy as a *Champion of Energy Efficiency*<sup>1</sup>, which specifically noted the program's design and achievements.

*Recommendation: Continue the Self-Direct Custom Efficiency program in the Xcel Energy Business DSM Portfolio.*

**The Self-Direct Custom Efficiency program's incentive structure is unique in comparison to other programs and evidence suggests that current rebate levels are sufficient to encourage participation in the program.**

Self-directed incentives are typically structured around recapturing utility bill conservation charges, opposed to performance-based rebates. Five of the six self-directed programs benchmarked offer exemptions to individual conservation charges to recover up to 100 percent of project costs. The Self-Direct Custom Efficiency program offers increased performance-based rebates (approximately 30 percent higher than the standard custom offering) in exchange for the customer bearing the responsibility of project commissioning and M&V. Only one other benchmarked program offers increased rebates in exchange for the customer being responsible for M&V costs (California utilities' Customized Retrofit program), which offers a ten percent higher rebate over their normal custom offering. Four of the seven participants who commented on the program rebate said that the increased rebate level was worth the added costs associated with estimating project savings and conducting project M&V. In addition, participating vendors most commonly reported that their customer participated in the program because the program offered the highest available rebate.

*Recommendation: Continue increased incentive for customers to conduct project M&V.*

**Evaluation findings suggest that the Self-Direct Custom Efficiency program's current eligibility requirements are more restrictive than most similar programs and may be a barrier to participation.**

The benchmarking study found that minimum eligibility requirements base on energy consumption for other self-directed programs ranged from 7.0 GWh to 8.7 GWh, compared to 10.0 GWh for the Self-Direct Custom Efficiency program. Feedback from Xcel Energy account managers and participating vendors suggests there is a segment of business customers who do not meet the program's current eligibility requirements who would be interested in participating in the program and could deliver cost-effective projects yielding substantial energy savings. Several interviewees suggested that the program should consider lowering the current eligibility requirement. In addition, one vendor suggested that instead of using consumption to determine eligibility, the program might use minimum project energy or demand savings criteria.

*Recommendation: Evaluate eligibility requirements in the context of the program's desired role in the business portfolio. The program's current eligibility restrictions are appropriate if Xcel Energy wishes to limit participation in the program to only their largest business customers. If interested in*

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<sup>1</sup> <http://www.aceee.org/press/2011/07/aceee-names-champions-energy-efficiency-industry>



*encouraging broader participation in the program, consider making eligibility requirements less restrictive. Two options worth consideration are lowering the current annual energy consumption and/or demand requirements and basing eligibility on project savings potential instead of consumption. The program should evaluate the feasibility, benefits, and costs of these options, keeping in mind customer demand for program offerings and the cost-effectiveness of the projects and the program's desired role in achieving portfolio goals.*

**The program's target customer base is generally energy savvy and well informed of financial incentives available for energy efficiency improvements.**

Almost all customers interviewed reported recently making several major energy efficiency improvements in their facilities other than projects that were completed through the Self-Direct Custom Efficiency program. In addition, many have immediate plans for further energy efficiency improvements to their facilities. For most customers interviewed, it is a standard practice for their company to evaluate available rebate options whenever they are considering major retrofits. Several participants and nonparticipants also indicated that their organization has a sustainability policy or energy savings goals.

*Recommendation: None.*

**Feedback suggests that the program's primary customer outreach strategy of leveraging account manager relationships has been effective in recruiting participants and helping customers through the participation process.**

Account managers were the most common source for how participants learned about the program and the most preferred source for receiving information about Xcel Energy's energy efficiency programs in general. Both participants and nonparticipants report regularly discussing rebate offerings with their Xcel Energy account representative and being both aware and knowledgeable about program offerings. In addition, using account managers as the program's main outreach arm is consistent with other self-directed and large-customer custom programs.

*Recommendation: Continue to leverage account manager relationships to identify project opportunities and inform customers about program offerings and requirements.*

**Energy service companies (ESCOs) and performance contractors are vital to the recruitment and the implementation of projects rebated through the Self-Direct Custom Efficiency program.**

Seven of the nine participants, accounting for eight of the ten projects rebated through the program, contracted with a third-party vendor to implement their project and/or conduct M&V. Most of these vendors identified themselves as comprehensive energy service companies (ESCOs). Other vendors specialized in design or sector-specific performance contracting. Vendors consistently report evaluating all rebate options available when proposing a project to their customers. In addition, over half of the vendors we spoke with (five of eight) had an existing relationship with their customer prior to participating in the program, illustrating the importance of vendor relationships in project recruitment.

*Recommendation: Expand outreach to ESCOs and performance contractors in Colorado informing them about program offerings and requirements.*



**Program incentives directly address the most pressing barriers to eligible customers making substantial energy efficiency upgrades.**

Program staff, participating vendors, and customers all indicated that access to funding is a substantial barrier to implementing major retrofit projects. In addition, several customers indicated that their company has very aggressive payback period requirements, typically less than three years. A few participants indicated that the rebate they received from the Self-Direct Custom Efficiency program was instrumental in meeting these payback requirements.

*Recommendation: None.*

**Nearly all participating customers indicated that the program had at least some influence on their decision to implement their project; however, the evaluation also revealed some qualitative evidence of free-ridership.**

Due to the limited number of participants, the evaluation was not able to assess program free-ridership quantitatively; however, in depth interviews with participants did provide some insight. Several participants reported that the rebate helped make the project more cost effective and/or impacted the specific types of equipment installed, but that the rebate was not the original impetus for the project. In addition, one participant indicated that their company would have implemented the exact same project in the absence of the program. The Self-Direct Custom Efficiency program may be more susceptible to free-ridership given the characteristics of the eligible customer base and the prominence of performance contracts implemented by energy service companies. Evidence from the vendor and customer interviews suggests that many eligible customers will move forward with a performance-based project that has a payback of two years or less without the rebate.

*Recommendation: Once increased participation numbers permit, conduct additional research in the future to quantitatively assess the extent of free-ridership in the program. If a substantial amount of free-ridership exists (40 percent or more are free-riders), consider instituting a higher minimum payback threshold for rebating projects (e.g., over a two year payback without the rebate.)<sup>2</sup>*

**Internal processes address the overlap in the Self-Direct Custom Efficiency program and other Xcel Energy programs within the business program portfolio.**

One challenge identified by program staff is predicting participation and setting appropriate goals for the program because customers often can implement the same improvements through one of several Xcel Energy programs. Most specifically, the Self-Direct Custom Efficiency program has potential overlap with the Custom, Process Efficiency and Standard Offer programs. While other benchmarked self-directed programs also incentivize projects that would be eligible under other utility programs, most other self-directed programs are directly funded by participants' own individual conservation charge. Xcel Energy has minimized competition among the programs through internal management processes. For example, staff compensation is based on overall portfolio goals as well as individual program goals and adjustments can be made in individual program's contributions to overall portfolio goals during the program year.

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<sup>2</sup> The program currently requires a minimum project payback period of one year (before rebate and after rebate).





*Recommendation: Continue internal management processes that encourage individual programs working together to achieve portfolio goals.*

**Customers and vendors assess the different Xcel Energy programs and normally participate in the program that will result in the highest rebate.**

Interviews with vendors and customers revealed that customers typically compare a variety of rebates options available to them and generally chose the option that will provide the highest total incentive. The most common reason why participants ultimately chose to pursue the Self-Direct Custom Efficiency program was primarily because it provided the highest possible rebate. In addition, one nonparticipant reported that they decided to implement a lighting retrofit project through a different Xcel Energy program because they estimated they would receive a higher total rebate than through the Self-Direct Custom Efficiency program. Administrative burden was also mentioned by two customers (one participant and one nonparticipant) as reasons for why they ultimately chose one program over another. The participant said that the flexibility permitted by the Self-Direct Custom Efficiency program to bundle multiple facilities in the same project proposal was a factor in their decision to participate. At the same time, one nonparticipant reported that his/company chose a different Xcel Energy program because they did not have the desire and staff resources to pursue the Self-Direct Custom Efficiency program.

*Recommendation: Continue to evaluate the Self-Direct Custom Efficiency program's role in the Business portfolio to inform the most appropriate impact targets, outreach strategies, and incentives.*

## **V. PROGRAM DELIVERY**

**Xcel Energy staff report strong internal program delivery staff and processes are largely responsible for the program's success.**

The program's limited eligible customer population compared to other Xcel Energy programs enables close interactions between a few core staff. Team members report very open communication and a high level of responsiveness between staff. Also, several core program staff work within close proximity to each other, further facilitating open communication. A highly experienced energy efficiency engineer helps facilitate project discussions and approvals between customers, vendors and other program staff. Account managers who have been involved with the program also report generally positive interactions with team members. Several staff noted some communication challenges early in the program; however, they felt that the program has largely overcome these issues. Finally, given the current number of project proposals and limited eligible customer base, team members feel comfortable that there are adequate staff and resources internally to successfully implement the program. They further expressed that the internal implementation of the program is largely responsible for the high participant satisfaction and program success to-date. Interviewed participants and vendors reported positive interactions with Xcel Energy staff, mentioning that staff were responsive, transparent, and committed to the success of their projects. Like the Self-Direct Custom Efficiency program, benchmarked utilities also rely on internal program energy efficiency engineers to review energy savings calculations for reasonableness and consistency with standard engineering practices.

*Recommendation: Continue the internal implementation of the program by experienced program, engineering and account management staff as an effective strategy for targeting and serving the eligible customer population and types of projects.*





**The program's administrative requirements are reasonable and have generally been clearly communicated.**

The Self-Direct Custom Efficiency program's requirements of project preapproval, including customer estimates of energy savings, is consistent with other benchmarked programs. Benchmarking programs generally require applicants to provide a detailed description of the proposed project, new and existing equipment specifications, engineering calculations and supporting assumptions, and projected project costs. The vast majority of participating vendors and customers thought the documentation required for project approval was reasonable and that program requirements were clearly communicated. In response to some confusion early in the program's implementation about proposal submittal expectations, the program recently revised its application instructions to clarify participation steps and what is required for project approval. In comparison to benchmarked programs, the Self-Direct Custom Efficiency program currently provides some of the most detailed instructions available online for how to participate.

*Recommendation: Continue information dissemination to customers and vendors regarding the program application process and requirements.*

**Xcel Energy's Self-Direct Custom Efficiency program is one of only a few programs that require customers to develop and implement their own M&V plan.**

While most benchmarked programs require some level of measurement and verification (M&V) on qualifying projects, only three programs researched hold the customer responsible for required M&V activities. Similar to Xcel Energy, two of these programs also require the customer to prepare and submit a monitoring and evaluation plan to verify project savings prior to project approval. For all other programs, M&V activities are conducted by program staff. A couple of Xcel Energy staff thought that providing any additional information on what is expected from the customer, or their vendor, in verifying energy savings would be helpful in streamlining the participation process. One participant did report that the program's M&V requirements involved more effort than he/she originally anticipated. One participating vendor also indicated the level of rigor that was ultimately required for project approval was more extensive than their firm's standard practice.

*Recommendation: Provide additional information to prospective customers and vendors on the program's expectations for M&V plans, including a detailed inventory of the types of information and documentation needed for approval<sup>3</sup>.*

**Feedback from vendors and customers suggests that most large business customers who are eligible for the program do not have the internal capabilities or staff resources to perform the M&V on their own.**

Most participating customers had a basic understanding of M&V processes prior to participating; however, very few said their company has the internal capabilities or staff resources to perform M&V. Instead, most participants relied on third-party vendors to perform the work. This feedback was echoed by vendors, who added that even if businesses have the personnel with the expertise to perform M&V services, they rarely have the time to devote to the work. As mentioned earlier, most

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<sup>3</sup> This recommendation has already been discussed with program staff. Staff report they plan to include expanded information to customers and vendors on M&V requirements in 2012.



participants had an existing relationship with their vendor prior to participating in the program. In comparison, only one of the three nonparticipants interviewed had previously contracted with a vendor who provides M&V services. A few participants mentioned using the Governor's Energy Office's list of approved energy service providers as a reference in originally selecting their performance contractor.

*Recommendation: Explore ways to help interested customers find vendors who are capable of performing M&V requirements. One suggestion worth consideration is providing a link on the program webpage to the Colorado Governor's Energy Office's listing of approved energy service providers (Service Provider Database). Another idea is providing a listing of vendors who have been involved with a project successfully completed through the program.*

**While participating vendors generally thought the support provided by the program was sufficient, some of vendors faced challenges working with Xcel Energy's TRC calculator.**

Participating vendors encountered few major challenges during their participation; however, a few reported having some difficulty working the Xcel Energy TRC calculator. A couple of vendors mentioned that the TRC calculator lacked transparency in its calculations, making it difficult to know which types of measures would pass the TRC test. The current program TRC calculator does not show the formulas used for the calculations in the Excel workbook. Vendors expressed it would be helpful if the program could make the algorithms more visible, especially given the importance of the TRC test for project approval. Notably, one interviewee mentioned that he/she raised this issue with Xcel Energy, and that the program has since provided him/her with more transparency.

*Recommendation: Continue to evaluate the accessibility of TRC assumptions and examine whether calculations can be made more transparent to vendors at the project proposal stage. Consider reaching out to interested vendors to understand specifically what information or calculations would be most useful to them and ideas for improving the TRC calculator.*

**Evidence indicates the program has been successful at rebating projects that result in lasting energy and demand savings.**

Even though the evaluation did not focus on program impacts, participants were asked to verify the installation and operation of the equipment for which they received a rebate through the program. With the exception of one exhaust fan removed for remodeling, all rebated improvements were reported to be currently installed and operating according to the approved strategy, suggesting strong measure persistence. Further, the program's commitment to reviewing energy savings estimates and ensuring M&V is performed on each project builds confidence that projects are producing defensible impacts.

*Recommendation: Continue program M&V requirements that help ensure the expected energy savings are resulting from projects.*

## **VI. PROGRAM SATISFACTION**

**Participating customers are highly satisfied with their experiences with the program and their interactions with Xcel Energy staff.**

All interviewees said that they were either "very satisfied" or "satisfied" with their participation overall in the Self-Direct Custom Efficiency program. In addition, all participants were either very



satisfied or satisfied with each individual program component about which we asked with the exception of one “neutral” response to the amount of time it took to receive the rebate. Participants expressed the highest satisfaction with the support they received from Xcel Energy (most commonly their account manager). Participants all reported positive interactions with Xcel Energy staff, mentioning that staff were responsive, transparent, and committed to the success of their project(s). In addition, participants were highly satisfied with the program’s handling of their questions and concerns and the rebate they received. Participants’ high level of satisfaction with the program was echoed in their satisfaction with Xcel Energy as a whole.

*Recommendation: None.*

**Participating vendors unanimously reported very positive interactions with program staff throughout the course of their project and had few requests for additional support.**

Like their customers, participating vendors were highly complementary of Xcel Energy staff and the support they received from the program. Vendors specifically noted program engineering and marketing staff’s knowledge base, responsiveness, and commitment to successful project implementation. A couple of vendors reported some communication shortfalls relating to rebate implementation, specifically relating to payment notification and explaining why the final rebate amount differed from what was estimated.

*Recommendation: Clearly define the process for rebate notification and communicating any changes to the estimated project rebate. Encourage account managers to communicate status updates to customers (and vendors, if appropriate).*



## ACKNOWLEDGEMENTS

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We would like to acknowledge the many individuals who contributed to Xcel Energy's 2011 business demand side management (DSM) program evaluations. This evaluation effort would not have been possible without their help and support.

Xcel Energy's market research evaluation managers provided substantial counsel and input throughout the evaluation and reporting processes. We would like to specifically thank Bruce Nielson, Mike Morris, and Mandy McLean.

We also wish to thank Xcel Energy's DSM product management staff and energy efficiency engineers who provided invaluable insight into their programs. These individuals participated in on-going evaluation deliverable reviews and discussions, and graciously responded to follow-up questions and documentation requests. We would like to specifically thank Kenny Romero.

Lastly, we wish to thank the Tetra Tech Business DSM program Evaluation Team. This team was made up of the following individuals:

**Tetra Tech:** Lark Lee, Pam Rathbun, Steve Drake, Jeremy Kraft, Lisa Obear, and Chris Deviley

**Evergreen Economics:** Steve Grover, John Boroski, Martha Thompson, and Anne Fifield

**Michaels Energy:** Jeff Inhehn, Ryan Kroll, and Mike Frischmann



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## 1. INTRODUCTION

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Xcel Energy is looking for meaningful ways to improve the elements of its demand side management (DSM) business programs, its customer-reach capabilities, and the operation efficiency of their programs so that they can successfully meet program goals and objectives. To assist Xcel Energy in this aim, Xcel Energy selected, through a competitive Request for Proposals (RFP) process a third party vendor (comprised of Tetra Tech, Evergreen Economics, and Michaels Energy—hereafter the “Tetra Tech team”) to conduct objective evaluations of their demand side management (DSM) business programs in Minnesota and Colorado. Furthermore, the RFP process selected a DSM business programs evaluation provider for a three-year period (2010–2012) in order to provide research continuity, comprehensive portfolio-level results, and best practices evaluation services.

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Due to the complexity and scope of Self-Direct Custom Efficiency projects, program participation is a multi-step process. Customers first receive a rebate application from their Xcel Energy account manager, who makes sure that they meet the program’s eligibility requirements. Pre-qualified customers then identify energy efficiency opportunities in their building and submit a detailed energy efficiency improvement plan to Xcel Energy. Upon program review and pre-approval of the improvement plan, customers are notified of their project’s approval and their requested rebate amount, and a monitoring plan is finalized to verify the projects results. Before the implementation can begin, the customer must conduct pre-installation monitoring and have the data approved by Xcel Energy. After the pre-installation data is approved, the customer implements the project and submits a completion report. Finally, once the completion report is approved by Xcel Energy, the rebate is issued to the customer.



## 1.2 PROGRAM LOGIC MODEL

A program logic model documents the activities a program undertakes and the intended consequences of those activities. In addition, it lists the inputs and resources (e.g., available staff, budget) needed to complete those activities. Evaluators drafted a program logic model in February and March of 2011 based on a review of program documentation and interviews with program staff. The logic model presented in Figure 1-1 **Error! Reference source not found.** includes edits based on product manager feedback.

The Self-Direct Custom Efficiency program is designed to shift the burden of measurement and verification (M&V) activities onto interested and capable business customers in exchange for a higher, performance-based rebate. The overriding logic of this approach is to minimize program administrative costs and maximize the share of incentives going back to rate-payers. The program primarily leverages account manager relationships with Xcel Energy's largest business customers to identify project opportunities and recruit participants. To ensure project savings are accurate and defensible, the program reviews and approves M&V plans, which the customer is fully responsible for executing. Rebates are paid once the project has been implemented, post-M&V requirements have been met, and the customer provides project invoices.

Figure 1-1. Xcel Energy Colorado Self-Direct Custom Efficiency Program Logic Model

Inputs/ Resources	Sufficient budget is allocated	Program website	Completed project application	Signed letter of intent from customer to implement pre-approved project	Completed project completion report and verification form
	Xcel Energy Self-Direct Custom Efficiency Team	Program staff and Xcel Energy account managers	Xcel Energy program staff	M&V plan and pre-installation monitoring data from customer	Installation invoices
	Impact targets, customer billing data, and TRC assumptions	Listing of participating providers on program website	TRC calculator	Xcel Energy program staff	Program staff and Xcel Energy account managers
Activities	Develop Program Infrastructure	Customer Communications	Project Pre-approval	Project Approval	Rebate Implementation
Outputs	Program collateral, website, rebate levels, and marketing strategy developed and refined	Account managers inform eligible customers about program availability and requirements	Project application is reviewed and entered into tracking database	Pre-installation monitoring data is reviewed, approved, and customer is notified	Project completion report is approved and final rebate is calculated
	TRC model developed and refined	Program website provides program description and participation process	Project application is approved, rebate amount is confirmed, and customer is notified	Customer implements approved project	Customer receives rebate payment upon project completion in a timely manner
	Tracking system developed and necessary information is captured	Program verifies that interested customers meet eligibility requirements	Monitoring plan is finalized to verify energy impacts		
Short to medium term outcomes	Xcel Energy staff knowledgeable about the program and its resources	Program offering is clear and valuable to customers and customers understand program requirements	Customers and ESCOs are aware of requirements to receive rebate	Baseline condition is accurately measured and documented	6,000 MWh and 1,314 kW in 2011
	Administrative functions can handle expected application numbers	Customers' awareness of, and interest in, the program increases.	Program ensures that proposed projects are cost effective and pass TRC test	M&V plan ensures accurate and defensible program impacts	MTRC test ratio of 3.59
	Energy savings goals of program are achieved within budgetary constraints	Customers are able to complete project application with minimal follow-up needed			
Long term outcomes	Energy savings goals are achieved increasingly cost-effectively	Increased awareness of and demand for energy efficiency improvements among large commercial and industrial customers	Increased efficiency of pre-approval resulting in shorter process time	Increased efficiency of project approval resulting in shorter process time	Increased penetration of conservation measures among Xcel Energy's large business customers in Colorado
			Pre-approved projects are increasingly cost-effective	Increased customer satisfaction with approval process	



### 1.3 EVALUATION METHODOLOGY

The Tetra Tech team conducted a process evaluation of the program. The process evaluation provides Xcel Energy with a thorough understanding of participating and nonparticipating commercial customer and trade ally awareness, attitudes, behaviors, and decision-making processes, as well as benchmarked information from similar programs offered throughout the country.

The evaluation scope of work consisted of the following evaluation tasks:

- Task 1: Start-up meeting and evaluation plan
- Task 2: Internal review/development of logic model (included interviews with 13 Xcel Energy staff – the product manager, marketing consultant, one rebate operations specialist, six account managers, channel manager, energy efficiency engineer, DSM regulatory affairs staff, Colorado energy efficiency marketing manager (30 total covering all four programs))
- Task 3: Customer interviews (included eight participant interviews and three nonparticipant interviews)
- Task 4: Trade ally interviews (included eight qualitative trade ally interviews)
- Task 6: Peer utility benchmarking (included secondary research on 11 other utility programs and in-depth interviews with six program managers)
- Task 7: Progress reporting
- Task 8: Reporting and results presentation.

### 1.4 REPORT ORGANIZATION

Section 2 of the report synthesizes overall key findings across all of the evaluation activities. Sections 3 through 6 detail results from each of the evaluation activities—internal review, participant and nonparticipant findings, trade ally findings, and peer utility benchmarking. Detailed appendices contain all of the data collection instruments used for the evaluation.



## 2. SUMMARY OF KEY FINDINGS AND RECOMMENDATIONS

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### 2.1 OVERVIEW OF PROGRAM SUCCESSES AND CHALLENGES

Xcel Energy's Self-Direct Custom Efficiency program in Colorado, now in its third year of implementation, has seen considerable customer interest and has achieved early success. In 2010, the program exceeded its initial annual energy savings goal, with ten completed projects resulting in nearly nine GWh of savings. The program has continued to see strong participation in 2011 and has met its annual goal of six GWh. Participating customers report high satisfaction with the program and vendors are optimistic for the future of performance contracting due to increasing customer prioritization in addressing energy costs; a shift in corporate attitude toward sustainability; and pent-up demand from the recession.

At the same time, program staff also identified some potential challenges as the program moves forward. Perhaps the biggest challenge the young program faces is forecasting participation levels and finding balance within Xcel Energy's business portfolio offerings. Specifically, the Custom, Standard Offer, and Process Efficiency programs have the most potential overlap with the Self-Direct Custom Efficiency program. Gaining a better grasp of the market for the program and why customers choose to participate in one program over other is an ongoing challenge in predicting future participation and setting appropriate goals. In addition, the scope and complexity of some custom projects lead to lengthy and unpredictable lead times, making it difficult to estimate when projects will close. This, coupled with the small volume of large projects, makes managing progress toward annual goals challenging.

The lingering effects of the recession and uncertainty in the current economic climate present the challenge of overcoming capital barriers and sustaining participation. At the same time, if interest in the program continues to strengthen and participation in the program grows, additional internal support or procedure adjustments may be needed to process additional projects. Along with these challenges, the program faces the ongoing implementation challenge of sufficiently educating customers and trade allies of the complex participation process and measurement and verification (M&V) expectations. Program staff report incorporating in 2012 program plans a response to this challenge through increased vendor education on program M&V requirements.

The remainder of this section presents the key findings resulting from the multiple research activities conducted for this process evaluation and the evaluation team's corresponding recommendations. Findings and recommendations are presented in the areas of program design, program delivery, and satisfaction.

### 2.2 PROGRAM DESIGN

**Xcel Energy's Self-Direct Custom Efficiency program's incentive structure is unique in comparison to other programs and design has been recognized as best in class.**

Self-directed incentives are typically structured around recapturing utility bill conservation charges, opposed to performance-based rebates. Five of the six self-directed programs benchmarked offer exemptions to individual conservation charges to recover up to 100 percent of project costs. One other benchmarked program offers increased custom rebates in exchange for the customer bearing the costs of project M&V; however, M&V is not required for every project. Xcel Energy's program design was recognized as setting best practice for serving large customers, as recognized by the



American Consortium for Energy Efficiency (ACEEE) recognition of Xcel Energy as a *Champion of Energy Efficiency*<sup>4</sup>, which specifically noted the program's design and achievements.

*Recommendation: Continue the Self-Direct Custom Efficiency program in the Xcel Energy Business DSM Portfolio.*

**The Self-Direct Custom Efficiency program's incentive structure is unique in comparison to other programs and evidence suggests that current rebate levels are sufficient to encourage participation in the program.**

Self-directed incentives are typically structured around recapturing utility bill conservation charges, opposed to performance-based rebates. Five of the six self-directed programs benchmarked offer exemptions to individual conservation charges to recover up to 100 percent of project costs. The Self-Direct Custom Efficiency program offers increased performance-based rebates (approximately 30 percent higher than the standard custom offering) in exchange for the customer bearing the responsibility of project commissioning and M&V. Only one other benchmarked program offers increased rebates in exchange for the customer being responsible for M&V costs (California utilities' Customized Retrofit program), which offers a ten percent higher rebate over their normal custom offering. Four of the seven participants who commented on the program rebate said that the increased rebate level was worth the added costs associated with estimating project savings and conducting project M&V. In addition, participating vendors most commonly reported that their customer participated in the program because the program offered the highest available rebate.

*Recommendation: Continue increased incentive for customers to conduct project M&V.*

**Evaluation findings suggest that the Self-Direct Custom Efficiency program's current eligibility requirements are more restrictive than most similar programs and may be a barrier to participation.**

The benchmarking study found that minimum eligibility requirements base on energy consumption for other self-directed programs ranged from 7.0 GWh to 8.7 GWh, compared to 10.0 GWh for the Self-Direct Custom Efficiency program. Feedback from Xcel Energy account managers and participating vendors suggests there is a segment of business customers who do not meet the program's current eligibility requirements who would be interested in participating in the program and could deliver cost-effective projects yielding substantial energy savings. Several interviewees suggested that the program should consider lowering the current eligibility requirement. In addition, one vendor suggested that instead of using consumption to determine eligibility, the program might use minimum project energy or demand savings criteria.

*Recommendation: Evaluate current eligibility requirements in the context of the program's desired role in the business portfolio. The program's current eligibility restrictions are appropriate if Xcel Energy wishes to limit participation in the program to only their largest business customers. If Xcel Energy is interested in encouraging broader participation in the program, consider making eligibility requirements less restrictive. Two options worth consideration are lowering the current annual energy consumption and/or demand requirements and basing eligibility on project savings potential instead of consumption. The program should evaluate the feasibility, benefits, and costs of these*

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<sup>4</sup> <http://www.aceee.org/press/2011/07/aceee-names-champions-energy-efficiency-industry>



*options, keeping in mind customer demand for program offerings and the cost-effectiveness of the projects and the program's desired role in achieving portfolio goals.*

**The program's target customer base is generally energy savvy and well informed of financial incentives available for energy efficiency improvements.**

Almost all customers interviewed reported recently making several major energy efficiency improvements in their facilities other than projects that were completed through the Self-Direct Custom Efficiency program. In addition, many have immediate plans for further energy efficiency improvements to their facilities. For most customers interviewed, it is a standard practice for their company to evaluate available rebate options whenever they are considering major retrofits. Several participants and nonparticipants also indicated that their organization has a sustainability policy or energy savings goals.

*Recommendation: None.*

**Feedback suggests that the program's primary customer outreach strategy of leveraging account manager relationships has been effective in recruiting participants and helping customers through the participation process.**

Account managers were the most common source for how participants learned about the program and the most preferred source for receiving information about Xcel Energy's energy efficiency programs in general. Both participants and nonparticipants report regularly discussing rebate offerings with their Xcel Energy account representative and being both aware and knowledgeable about program offerings. In addition, using account managers as the program's main outreach arm is consistent with other self-directed and large-customer custom programs.

*Recommendation: Continue to leverage account manager relationships to identify project opportunities and inform customers about program offerings and requirements.*

**Energy service companies (ESCOs) and performance contractors are vital to the recruitment and the implementation of projects rebated through the Self-Direct Custom Efficiency program.**

Seven of the nine participants, accounting for eight of the ten projects rebated through the program, contracted with a third-party vendor to implement their project and/or conduct M&V. Most of these vendors identified themselves as were comprehensive energy service companies (ESCOs). Other vendors specialized in design or sector-specific performance contracting. Vendors consistently report evaluating all rebate options available when proposing a project to their customers. In addition, over half of the vendors we spoke with (five of eight) had an existing relationship with their customer prior to participating in the program, illustrating the importance of vendor relationships in project recruitment.

*Recommendation: Expand outreach to ESCOs and performance contractors in Colorado informing them about program offerings and requirements.*

**Program incentives directly address the most pressing barriers to eligible customers making substantial energy efficiency upgrades.**

Program staff, participating vendors, and customers all indicated that access to funding is a substantial barrier to implementing major retrofit projects. In addition, several customers indicated





that their company has very aggressive payback period requirements, typically less than three years. A few participants indicated that the rebate they received from the Self-Direct Custom Efficiency program was instrumental in meeting these payback requirements.

*Recommendation: None.*

**Nearly all participating customers indicated that the program had at least some influence on their decision to implement their project; however, the evaluation also revealed some qualitative evidence of free-ridership.**

Due to the limited number of participants, the evaluation was not able to assess program free-ridership quantitatively; however, in depth interviews with participants did provide some insight. Several participants reported that the rebate helped make the project more cost effective and/or impacted the specific types of equipment installed, but that the rebate was not the original impetus for the project. In addition, one participant indicated that their company would have implemented the exact same project in the absence of the program. The Self-Direct Custom Efficiency program may be more susceptible to free-ridership given the characteristics of the eligible customer base and the prominence of performance contracts implemented by energy service companies. Evidence from the vendor and customer interviews suggests that many eligible customers will move forward with a performance-based project that has a payback of two years or less without the rebate.

*Recommendation: Once increased participation numbers permit, conduct additional research in the future to quantitatively assess the extent of free-ridership in the program. If a substantial amount of free-ridership exists (40 percent or more are free-riders), consider instituting a higher minimum payback threshold for rebating projects (e.g., over a two year payback without the rebate.)<sup>5</sup>*

**Internal processes address the overlap in the Self-Direct Custom Efficiency program and other Xcel Energy programs within the business program portfolio.**

One challenge identified by program staff is predicting participation and setting appropriate goals for the program because customers often can implement the same improvements through one of several Xcel Energy programs. Most specifically, the Self-Direct Custom Efficiency program has potential overlap with the Custom, Process Efficiency and Standard Offer programs. While other benchmarked self-directed programs also incentivize projects that would be eligible under other utility programs, most other self-directed Self-Direct Custom Efficiency programs are directly funded by participants' own individual conservation charge. Xcel Energy has minimized competition among the programs through internal management processes. For example, staff compensation is based on overall portfolio goals as well as individual program goals and adjustments can be made in individual program's contributions to overall portfolio goals during the program year.

*Recommendation: Continue internal management processes that encourage individual programs working together to achieve portfolio goals.*

**Customers and vendors assess the different Xcel Energy programs and normally participate in the program that will result in the highest rebate.**

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<sup>5</sup> The program currently requires a minimum project payback period of one year (before rebate and after rebate).



Interviews with vendors and customers revealed that customers typically compare a variety of rebates options available to them and generally chose the option that will provide the highest total incentive. The most common reason why participants ultimately chose to pursue the Self-Direct Custom Efficiency program was primarily because it provided the highest possible rebate. In addition, one nonparticipant reported that they decided to implement a lighting retrofit project through a different Xcel Energy program because they estimated they would receive a higher total rebate than through the Self-Direct Custom Efficiency program. Administrative burden was also mentioned by two customers (one participant and one nonparticipant) as reasons for why they ultimately chose one program over another. The participant said that the flexibility permitted by the Self-Direct Custom Efficiency program to bundle multiple facilities in the same project proposal was a factor in their decision to participate. At the same time, one nonparticipant reported that his/company chose a different Xcel Energy program because they did not have the desire and staff resources to pursue the Self-Direct Custom Efficiency program.

*Recommendation: Continue to evaluate the Self-Direct Custom Efficiency program's role in the Business portfolio to inform the most appropriate impact targets, outreach strategies, and incentives.*

### 2.3 PROGRAM DELIVERY

**Xcel Energy staff report strong internal program delivery staff and processes are largely responsible for the program's success.**

The program's limited eligible customer population compared to other Xcel Energy programs enables close interactions between a few core staff. Team members report very open communication and a high level of responsiveness between staff. Also, several core program staff work within close proximity to each other, further facilitating open communication. A highly experienced energy efficiency engineer helps facilitate project discussions and approvals between customers, vendors and other program staff. Account managers who have been involved with the program also report generally positive interactions with team members. Several staff noted some communication challenges early in the program; however, they felt that the program has largely overcome these issues. Finally, given the current number of project proposals and limited eligible customer base, team members feel comfortable that there are adequate staff and resources internally to successfully implement the program. They further expressed that the internal implementation of the program is largely responsible for the high participant satisfaction and program success to-date. Interviewed participants and vendors reported positive interactions with Xcel Energy staff, mentioning that staff were responsive, transparent, and committed to the success of their projects. Like the Self-Direct Custom Efficiency program, benchmarked utilities also rely on internal program energy efficiency engineers to review energy savings calculations for reasonableness and consistency with standard engineering practices.

*Recommendation: Continue the internal implementation of the program by experienced program, engineering and account management staff as an effective strategy for targeting and serving the eligible customer population and types of projects.*

**The program's administrative requirements are reasonable and have generally been clearly communicated.**

The Self-Direct Custom Efficiency program's requirements of project preapproval, including customer estimates of energy savings, is consistent with other benchmarked programs. Benchmark



programs generally require applicants to provide a detailed description of the proposed project, new and existing equipment specifications, engineering calculations and supporting assumptions, and projected project costs. The vast majority of participating vendors and customers thought the documentation required for project approval was reasonable and that program requirements were clearly communicated. In response to some confusion early in the program's implementation about proposal submittal expectations, the program recently revised its application instructions to clarify participation steps and what is required for project approval. In comparison to benchmarked programs, the Self-Direct Custom Efficiency program currently provides some of the most detailed instructions available online for how to participate.

*Recommendation: Continue information dissemination to customers and vendors regarding the program application process and requirements.*

**Xcel Energy's Self-Direct Custom Efficiency program is one of only a few programs that require customers to develop and implement their own M&V plan.**

While most benchmarked programs require some level of measurement and verification (M&V) on qualifying projects, only three programs researched hold the customer responsible for required M&V activities. Similar to Xcel Energy, two of these programs also require the customer to prepare and submit a monitoring and evaluation plan to verify project savings prior to project approval. For all other programs, M&V activities are conducted by program staff. A couple of Xcel Energy staff thought that providing any additional information on what is expected from the customer, or their vendor, in verifying energy savings would be helpful in streamlining the participation process. One participant did report that the program's M&V requirements involved more effort than he/she originally anticipated. One participating vendor also indicated the level of rigor that was ultimately required for project approval was more extensive than their firm's standard practice.

*Recommendation: Provide additional information to prospective customers and vendors on the program's expectations for M&V plans, including a detailed inventory of the types of information and documentation needed for approval<sup>6</sup>.*

**Feedback from vendors and customers suggests that most large business customers who are eligible for the program do not have the internal capabilities or staff resources to perform the M&V on their own.**

Most participating customers had a basic understanding of M&V processes prior to participating; however, very few said their company has the internal capabilities or staff resources to perform M&V. Instead, most participants relied on third-party vendors to perform the work. This feedback was echoed by vendors, who added that even if businesses have the personnel with the expertise to perform M&V services, they rarely have the time to devote to the work. As mentioned earlier, most participants had an existing relationship with their vendor prior to participating in the program. In comparison, only one of the three nonparticipants interviewed had previously contracted with a vendor who provides M&V services. A few participants mentioned using the Governor's Energy Office's list of approved energy service providers as a reference in originally selecting their performance contractor.

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<sup>6</sup> This recommendation has already been discussed with program staff. Staff report they plan to include expanded information to customers and vendors on M&V requirements in 2012.



*Recommendation: Explore ways to help interested customers find vendors who are capable of performing M&V requirements. One suggestion worth consideration is providing a link on the program webpage to the Colorado Governor's Energy Office's listing of approved energy service providers (Service Provider Database). Another idea is providing a listing of vendors who have been involved with a project successfully completed through the program.*

**While participating vendors generally thought the support provided by the program was sufficient, some of vendors faced challenges working with Xcel Energy's TRC calculator.**

Participating vendors encountered few major challenges during their participation; however, a few reported having some difficulty working the Xcel Energy TRC calculator. A couple of vendors thought mentioned that the TRC calculator lacked transparency in its calculations, making it difficult to know which types of measures would pass the TRC test. The current program TRC calculator does not show the formulas used for the calculations in the Excel workbook. Vendors expressed it would be helpful if the program could make the algorithms more visible, especially given the importance of the TRC test for project approval. Notably, one interviewee mentioned that he/she raised this issue with Xcel Energy, and that the program has since provided him/her with more transparency.

*Recommendation: Continue to evaluate the accessibility of TRC assumptions and examine whether calculations can be made more transparent to vendors at the project proposal stage. Consider reaching out to interested vendors to understand specifically what information or calculations would be most useful to them and ideas for improving the TRC calculator.*

**Evidence indicates the program has been successful at rebating projects that result in lasting energy and demand savings.**

Even though the evaluation did not focus on program impacts, participants were asked to verify the installation and operation of the equipment for which they received a rebate through the program. With the exception of one exhaust fan removed for remodeling, all rebated improvements were reported to be currently installed and operating according to the approved strategy, suggesting strong measure persistence. Further, the program's commitment to reviewing energy savings estimates and ensuring M&V is performed on each project builds confidence that projects are producing defensible impacts.

*Recommendation: Continue program M&V requirements that help ensure the expected energy savings are resulting from projects.*

### **2.4 PROGRAM SATISFACTION**

**Participating customers are highly satisfied with their experiences with the program and their interactions with Xcel Energy staff.**

All interviewees said that they were either "very satisfied" or "satisfied" with their participation overall in the Self-Direct Custom Efficiency program. In addition, all participants were either very satisfied or satisfied with each individual program component about which we asked with the exception of one "neutral" response to the amount of time it took to receive the rebate. Participants expressed the highest satisfaction with the support they received from Xcel Energy (most commonly their account manager). Participants all reported positive interactions with Xcel Energy staff, mentioning that staff were responsive, transparent, and committed to the success of their project(s). In addition, participants were highly satisfied with the program's handling of their questions and



concerns and the rebate they received. Participants' high level of satisfaction with the program was echoed in their satisfaction with Xcel Energy as a whole.

*Recommendation: None.*

**Participating vendors unanimously reported very positive interactions with program staff throughout the course of their project and had few requests for additional support.**

Like their customers, participating vendors were highly complementary of Xcel Energy staff and the support they received from the program. Vendors specifically noted program engineering and marketing staff's knowledge base, responsiveness, and commitment to successful project implementation. A couple of vendors reported some communication shortfalls relating to rebate implementation, specifically relating to payment notification and explaining why the final rebate amount differed from what was estimated.

*Recommendation: Clearly define the process for rebate notification and communicating any changes to the estimated project rebate. Encourage account managers to communicate status updates to customers (and vendors, if appropriate).*



### 3. EVALUATION RESULTS—INTERNAL REVIEW

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This section provides high-level key findings resulting from internal interviews with 13 staff members who work with the Self-Direct Custom Efficiency program (of 30 total staff interviews). The interviews were conducted as part of the evaluation of Xcel Energy's Business DSM programs.

#### 3.1 INTRODUCTION

For the internal interviews, evaluators interviewed a range of staff. Those interviewed for the Self-Direct Custom Efficiency program included product managers (1), marketing consultants (1), rebate specialists (1), channel managers (1), account managers (6), an energy efficiency engineer (1), regulatory affairs staff (1) and the state marketing manager (1).

Evaluators conducted these interviews over a four week period in February and March of 2011. The interviews covered a variety of issues, including:

- Roles and responsibilities of the staff
- Communication and interaction with others in the program
- Program design
- Resources to support the program
- Program marketing efforts
- Issues unique to the groups they interact with (e.g., customers and trade allies)
- Program operations
- Customer and trade ally satisfaction with the program
- Areas where the programs are working well
- Past, current, and future challenges of the program(s)
- Issues they would like the evaluation to research further.

The interviews provided a considerable amount of rich and detailed information that helped to form and shape the additional evaluation activities. This section highlights key findings for Xcel Energy's consideration at the overarching and program-level.

#### 3.2 SUMMARY OF FINDINGS

Multiple internal staff support Xcel Energy's DSM programs: product managers, marketing managers, regulatory affairs staff, marketing assistants, energy efficiency engineers, channel managers, account managers, energy efficiency specialists, and rebate processors. Product managers oversee each program ("product") and are ultimately responsible for the program design and goals, monitoring goals, developing contingency plans, pursuing effective marketing and communication strategies, and reporting to the marketing managers in each state. Marketing managers monitor overall program performance and make adjustments as needed to ensure the overall DSM portfolio meets its goals by state. Marketing managers also work with two directors on





strategy and policy directions for the DSM programs. There are two marketing managers, one for Colorado and one for Minnesota. Marketing managers also interact with regulatory affairs staff. Regulatory affairs staff interface with the states' Public Utility Commissions and related stakeholders to ensure that the programs are in compliance with the regulatory framework in Colorado and Minnesota.

Marketing assistants support product managers, and interact with engineers, account managers and the BSC, and customers during the project pre-approval and approval processes. Energy efficiency engineers are responsible for technical reviews, pre-approvals of custom measures, and program energy savings calculations. Account Managers are the first point of contact for managed accounts, as well as a conduit between managed customers and the marketing and product teams. Channel managers oversee the relationships between the DSM products and trade allies or vendors. Channel managers identify and train new trade allies as well as work with established vendors and distributors to market Xcel Energy's DSM products. Channel managers also engage trade allies in Advisory Councils that meet periodically to provide advice and input on Xcel Energy's DSM products. Rebate processors complete program documentation to ensure the customer receives their rebate.

In 2010, Xcel Energy reorganized their Business Solutions Center (BSC) to include energy-efficiency specialists, whose main focus is to promote energy-efficiency programs to non-managed customers. They were trained specifically on energy-efficiency and Xcel Energy's program offerings. These energy-efficiency specialists conduct direct marketing to customers, as well as field questions and assist customers in filling out their applications. Additionally, customer-service centered BSC representatives handle a wide variety of customer service tasks and are an additional point to which customers can be funneled into Xcel Energy programs. In general, BSC staff reported a high level of satisfaction with their new roles and responsibilities. Staff indicated that trainings so far had been effective, and one staff member felt that the trainings should continue well into the future, as Xcel Energy has a broad variety of program offerings and the energy-efficiency market is constantly shifting.

Lastly, there are established tracking systems that assist in the effective tracking and monitoring of the programs. The Siebel system tracks all programs from project leads to completions. There are also project specific tracking systems. At the beginning of the process, leads are tracked in Siebel, which carries them all the way through the programs to the rebate processors.

The remainder of this section is organized around areas that are working well and opportunities for improvement.

### **3.2.1 Areas that are Working Well**

- Staff report high levels of satisfaction with their interactions with other program-related staff. Staff generally felt that their colleagues were responsive, cooperative, and approachable.
- Most staff in program-specific functions (engineers, product managers, marketing staff) felt that they had sufficient resources to meet the needs of their program(s). For the Self-Direct Custom Efficiency program, staff noted that they may need more resources if program participation grows.





- Dedicated channel managers are an important part of Xcel Energy's DSM programs and their inclusion in staffing plans recognizes this. These positions greatly facilitate trade ally engagement in the programs.
- Staff who interact with trade allies generally felt positive about those relationships.
- Account managers are an extremely effective vehicle to promote program participation for larger customers, especially for the Self-Direct Custom Efficiency program. In many cases, they not only promote the program but provide "handholding" throughout the application process.
- The BSC's re-organization in 2010 to include dedicated energy efficiency specialists has generally been viewed as very successful, both from within and outside of the BSC.
- Current marketing efforts to both trade allies and customers have been viewed as effective.

### 3.2.2 Opportunities for Improvement/Research

- While most staff felt they had sufficient resources, staff in several departments reported the need for additional resources, specifically additional staff members to facilitate their delivery of the programs. One staff member expressed frustration about staff being spread too thin across several responsibilities; another reported a heavy workload which left them needing "more hours in the day."
- Program staff across the board reported at least some concerns with pre-approval or application processes, including whether the application is too complicated or confusing, or preapproval on custom projects takes too long (custom application preapproval is not directly relevant to this year's evaluated programs since only prescriptive components are being evaluated in 2011). Additionally, some staff reported a high rate of application returns (i.e., applications that cannot be processed and need to be edited or fixed). This issue was reported for both applications filled out by Xcel Energy staff (account managers, BSC representatives, etc.) and those provided by the customer. This suggests that additional clarification of the applications is needed, as well as an increased focus on quality control during the application process.
- While the new role of energy-efficiency specialists within the BSC has been successful in helping to increase uptake of the programs within the small business market, several program staff still reported challenges to engaging smaller, unmanaged customers. For example, a high volume of smaller customers is needed to produce the same savings achieved by projects conducted by only one or two large C&I customers, which adds to the internal administrative costs of the program. Conversely, a challenge for the Self-Direct Custom Efficiency program is how to best market the program to Xcel Energy's largest customers.

## 3.3 DETAILED FINDINGS

Xcel Energy's Colorado Self-Directed Custom Efficiency program provides increased rebates to large commercial and industrial electricity customers who engineer, implement and commission qualifying projects at their facilities. Under the Self-Directed program, the customer performs the



design, engineering, measurement, verification, and reporting of energy efficiency projects approved by Xcel Energy. The program is designed to shift much of the implementation burden away from the program and onto the customer, allowing Xcel Energy to provide higher rebates.

The participation process begins with the customer identifying energy efficiency opportunities in their building and submitting a detailed energy efficiency improvement plan to Xcel Energy. Upon review and pre-approval of the improvement plan, Xcel Energy notifies the customer of the project's approval and their requested rebate amount, and a monitoring plan is finalized to verify the project results. Before implementation can begin, the customer must conduct pre-installation monitoring and have the data approved by Xcel Energy. After the pre-installation data is approved, the customer implements the project and submits a completion report. Once the completion report is approved by Xcel Energy, the rebate is issued.

The Self-Directed Custom Efficiency program launched in 2009 in response to feedback from large business customers having internal implementation and M&V capabilities. Self-Directed projects require a substantial amount of lead time, and the program focused on building its pipeline the first year. In 2010, ten projects were completed and the program exceeded its initial energy savings targets. The Self-Directed pipeline remains strong in 2011, with seven pre-approved applications to date. Customer interviews will explore if these projects are still on track for completion in 2011.

Because of the program's unique design and the number of eligible customers, marketing efforts have been limited since the program's launch. Outreach to customers is primarily driven through Xcel Energy account managers that have established relationships with large business customers; they work with their customers to identify energy efficiency opportunities in their facilities and help them decide which Xcel Energy program is best suited for their situation. Up to this point, there has been little direct marketing to eligible customers; however, the program is exploring additional outreach directly to customers. Additionally, the channel manager working with the Self-Directed program coordinates with vendors, such as ESCOs, and keeps them informed of program offerings and requirements.

Staff generally report strong internal working relationships. The program's relatively limited administrative burden compared to other Xcel Energy programs enables close interactions between a few core staff. Team members report very open communication and a high level of responsiveness between staff. Also, several core program staff work within close proximity to each other, further facilitating open communication. Account managers who have been involved with the program also report generally positive interactions with team members. Several staff noted some communication challenges early in the program; however, they felt that the program has largely overcome these issues.

Feedback from program staff and account managers suggest that the program is operating relatively smoothly. The program strives to review applications and pre-approve projects within five-ten business days; however, this varies depending upon the quality of proposal. The vast majority of projects thus far have required some level of follow-up with the customer for additional information. In some cases, this follow-up can cause delays in the preapproval process because of the amount of time it takes for the customer to provide the required information. To help improve the quality of project proposals, the program recently revised its application instructions to clarify exactly what is needed for preapproval.



While there has been a substantial amount of customer interest in the program, several staff noted some potential barriers to participation. One barrier mentioned by several staff is a lack of familiarity with conducting M&V or finding quality M&V vendors. Access to capital and financing to fund large energy efficiency projects was also mentioned by several staff, even with the increased rebates offered by the Self-Directed program. Another barrier mentioned is the current eligibility requirement (aggregate monthly demand of two MW and aggregate annual usage of ten GWh). Feedback from account managers suggests that there is a segment of customers interested in the program who do not meet the eligibility requirements.

Staff also spoke about some other potential challenges for the program in the future, including managing its own growth and finding balance with other Xcel Energy business offerings. Given the current number of applications, team members feel comfortable that there are adequate staff and resources to successfully implement the program. The program has managed to build a strong pipeline with very limited marketing and there is evidence of growing interest in the program. Staff noted that if participation in the program grows, additional internal support or procedure adjustments may be needed. Another challenge is predicting participation and setting appropriate goals for the program, as customers often can implement the same improvements through one of several other Xcel Energy programs. Gaining a better grasp of market for the program and why customers choose to participate in one program over another is an ongoing challenge. Finally, a few staff mentioned educating prospective participants of the M&V expectations as another challenge.



## 4. EVALUATION RESULTS - PARTICIPANT AND NONPARTICIPANT FINDINGS

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This section presents the results of qualitative participant and nonparticipant customer interviews conducted for the process evaluation of the Xcel Energy Self-Direct Custom Efficiency program in Colorado.

### 4.1 INTRODUCTION

The evaluation team conducted interviews with customers that have completed at least one project through the Self-Direct Custom Efficiency program since its inception in 2009, along with eligible customers who have not yet participated in the program. Evaluators interviewed a total of eight participants (accounting for nine completed projects), which were a census of program participants at the time of the interviews and three nonparticipants (out of five nonparticipating customers identified by Xcel Energy). Evaluators used a semi-structured in-depth interview guide approved by Xcel Energy. Interviews were conducted over a four-week period in July and August 2011. Customer interviews provided meaningful process insights into the program's operations, participant experiences with the program, the customers the program is serving, decision-making processes regarding energy use and participation in Xcel Energy programs, and customer satisfaction. The interviews focused on gathering the following types of information:

- How satisfied are participating customers with the program overall as well as individual components? Are any changes needed?
- Are the program's requirements for project approval reasonable? Are these expectations clearly communicated? Are there any opportunities to streamline the application and rebate processes?
- Which program marketing channels are most effective? How do eligible customers prefer to receive information about Xcel Energy offerings?
- Are rebate levels optimally set to encourage participation while maximizing the cost-effectiveness of the program? Are the increased incentive levels sufficient to encourage customers to conduct the required measurement and verification (M&V) on their own or hire a contractor to conduct M&V?
- What is the customer decision-making processes regarding participation in Xcel Energy's Business DSM programs? Why do participating customers choose the Self-Direct option over standard Xcel Energy program offerings, or vice versa? What are customer barriers to participation?
- How familiar are customers with M&V? Do eligible customers have the internal capability and/or resources to conduct the required M&V? If not, where do customers go for these services?
- What challenges, if any, have customers faced in progressing from one stage to another throughout the participation process?
- How do customers select what vendor to use to implement the projects through the Self-Direct Custom Efficiency program? What types of relationships did vendors have with participating customers prior to participating in the program?



- How receptive are eligible customers towards energy efficiency measures given the current economic conditions? What are their attitudes toward energy use?
- How aware are eligible customers of Xcel Energy rebate offerings? What influence do available rebates have on their decisions to implement energy-saving projects?
- What types of improvements have customers made since participating in the Self-Direct Custom Efficiency program? What influence did their participation have on deciding to make these improvements? What are customers' plans for the future?

Xcel Energy provided information on program participants from its tracking database. The participant data included contact information, account representative, annual kWh and kW, brief project descriptions, key project dates, rebate amount, and vendors for projects completed by eight participating customers<sup>7</sup>. In addition, Xcel Energy provided contact information for five customers who are eligible for the program but have not yet participated ("nonparticipants"). We were able to interview all eight participants and three of the five nonparticipants. The evaluation team attempted to contact the other two nonparticipants multiple times by phone and email.

Next, this section summarizes the key findings from the customer interviews. These are followed by detailed findings.

## 4.2 SUMMARY OF FINDINGS

We spoke with a variety of types of business customers. Participants included two municipalities, one county government, two school districts, one university, one large real estate company, and one large telecommunications provider. Annual participant consumption ranged from two MWh to 46,983 MWh. Nonparticipating organizations that we interviewed included a large grocery store, a sustainable energy development company, and a molybdenum mine. Interviewees included facility managers, energy or sustainability managers, construction managers, and engineering staff. One of the nonparticipating customers also requested that his/her lighting vendor be included in the interview.

Key findings from the participant and nonparticipant interviews include:

- **Participants reported that nearly all improvements for which they received their Self-Direct Custom Efficiency rebate are still installed and operating as proposed.** Six of the nine projects completed by interviewed participants involved primarily lighting upgrades. Other rebated improvements included VFDs, HVAC upgrades, controls, exhaust fans, and computer power management. With the exception of one exhaust fan removed for remodeling, all rebated improvements were reported to be currently installed and operating.
- **The program's eligible customer base are well informed about Xcel Energy Business Demand Side Management programs; the Xcel Energy account manager relationships are vital in recruiting customers for the Self-Direct Custom Efficiency program.**

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<sup>7</sup> The tracking database also included one project with no customer contact. The evaluation team interviewed the vendor for this project, who was the only participant contact, as part of the trade ally interviews conducted in June 2011.



Feedback suggests that the program's primary outreach strategy of leveraging account manager relationships has been effective. Account managers were both the most common source for how participants learned about the program and most preferred source for receiving information about Xcel Energy's energy efficiency programs in general. Both participants and nonparticipants report regularly discussing rebate offerings with their Xcel Energy account representative and being both aware and knowledgeable about program offerings.

- **The implementation of projects is largely driven through energy service providers, as most customers lack the capability and/or staff resources to fulfill program requirements.** Six of the eight participants contracted with a third-party vendor to implement their project and/or provide M&V services. Several customers were familiar with M&V processes prior to participating in the program and/or had previous experience with performance contracting; however participants generally reported not having the internal capability or staff resources to conduct M&V activities internally. These findings suggest that customers with previous experience with performance contracts and energy service providers are good targets for program marketing efforts.
- **Program participants look to the Governor's Energy Office's listing of energy service providers as a trusted resource for finding competent performance contractors.** Most of the participating customers who used vendors had an existing relationship with the contractor prior to participating in the program. Only one of the three nonparticipants interviewed has used a contractor who can perform M&V services. Several participants mentioned using the Governor's Energy Office's list of approved energy service providers as a reference in choosing their vendor. Instead of listing specific vendors who have participated on the program's webpage, a couple of participants thought that providing a link to the Governor's Energy Office's list of approved vendors might be a better way for Xcel Energy to help customers find a reliable energy service company who can fulfill the program's requirements.
- **Nearly all participants indicated that the program had at least some influence on their decision to implement their project; however, the interviews also revealed some evidence of free-ridership.** Participants attributed varying levels of influence of the program rebate on their decision to implement their project, ranging from one participant who thought his/her company would have installed the exact same equipment without the program rebate to two interviewees who said the project would not have been possible without the rebate. Most participants attributed some, but not total influence to the program in their decision to install rebated improvements. Several participants reported that the rebate helped make the project more cost effective and/or impacted the specific types of equipment installed, but that the rebate was not the original impetus for the project. This is expected given that these are the largest energy consuming customers.
- **Reasons for why nonparticipants have not participated in the program included an unwillingness to take on the administrative requirements, a perceived lack of internal energy saving opportunities, and pursuit of higher rebates available through a different program.** All three nonparticipants interviewed were aware of the Self-Direct Custom Efficiency program and had discussed the program with their account manager and/or considered participating. Each of the three interviewees gave different reasons for why they ultimately did not pursue the program. One interviewee indicated his/her company was unwilling to take on the burden of M&V. Another said his/her company





had already addressed the “low-hanging fruit” and did not feel like there were enough energy saving opportunities left to make the program worthwhile. The final nonparticipant reported that they considered the program for a LED canopy lighting project, but ultimately chose Xcel Energy’s prescriptive lighting program because they could obtain a considerable higher rebate.

- **When deciding between different Xcel Energy programs, customers most often pursue the program that provides the highest rebate amount for their specific proposed project.** Participants report evaluating a variety of Xcel Energy rebate offerings prior to deciding to pursue the Self-Direct Custom Efficiency program. While not the only one mentioned, the most common reason why participants ultimately chose to pursue the Self-Direct Custom Efficiency program was primarily because it provided the highest possible rebate. Also, as mentioned above, one nonparticipant also chose to participate in a prescriptive Xcel Energy rebate program over the Self-Direct Custom Efficiency because they could achieve a higher rebate amount through the prescriptive program. Other factors, such as the level of administrative burden are typically secondary considerations. However, one participant specifically noted that the flexibility of being able to combine different sites under the same proposal contributed to their decision to participate in the Self-Direct Custom Efficiency program.
- **All participants reported very positive interactions with Xcel Energy staff throughout the course of their participation in the program.** Participants’ primary Xcel Energy contact throughout the duration of their participation was their account manager. Participants all reported positive interactions with Xcel Energy staff, especially their account managers. Interviewees mentioned that Xcel Energy staff was responsive, transparent, and committed to the success of their projects.
- **Participants were highly satisfied with their experiences with the program as well as Xcel Energy overall.** All interviewees said either that they were “very satisfied” or “satisfied” with their participation in the Self-Direct Custom Efficiency program. Participants expressed the highest satisfaction with the support they received from Xcel Energy (most commonly their account manager); the program’s handling of their questions and concerns, and the amount of the rebate they received. All but two interviewees had no recommendations for changes to the program. Participants’ high level of satisfaction with the program was echoed in their satisfaction ratings of Xcel Energy as a whole.
- **Participants generally thought the documentation required for project approval was reasonable and that the program communicated requirements clearly.** Most participants relied on their vendor to prepare the project proposal and required documentation, which they reviewed before submission to Xcel Energy. All of the participants who were asked thought that the program’s application process and documentation required for project approval were reasonable. In addition, all but one participant thought that the program provided adequate information on what is expected to receive a rebate.
- **Most interviewees thought the higher performance rebate offered through the Self-Direct Custom Efficiency program is worth the added responsibility of project M&V.** Four of the seven respondents who commented said that the higher rebate level was worth the added responsibility of estimating and verifying project savings. Notably, two participants indicated that these activities would have been part of their performance



contract with their energy service provider regardless of whether they participated in the program or not. Consequently, they were able to receive a higher rebate while incurring minimal additional costs to implement the project. Even though most thought the rebate level is sufficient, it is important to note that one participant and one nonparticipant felt the higher rebate is not worth the additional effort.

- **Both participating and nonparticipating customers interviewed are generally energy savvy and well informed of financial incentives available for energy efficiency improvements.** Nearly all customers interviewed reported recently making several substantial energy efficiency improvements in their facilities other than projects that were completed through the Self-Direct Custom Efficiency program. In addition, many have immediate plans for further energy efficiency improvements to their facilities. Respondents report evaluating available rebate options whenever they are considering major retrofits. Several participants and nonparticipants also indicated that their organization has a sustainability policy or energy savings goals.
- **Financial constraints and internal decision-making struggles were the most commonly mentioned barriers to implementing energy efficiency upgrades.** Among both participants and nonparticipants, these two challenges were highlighted as the most pressing obstacles to moving forward with large retrofits. Specifically, interviewees commonly discussed the challenge of needed to achieving return-on-investment within short payback periods (typically less than three years) in order to gain approval from management.

### 4.3 DETAILED FINDINGS

Detailed findings are presented in the following topic areas: program awareness and participation, decision-making processes, program design and procedures, customer satisfaction, and other energy efficiency actions.

#### 4.3.1 Program Awareness and Participation

We asked participants and nonparticipants a series of questions to understand their awareness of and involvement with the Self-Direct Custom Efficiency program.

##### *a. Sources of Program Information*

Among participants, Xcel Energy account managers were by far the most common source for learning about the Self-Direct Custom Efficiency program and Xcel Energy rebate offerings in general. Six of the eight participants learned about the program from their Xcel Energy account manager. The other two participants heard about the program through Xcel Energy's website and their vendor, respectively.

In addition, the most commonly preferred source mentioned by participants for receiving information on Xcel Energy programs is from their account representative. Most participants said they prefer email communications or phone calls. One interviewee specifically noted that he/she does not like direct mailings. In addition, several participants indicated that they regularly refer to Xcel Energy's website for program information.



All three nonparticipants interviewed were aware of the Self-Direct Custom Efficiency program and had a basic understanding of the program's requirements. Interviewees reported learning about the program from informational seminars or discussions with their Xcel Energy account manager. One nonparticipant interviewee mentioned that his/her preferred method of receiving information about Xcel Energy programs is through email.

##### *b. Customer Participation*

All but two interviewees were directly involved in their organizations decision to participate in the Self-Direct Custom Efficiency program. One interviewee indicated that their vendor decided to pursue the program rebate as part of their performance contract bid, while another informed us that the person who decided to participate in the program has since passed away. All respondents; however, reported being closely involved with the project's implementation.

All participants confirmed receiving a rebate from Xcel Energy for the project(s) they completed through the Self-Direct Custom Efficiency program. Six of the nine projects completed by interviewed participants involved primarily lighting upgrades. Self-Direct Custom Efficiency projects also included VFDs, HVAC upgrades, controls, exhaust fans, and computer power management. With the exception of one exhaust fan removed for remodeling, all rebated improvements were reported to be currently installed and operating.

Four participants indicated their final rebate amount was about the same as originally estimated, and three said it was higher. The remaining participant mentioned that there were some changes in their rebate amount, but it was not clear whether the final rebate was more or less than originally estimated. He/she did indicate; however, he/she was satisfied with the rebate amount.

Participants reported encountering no major challenges throughout the course of their participation in the program. Obstacles participants did face were generally minor project implementation issues with vendors, and not the program itself. Only one participant mentioned any challenges involving Xcel Energy, noting that there were some communication shortfalls between their vendor and program staff.

##### *c. Participant Interactions with Xcel Energy Staff*

Throughout the course of their projects, participants' primary Xcel Energy contact regarding their participation was their account manager. For several participants, their account manager was the only Xcel Energy representative with which they spoke with about the program. A few interviewees recalled also having interacted with program marketing staff and/or the program's energy efficiency engineer. Participants all reported positive interactions with Xcel Energy staff and were especially complimentary of the support they received from their account managers. Speaking of his/her relationship with their account manager, one participant commented, "sometimes [it seems like] our Xcel account representative works for us instead of Xcel." A few interviewees commented on the commitment of Xcel Energy staff to the success of their project, indicating that staff were responsive to their questions and concerns and transparent about project requirements and timelines.

##### *d. Experiences with Participating Vendors*

Six of the eight participants contracted with a third-party vendor to implement their project and/or provide M&V services. Another participating company hired an energy design firm to identify



opportunities for energy upgrades in their facility, but they fully implemented the project they completed through the program in-house.

As reported in Section 5, most participating companies had an existing relationship with the vendor they used for their Self-Direct Custom Efficiency project. Participants reported hiring a vendor for the project either because their company did not have the internal capabilities or, more commonly, staff resources to implement the project and conduct the required M&V on their own. Three interviewees specifically mentioned choosing their vendor through some type of bid process for a performance contract. Also, a few participants mentioned referring to the Governor's Energy Office's website, which lists energy service providers that have been approved the Governor's Energy Office to conduct performance contracting.

Overall, participants reported positive working relationships with their vendor. All interviewees said they were either "very satisfied" or "satisfied" with the contractor who was involved in implementing their project. Participants reported strong lines of communication throughout the course of the project and successful completion of the work. Only two interviewees had any complaints, both regarding missed deadlines and/or delayed deliverables.

#### **4.3.2 Decision-making Processes**

One of the primary objectives of the customer interviews was to understand their decision-making processes in regards to their participation in the Self-Direct Custom Efficiency program and other Xcel Energy rebate programs. Participants generally explored a variety of rebate options available to them prior to moving forward with energy efficiency projects. Interviewees commonly mentioned that they discussed Xcel Energy rebates with their contractor and included the rebate in their proposals to upper management. One participant indicated that as part of their vendor RFP process, they specified that proposals should incorporate available rebates. A couple of participants also indicated that the project they implemented through the Self-Direct Custom Efficiency program was part of a larger corporate sustainability policy or energy-savings targets.

##### *a. Influence of Program Rebate*

Participants attributed varying levels of influence of the program rebate on their decision to implement their project. Interviewees were all aware that Xcel Energy rebates were available before deciding to participate in the project. Most participants said the availability of the Self-Direct Custom Efficiency rebate had at least some influence on either the decision to move forward with the work, or specific types of equipment that were installed as part of the project. One participant thought that his/her company would have installed the exact same equipment without the program rebate. On the opposite end of the spectrum, two interviewees attributed total influence to the program, reporting that the project would not have been possible without the rebate. A couple participants indicated that they probably still would have implemented the project in the absence of the rebate; however, they would not have installed the same type or efficiency level of equipment. Another common sentiment among participants was that the rebate helped make the project more cost effective, but it was not the primary impetus for the project.

Below are a few specific comments from interviewees in regards to the influence their rebate had on their decision to implement their project:

*"Without the program, the project wouldn't have been done - the payback wouldn't have been there."*



*“I would say we would have installed very similar but not the exact same lighting equipment [without the program rebate]. With the direction from management and all things considered, I would say we would not have installed high efficiency lighting.”*

*“[It is] very likely we would have done the same project [without the program rebate]. The savings on the project, looking at the lighting alone was a no-brainer. I will say that if there was no rebate available, we would have had a harder time of putting in the new boiler plant and cooling equipment.”*

*“We are looking at just saving power regardless of the rebates. The rebates are like icing on the top. It is kind of a bonus if we get a rebate, but not the driving force.”*

*“[We] probably would not have done [the project] without [the rebate]. We were not thinking about installing energy efficient lighting; we did it because of the rebate.”*

*b. Participant’s Consideration of Other Xcel Energy Rebate Programs*

Because the only limitation on Self-Directed Custom Efficiency projects is that they are proven to be cost-effective, many of the improvements that would qualify for the program also could qualify for other Xcel Energy programs. Most participants said that they considered a variety of Xcel Energy rebate program options before deciding to participate in the Self-Direct Custom Efficiency program. Several interviewees indicated that they routinely discuss different program options with their Xcel Energy account manager on a project by project basis. For most projects, participants looked into both prescriptive and custom rebate options.

When asked why they decided to ultimately pursue a Self-Direct Custom Efficiency rebate over other available options, the most commonly mentioned reason was because it would amount to the highest overall rebate for the proposed project. The higher rebate amount was not; however, the only reason why a couple of customers decided to participate. One interviewee mentioned that he/she wanted to go through the Self-Direct Custom Efficiency program because it was relative new and he/she wanted to see if they would want to utilize the program in the future. Another participant whose project involved multiple facilities said that one of the reasons why they pursued the program over others was because they were able to aggregate all of their facilities on a single proposal, opposed to having to submit separate documentation for each site.

*c. Reasons for Not Participating*

Nonparticipants each gave different reasons why have not yet participated in the Self-Direct Custom Efficiency program. One interviewee whose company recently chose to participate in the Process Efficiency program instead, said that the company’s engineering staff was not willing to take on the additional reporting requirements the Self-Direct Custom Efficiency program. He/she mentioned that while the organization has the capabilities to do the work in-house, they lack the motivation and manpower to take on the added responsibility of conducting the necessary M&V. Another interviewee reported that he/she discussed the program with their account manager, but did not feel like there were enough energy-saving opportunities in their facility to make the program worthwhile. He/she reported that they had already “plucked the low-hanging” fruit and were just beginning another pilot program so they did not want to pursue two programs at once. The respondent also said that at the time, they were focusing more on natural gas saving strategies opposed to electricity savings. The last nonparticipant reported that they considered the Self-Direct Custom Efficiency program for one of their projects where they replaced metal halides with LED canopy lighting. He/she said they decided to pursue the prescriptive lighting program





instead because based the estimated savings, they would get a considerably higher total rebate amount than through the Self-Direct Custom Efficiency program.

##### *d. Barriers to Implementing Energy Efficiency Projects*

We asked all interviewees about the barriers they face in deciding to implement energy efficiency improvements in their facilities. Financial constraints and company decision-making processes were the two most pressing barriers mentioned. Interviewees spoke about first-cost “sticker shock”, gaining access to financing, and the need for achieving short payback periods for project approval as financial challenges they face. In many cases, interviewees indicated that a retrofit needs to have a simple payback period of less than three years to be approved internally. One participant said that his/her company has a very aggressive return-on-investment (ROI) timeframe and that the program rebate was instrumental in meeting this payback period.

In addition, several interviewees discussed challenges around gaining buy-in from all key stakeholders, including upper management and ownership. One participant said that the biggest issue they faced in deciding to move forward with their Self-Direct project was getting buy-in from the group of decision-makers in the company responsible for using some of the new equipment that was installed. In addition, as alluded to previously, decision-making barriers often center on concerns over return-on-investment and project payback.

One of the researchable issues we explored in both the participating vendor and customer interviews is whether finding energy service providers capable of performing the activities required by the program is a potential barrier to participation, and if so, how can the program alleviate this barrier. As mentioned above, most of the participating customers who used vendors had an existing relationship with the contractor prior to participating in the program. At the same time, only one of the nonparticipants interviewed has used a contractor who can perform M&V services. Several participants mentioned using the Governor’s Energy Office’s list of approved energy service providers as a reference in choosing vendors. Interviewees expressed mixed feelings about listing specific vendors who have participated on the program’s webpage. Instead, a couple of interviewees thought that providing a link to the Governor’s Energy Office’s list of approved vendors might be a better way to help customers find a reliable energy service company who can fulfill the program’s requirements.

### **4.3.3 Program Design and Procedures**

The Self-Directed Custom Efficiency program is unique in its design and participation process, shifting much of the responsibility for estimating and verifying project savings away from the program on to the participant. The participant and nonparticipant interviews explored customers’ views on the program design elements and program operations.

##### *a. Application Process and Required Documentation*

Participants who hired energy service providers generally relied on their provider to prepare the project proposal and required documentation, which they reviewed before submission to Xcel Energy. All of the participants who were asked thought that the program’s application process and documentation required for project approval were reasonable. One participant specifically noted some questions program staff had on their vendor’s TRC calculations, all of which he/she thought were fair. Another interviewee compared the level of document they had to provide to his/her experiences with other non-Xcel Energy rebate programs, saying he/she found Xcel Energy’s



requirements to be “very reasonable.” The only critique was from one participant who said that the M&V requirements required more effort than he/she originally anticipated.

Nearly all participants thought that the program provided adequate information on what is expected to receive a rebate through the Self-Directed Custom program. Interviewees commented that the participation steps and key project milestones were laid out clearly. The interviewee mentioned above who said the M&V requirements were more stringent than he/she expected thought that the program could have made the M&V expectations more clear. He/she indicated that had they known what the project M&V was going to entail up front, they probably would not have pursued a rebate through the Custom Efficiency program instead of the Self-Direct Custom Efficiency program.

Of note, the vendor for one of the nonparticipants, who was knowledgeable about the Self-Directed Custom Efficiency program thought that Xcel Energy could be more upfront with their documentation expectations for custom projects. He/she said that they have had to re-submit other custom proposals in the past because the documentation they provided was not sufficient for Xcel Energy. The interviewee acknowledged that it may be impractical to provide specific requirements for all types of projects; however, he/she recommended that requirements be spelled out for the most common types of projects completed under the program.

##### *b. Familiarity with M&V*

One of the unique features of the program is that it offers higher performance-based rebates than Xcel Energy’s standard custom offering, in exchange for the customer bearing the responsibility of estimating and verifying the impacts of their project. Participants reported a wide range of familiarity with M&V prior to participating in the Self-Direct Custom Efficiency program. Half of the participant interviewees (four of eight) indicated that they were quite familiar with M&V approaches when they decided to participate in the program, while the other four interviewees said they were not very knowledgeable. Several participants had worked on performance contracts and/or had experience working with energy service providers previously. Consistent with feedback from participating vendors, even if participants were familiar with M&V processes, they typically reported not having the internal capability or staff resources to conduct M&V activities internally.

Two of three nonparticipants we spoke indicated that they were familiar with M&V. One of these interviewees said their company has the internal capability to conduct pre and post-measures; however, they lack the staff resources to take on this responsibility. In addition, only one of the three nonparticipants indicated that they had an existing relationship with a vendor capability of performing M&V services.

##### *c. Rebate Compensation for M&V*

Of the five participants who commented, only one thought that the additional rebate amount was not worth the additional M&V responsibility. This feedback came from the same interviewee who said in hind sight, he/she probably would have pursued the standard Custom Efficiency program over Self-Direct. Two of the other four respondents indicated that estimating energy savings and developing an M&V plan would have been part of their performance contract with their regardless of whether they participated in the program or not. Consequently, they were able to receive a higher rebate without incurring many, if any, additional costs to implement the project. Another participant who thought the higher rebate was worthwhile mentioned that in addition to larger





rebate, he/she found value in being able to concretely verify the energy savings resulting from their improvements through conducting their own M&V.

Two of the three nonparticipants discussed whether they thought the increased rebate amount is worth the additional reporting requirements. One interviewee said that the additional effort would be difficult to for him/her to quantify not having participated in the program, and as consequently was not sure if they higher rebate is worthwhile. The other respondent (the one nonparticipant vendor) felt that the increased rebate compared to the standard custom program would not be sufficient in most cases to cover the added M&V costs.

#### **4.3.4 Customer Satisfaction**

Overall, participating customers were very satisfied with their participation in the Self-Direct Custom Efficiency program. Five of the eight interviewees said that they were “very satisfied” with the program overall, while the other three indicated they were “satisfied.” Of the individual program components we probed on, participants were most satisfied with the support they received from Xcel Energy, the program’s handling of their questions and concerns, and the amount of the rebate they received. Several interviewees were particularly complimentary of their account representative, who was their primary Xcel Energy contact throughout their participation in the program. None of the participants said that they were dissatisfied with any of the elements of the program about which we asked. One interviewee gave a “neutral” rating in regards to his/her satisfaction with the time it took to receive the rebate, saying that it took a while due to the M&V requirements. He/she explained that they were not dissatisfied; rather he/she just wanted the rebate sooner to release the “good news” story of the project.

Only two participants had any recommendations for changes to the program. One interviewee, who implemented one of the first projects completed through the program, felt that the M&V expectations were initially not well defined within the program, leading to some confusion on the program requirements. He/she recommended that the program revisit their M&V requirements to make sure they are clearly defined and if there is any way to reduce M&V costs. The only other recommendation was to work to shorten the rebate processing time, offered by the one participant who said he/she would have like to receive his/her sooner.

We also asked nonparticipants about their satisfaction with Xcel Energy’s rebate programs overall. Interviewees gave mixed responses to how satisfied they are with Xcel Energy’s offerings. One nonparticipant said he was very satisfied overall, specifically noting the commitment of Xcel Energy staff in support of the programs. Another interviewee was not as satisfied, saying that the rebates currently available have a limited impact given the large equipment they buy. He/she did note; however, that Xcel Energy rebates are still worth pursuing. The final nonparticipant customer deferred to his/her vendor, who said that he/she would like to see Xcel Energy shift more focus to performance rebates instead of prescriptive rebates.

Participants’ high level of satisfaction with the Self-Direct Custom Efficiency program was echoed in their satisfaction with Xcel Energy overall. On a scale of zero to ten, with zero being very dissatisfied and ten being very satisfied, all participants gave a rating of seven or higher, and six of the eight gave a rating of eight or higher. Interviewees expressed few sources of dissatisfaction, which were generally not related to Xcel Energy’s rebate offering. In comparison, the three nonparticipants gave ratings of seven, seven to eight, and eight.



### 4.3.5 Other Energy Efficiency Actions

Feedback suggests that customers eligible for the Self-Direct Custom Efficiency program are highly active in making energy-saving upgrades in their facilities and taking advantage of utility rebates. Several participants and nonparticipants indicated that their organization has a sustainability policy or energy savings goals. Nearly all participants reported recently making several other substantial energy efficiency improvements in their facilities, in addition to the project they completed through the Self-Direct Custom Efficiency program. Recent upgrades included energy efficient lighting and lighting controls, VFDs, motors, chillers, boilers, energy management systems (EMS), rooftop HVAC, and solar technologies. Interviewees reported pursuing a variety of prescriptive and custom Xcel Energy rebates for many of these improvements, mentioning that they routinely explore available rebates for projects they consider implementing. Upgrades for which customers did not receive an Xcel Energy rebate were typically ineligible because the fuel is supplied by a different provider (e.g., transport natural gas). A couple of participants also noted water-saving improvements they have recently implemented that do not directly affect electricity or gas usage, both receiving rebates from Denver Water.

Several participants indicated that their participation in the Self-Directed Custom Efficiency program has had at least some impact on their actions since, even if the impact is limited. While most interviewees had experience pursuing Xcel Energy rebates before participating in the Self-Direct Custom Efficiency program, one participant said they he/she had not previously participated in any Xcel Energy rebate programs. The interviewee suggested that his/her participating in the program had a direct impact on his pursuit of other Xcel Energy rebates, saying that the positive experience led him/her to look into other Xcel Energy offerings and push improvements with ownership. Two other participants said that their participation in the Self-Direct Custom Efficiency program was a valuable learning experience for them. One of the interviewees specifically mentioned that the program has made their organization more familiar with M&V processes, in turn helping them gain a better understanding of other performance-based programs. Finally, one participant said that while their participation in the Self-Direct Custom Efficiency program has not directly influenced any energy decisions since, the project was a good reminder that they should be exploring rebate for any work they consider that could save energy.

Nonparticipants also reported implementing several energy efficiency improvements in their facilities and pursuing variety of other Xcel Energy programs. Recent improvements included lighting upgrades, process improvements, energy efficient motors, VFDs, and EMS. Similar to participants, interviewees reported receiving Xcel Energy rebates for many of these upgrades.

Looking forward, several participant and nonparticipants also discussed plans for additional energy efficiency improvements to their facilities in the near future. Upgrades planned or being considered includes energy efficient chillers, indoor and outdoor lighting, ventilation improvements, evaporative coolers, process controls, LED lighting, and VFDs.

## 4.4 CONCLUSIONS

Overall, customers gave very positive feedback on the Self-Direct Custom Efficiency program as well as their relationships Xcel Energy overall. Participants were highly satisfied with their participation in the program and their interactions with Xcel Energy staff. In addition, most indicated that the program rebate was influential in their decision to implement the project and thought that the program's requirements were reasonable and clearly laid-out. While nonparticipants have not yet pursued the Self-Direct Custom Efficiency program specifically, they



are knowledgeable of Xcel Energy offerings and reporting making energy efficiency improvements to their facilities and participating in the other Xcel Energy rebate programs.

At the same time, evidence suggests that the program faces some considerable challenges going forward. One of these challenges will be ensuring that the program is capturing projects that lead to energy savings directly attributable to the program, opposed to rebating projects that would have taken place in the absence of the program. Even with the increased custom rebate level, the Self-Direct Custom Efficiency program may be more susceptible to free-ridership given the characteristics of the eligible customer base and the prominence of performance contracts implemented by energy service companies. One strategy to minimize free-ridership may be for the program to not incentivize projects that would meet a certain payback threshold without the rebate. For example, evidence suggests that many customers will move forward with a project that has a payback of two years or less without the rebate. However, other projects with longer paybacks would require the rebate to meet internal payback criteria for capital improvements. A good example of this is the participating customer who implemented not only lighting, but also a new boiler plant and cooling equipment because of the program. The lighting project most likely had a shorter payback period and could have been implemented without the rebate, but the additional measures had longer payback periods and therefore would not have been done without the program rebate.

Finally, feedback from interviewees indicates that customer relationships with energy service providers capable of providing M&V service is critical to the program's success. As evidenced from the experiences of some participants, the program might benefit from providing a link to the Governor's Energy Office website, which lists approved energy service providers in their Service Provider Database.



## 5. EVALUATION RESULTS—TRADE ALLY FINDINGS

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This section presents the results of qualitative vendor interviews conducted for the process evaluation of the Xcel Energy Self-Direct Custom Efficiency program in Colorado.

### 5.1 INTRODUCTION

The evaluation team conducted interviews with all vendors that have completed at least one project through the Self-Direct Custom Efficiency program since its inception in 2009. Evaluators interviewed a total of eight vendors accounting for nine projects using a semi-structured in-depth interview guide approved by Xcel Energy. Interviews were conducted over a three-week period in June 2011. This research with vendors provided meaningful process insights into the program's operations, their interactions with the program, the customers the program is serving, and barriers to customers' participation in the program. The interviews focused on gathering the following types of information:

- How is the program leveraging the trade ally infrastructure and are there areas for improvement?
- How satisfied are vendors with communications about the program? Are any changes needed?
- Are the program's requirements for project approval reasonable? Are these expectations clearly communicated? Are there any opportunities to streamline the application and rebate processes?
- Are vendors effectively conveying program information and encouraging customer participation? What additional training or support from Xcel Energy do vendors need to more effectively support the programs?
- How effective is the marketing of the program? Are there customer segments that marketing efforts should specifically target? Is more program-specific marketing needed?
- Are rebate levels optimally set to encourage participation while maximizing the cost-effectiveness of the program? Are the increased incentive levels sufficient to encourage customers to conduct the required measurement and verification (M&V) on their own or hire a contractor to conduct M&V?
- What is the customer decision-making processes regarding participation in Xcel Energy's Business DSM programs? Why do participating customers choose the Self-Direct option over standard Xcel Energy program offerings? What are customer barriers to participation?
- What types of experiences do participating vendors have with implementing custom energy efficiency projects and conducting M&V? How familiar are customers with M&V?
- What challenges, if any, have vendors faced in progressing from one stage to another throughout the participation process?



- What types of relationships did vendors have with participating customers prior to participating in the Self-Direct Custom Efficiency program? Have they performed similar services for the customer in the past?
- How receptive are customers towards energy efficiency measures given the current economic conditions?

Xcel Energy provided sample information from the program's participant database. The data for the vendor sample included project information (e.g., customer, project description, milestone dates) and contact information for the eight participating vendors.

Next, this section summarizes the key findings from the vendor interviews. These are followed by detailed findings.

## 5.2 SUMMARY FINDINGS

Participating vendors offer a suite of energy services to business customers, including design, audit, performance contracting, and measurement and verification (M&V) services. Five of the eight vendors we spoke with identified themselves as comprehensive energy service companies (ESCOs). The other three companies interviewed specialized in mechanical systems, water treatment, and building design consultation, respectively. The vast majority of participating vendors' business consists of large retrofit and renovation jobs; only two interviewees reported substantial work in the new construction market. Like those eligible for the Self-Direct Custom Efficiency program, larger business customers (often with multiple facilities) account for the majority of most participating vendors' overall business.

Below are a few key findings from our interviews with participating vendors.

- **Vendors were largely satisfied with their communications with the program over the course of their participation.** Nearly all of the vendors we interviewed were intimately involved with the program operations throughout the implementation of their project. Interviewees unanimously reported very positive interactions with program staff, with specific mentions of the staff's knowledge, responsiveness, and commitment to the success of their project(s).
- **While vendors are generally satisfied with the program, providing transparency of Xcel Energy's project cost-effectiveness calculations and communicating the status of rebates were mentioned as areas for improvement.** Given the nature of the program's design and the expertise of ESCOs, interviewees generally thought the level of support they received from the program was sufficient and reported facing few major barriers to participating in the program. The most common challenge encountered was working with the program's Total Resource Cost (TRC) calculator. A couple of vendors thought it would be useful if the program provided greater access to the assumptions used in project TRC calculations. Another recommendation mentioned is to provide participating vendors with updates on the final rebate amount and when the rebate is paid to the customer.
- **Vendors agreed that the program's requirements are reasonable and appropriate for a performance-based rebate program.** Interviewees acknowledged the need for Xcel Energy to review and approve energy savings estimates and verification. In addition,



most vendors thought the submittal expectations and participation steps were clearly communicated.

- **Feedback from vendors suggests the increased performance-based rebates offered through the program are sufficient to encourage some, but not all, eligible customers to incur the additional project requirements.** According to vendors, the most common reason for customers having participated in the Self-Direct Custom Efficiency program was the increased rebate amount. At the same time, vendors stressed that deciding between different rebate options is very project-specific, and that the additional rebate potential may not be enough for some customers to accept the risk and costs associated with being responsible for project M&V.
- **Vendors generally do not “market” the Self-Direct Custom Efficiency program to sell work; rather project leads are more often generated through existing relationships.** Over half of the vendors we spoke with (five of eight) had an existing customer relationship prior to participating in the program. Instead of actively promoting the program, vendors report evaluating all rebate options available to their customers when proposing a project. These findings illustrate the importance of existing vendor-customer relationships in Self-Direct projects.
- **First-cost, limited access to financing, and the program’s eligibility requirements appear to be the most prominent barriers to participation.** Access to funding and affordable financing were the most commonly discussed obstacles to customers moving forward with large energy efficiency projects. A couple of vendors also thought the program’s eligibility requirements based on energy consumption may be excluding some customers who would be interested in participating.
- **While most eligible customers are familiar with the concept of M&V, very few have the internal capability and/or resources to conduct M&V on their own.** Vendors indicated that even if businesses have personnel with the expertise to conduct M&V, they rarely have the time to devote to the work. Staff resources are especially thin in the current economic climate, as companies are looking to minimize operating costs.
- **Feedback suggests that while fallout from the economic downturn remains, there are several reasons to be optimistic about the market for performance contracts and large retrofit projects.** Vendors discussed the lasting impacts from the struggling economy on the current market for large energy efficiency projects, especially the barriers of budget constraints and access to affordable financing. Yet, most vendors were optimistic for the future of performance contracting for a variety of reasons, including rising energy costs, a shift in corporate attitude toward sustainability, changes in federal efficiency standards, and pent-up demand from the recession.

### 5.3 DETAILED FINDINGS

Detailed findings are presented in the following topic areas: program awareness and involvement, customer interactions, program procedures, and the commercial market.





### 5.3.1 Program Awareness and Involvement

#### a. *Program Awareness*

All but one of the vendors we interviewed indicated that their company was actively involved at each stage of the project they completed through the program, including the initial engineering analysis, project implementation, and verification of impacts. Typically, the participating customer contracted the vendor to implement the project and submit all required documentation. One interviewee reported that they were only responsible for the energy savings analysis, and knew relatively little about the involvement with the program because the customer was the primary program contact. Some of the vendors also indicated that they were involved in the decision to implement the project through the Self-Direct Custom Efficiency program.

Interviewees heard about the program from a variety of sources. They most commonly heard about the program directly from the customer who hired them to complete the project (mentioned by three interviewees). Other sources included previous experience with Xcel Energy programs (two interviewees), an Xcel Energy account representative (two interviewees), and an Xcel Energy event representative.

While nearly all reported some involvement with other prescriptive and custom utility programs, most interviewees were unaware of any other Self-Direct Custom Efficiency programs in the Rocky Mountain region. Only one of the vendors we interviewed had been involved in another Self-Direct Custom Efficiency program in addition to Xcel Energy's program. That vendor participated in Rocky Mountain Power's Self-Direction Credit program in Utah, which offers large customers credits to offset their monthly conservation charge. In comparing the two programs, this vendor noted that Rocky Mountain Power's program requires less work because the program conducts all required M&V, but the incentive levels are also less generous than the rebate offered through Xcel Energy's Self-Direct Custom Efficiency program.

#### b. *Interactions with Program Staff*

With the exception of the one interviewee who was not involved in the rebate process, all vendors reported regular communication with Xcel Energy program staff through the course of their project. The program energy efficiency engineer (EEE) was typically the vendors' primary program contact. Vendors reported talking to the program EEE most commonly regarding follow-ups or questions on proposed energy-saving analyses and M&V plans. In addition to the program EEE, several interviewees also mentioned interacting with the program manager and/or their customer's account representative.

All interviewees reported very positive interactions with all program staff. Vendors commented that staff were knowledgeable, and that follow-up questions on energy savings calculations were reasonable and appropriate. In addition, interviewees indicated that staff were responsive to their questions and timely with their feedback on project proposals. One interviewee also specifically noted the high quality and clarity of the preapproval letter they received.

#### c. *Support from the Program*

Vendors generally agreed that the support provided by the program is sufficient given its design. Interviewees indicated that the level of the support they received is all they would expect for a Self-Direct Custom Efficiency program with performance-based incentives. Interviewees had few





recommendations for additional support the program could provide to vendors. A couple of vendors commented on the lack of transparency in the program's TRC calculations, suggesting that it would be helpful if the program would make the algorithms more visible, seeing as measures need to pass the TRC test in order to be approved. One of these vendors noted that he/she had previously made this recommendation to Xcel Energy, and that the program has since provided more transparency on the TRC calculations. The only other vendor who commented specifically on ideas for additional support had previous experience working for a utility in program development, and thought that the instructions provided on the submittal and approval requirements may be more difficult to understand for someone without a similar background.

One other area for improvement mentioned by a couple of different vendors relates to communicating the status of rebate processing. One vendor indicated that he/she never knew the final rebate amount or when it was paid to their customer. Another vendor reported that their customer ultimately received a higher rebate than what was proposed, but he/she was never given an explanation for why.

Interestingly, one vendor suggested that limiting the amount of support provided to vendors is actually in the best interest of the program. The interviewee said that he/she prefers that the program makes the contractor put in some work to understand the program. The vendor explained his/her rationale saying, *"I don't think everyone in town should be able to [participate] – it's a way to filter out contractors who aren't able to do [the work]. Holding the contractor's hand the whole way defeats the purpose of the program."* This feedback reveals awareness among the vendor of the program's logic and an expectation of a higher level of contractor investment than what is required for standard utility programs.

### 5.3.2 Customer Interactions

Participating vendors have typically built a relationship with the participating customer prior to applying for the Self-Direct Custom Efficiency program. Over half of the vendors we spoke with (five of eight) had an existing customer relationship prior to participating in the program. A few interviewees reported having a longstanding relationship with the customer, having worked on a number of performance contracts. Vendors do not typically "market" the Self-Direct Custom Efficiency program specifically. Instead, interviewees generally report evaluating all rebate options available to the customer, and recommending the option that they feel is in the customer's best interest.

#### a. *Perceptions on Customer Awareness and Reasons for Participation*

Most vendors thought that their customers are aware of Xcel Energy's energy efficiency program offerings. This feedback is not surprising given that the target customer base for ESCOs is mostly larger businesses with substantial energy consumption. Given the program's eligibility requirements, most interviewees felt that program outreach is most effectively directed through account managers, and that additional program-specific marketing is likely not needed. One vendor did recommend that the program increase targeted marketing to trade associations as well as the largest customers, especially those with their own engineering staff. Another vendor mentioned that it would be beneficial if eligible customers were given more assistance in understanding how the Self-Direct Custom Efficiency program compares to other Xcel Energy program options.



Several interviewees mentioned that they were involved in the customer's decision to participate in the program. The most common reason vendors gave for recommending participation in the Self-Direct Custom Efficiency program instead of other offerings was the potential to obtain a higher rebate. Feedback suggests that it is standard practice for most of the vendors to compare different program options to maximize their customer's incentive. Along with the program rebate, the program's savings verification requirement was mentioned as another reason why customers participated. According to a couple of vendors, having Xcel Energy review their verification work gave their customers added confidence in project impacts.

*b. Barriers and Recommendations for Increasing Customer Participation*

Based on feedback from vendors, the most pressing barriers to participation in all custom energy efficiency programs, including the Self-Direct Custom Efficiency program, are capital costs and access to financing. Interviewees emphasized the importance of demonstrating payback; that large retrofits really need to be "self-funding" in order for most customers to move forward. Several vendors also discussed how limited access to affordable financing is a major barrier. One performance contractor attributed much of the hesitancy to move forward with projects to high loan rates in the current financial market. Another barrier that was mentioned was a lack of staff resources to manage lengthy performance-based projects.

In addition to resource constraints, several vendors commented on the program's restrictive eligibility requirements. Some vendors thought that the program is most fitting for only their larger customers, and that there are few customers who fall below the eligibility limit for consumption who would seriously consider participating in the program. However, a couple of others thought that the program may be missing out on opportunities for additional projects. One vendor thought that there is enough demand from customers who are currently ineligible for the program to consider lowering the eligibility requirement. He/she thought that there may be three to five times more customers who might be interested in taking advantage of the program. None of the vendors; however, offered specific recommendations on an optimal eligibility limit based on energy or demand consumption that would capture additional cost-effective projects.

*c. Customer Familiarity with M&V Procedures*

Because the applicant is responsible for developing and implementing an M&V plan, one of the key researchable issues is how familiar eligible customers are with M&V and whether a lack of knowledge is a barrier to participation. Responses from vendors suggest that larger business customers who would be eligible for the program, especially those with experience in performance contracting, have a general understanding of the concept of M&V, even if they are not very familiar with specific approaches. Very few, however, have the internal capability and/or resources to conduct M&V on their own. Interviewees indicated that even if businesses have personnel with the expertise to do the work, they rarely have the time to devote to the work. Staff resources are especially thin in the current economic climate, as companies are looking to minimize operating costs. This feedback, along with the high level of involvement from ESCOs in the program's completed projects to date, underlines the large role contractors with M&V capability play in implementing Self-Direct projects. As a result, most vendors thought that the program could potentially benefit from listing vendors who have completed projects on the program's webpage.



### 5.3.3 Program Procedures

Most participating vendors thought their participation in the program went relatively smoothly. Interviewees generally agreed the application requirements were reasonable and appropriate for a performance-based rebate program. Most also thought that the program's requirements and proposal expectations were clearly communicated to them. One vendor thought the program's submission expectations could have possibly been made clearer from the outset, but at the same time, found value in the flexibility provided by the program for project proposals. Another vendor who participated early in the program's implementation said that expectations could have been clearer and that there were some changes to the process as it was originally laid out, but attributed these discrepancies to the immaturity of the program.

The most common challenges vendors faced related to using Xcel Energy's TRC template to estimate the cost-effectiveness of their project (mentioned by four interviewees). One vendor who completed a new construction project said they needed to follow-up to clarify what incremental costs were to be used in the TRC model, as there was no baseline to compare to. Other interviewees recalled minor challenges with having to reorganize their standard analysis to fit into Xcel Energy's template. In addition to these concerns, one vendor said that some within his/her company were uneasy about sharing the internal template they used to calculate energy savings, as they considered the template proprietary information. He/she said they had initially hoped to send a PDF version of the savings analysis to protect the proprietary value of their spreadsheet. Nonetheless, the interviewee acknowledged the reasonableness of the program's request to see how their estimates were derived.

The only other critique of the program's rebate requirements was from a vendor who implemented a lighting project. This vendor thought that the pre-installation measurements they were required to perform were unnecessary for the measures they were installing. He/she thought that operating hours only needed to be measured once (during post-M&V) because there were no changes in hours of usage. Also, he/she felt that they should not have been required to measure kW, because they followed Xcel Energy standard lighting tables when selecting their equipment.

One of the unique features of the program is that it offers higher performance-based rebates than Xcel Energy's standard custom offering, in exchange for the customer bearing the responsibility of estimating and verifying the impacts of their project. Feedback from participating contractors suggests that the current rebate levels are sufficient to encourage some, but not all, to assume these responsibilities. As mentioned earlier, the top reason for why customers participate was the higher rebate. At the same time, vendors stressed that the cost-benefit analysis in comparing program options depends on the size and complexity of the project.

A couple of interviewees suggested that in order for the Self-Direct option to make sense for the customer, the increased rebate amount has to cover more than the direct cost of assuming the responsibility of estimated savings and conducting M&V. One vendor explained that there is a higher risk for the customer under the Self-Direct option, because they are responsible for M&V costs with no guarantee on what their final rebate amount will be. One vendor alluded to hidden administrative costs that customers may bear in overseeing the work of their M&V subcontractor, beyond the dollar value of their contract.

At the same time, comments from a couple of ESCO contractors suggest that some customers incur minimal, if any additional M&V costs. One interviewee explained that they would have conducted some level of M&V as part of their performance contract in the absence of the



program. Even though the M&V requirements of the program are more extensive than what they normally do and required more work, they did not pass these added costs on to the customer. As a result, the customer received a higher rebate than they could have through other programs, with virtually no added costs to them. Another ESCO representative echoed this feedback, indicating that a formal M&V plan would have been included in their performance contract regardless of whether they participated in the program, and that the customer incurred no additional costs.

#### **5.3.4 Commercial Market**

While several interviewees report impacts of the economic downturn, vendors were generally optimistic about the market for deep retrofits and comprehensive design improvements. Rising energy costs, a shift in corporate attitude toward sustainability, changes in federal efficiency standards, and pent-up demand from the struggling economy were all discussed as reasons for confidence in the future of performance contracts. One interviewee, speaking of the demand for efficiency improvements, mentioned that many business customers are interested but are waiting to “pull the trigger” because of uncertainty with the current market. Echoing this sentiment, another vendor suggested that many businesses have been putting on “band-aids” instead of committing to major retrofits, but the increase in the number of ESCOs is evidence of higher demand. In addition, one vendor noted a higher prioritization of energy among cash-strapped businesses looking to minimize operating costs. Finally, one vendor suggested that the market for performance contracting will depend on the direction of the financing market and loan rates.



## 6. EVALUATION RESULTS—PEER UTILITY BENCHMARKING

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This section presents the results of a benchmarking study of self-directed and comparable nonresidential custom programs conducted for the process evaluation of the Xcel Energy Self-Direct Custom Efficiency program in Colorado.

### 6.1 INTRODUCTION

The benchmarking study identified and characterized other utility programs of particular interest to Xcel Energy. The research focused on gathering the following types of information:

- Program goals, objectives, and scope: How do the goals, objectives, and program scope compare with Xcel Energy's program?
- Effectiveness of the program in meeting goals and objectives: What has worked well and what has been a problem? What external influences may be influencing their programs and how are they addressing them?
- Key elements of program design: What are the structure, amount and type of incentive, and eligibility requirements? What documentation is required to receive an incentive?
- Marketing and recruitment of customers: How do they market and recruit customers? What key customer segments do and do not participate in the program? What is their customer retention?
- Quantification of program impacts: How do they determine their baseline and technical assumptions and net-to-gross calculations? Who is responsible for estimating and verifying project impacts?
- Trade allies: How does the program leverage the trade ally market infrastructure? What technical, sales support or incentives are provided to trade allies?

The research was conducted using a combination of internet searches and telephone interviews with program managers. The internet research provided program background information for 11 energy conservation programs from organizations identified by Xcel Energy staff and the evaluation team. Next, the evaluation team conducted six in-depth interviews with program managers to obtain further insight into program design and implementation for a subset of the benchmarked programs.

### 6.2 SUMMARY OF FINDINGS

The Xcel Energy Self-Directed Custom Efficiency program offers increased custom rebates to the largest business customers in exchange for the customer assuming the responsibility of estimating energy savings, commissioning the project, and conducting the necessary monitoring and verification activities all on their own. Compared to benchmarked programs, Xcel Energy's Self-Directed Custom Efficiency program is somewhat unique in offering increased rebates for customers' implementing measurement and verification, funding program rebates through the conservation charge instead of an exemption to the charge, and establishing specific goals for the program within the business portfolio; however, most elements of the program's implementation are similar with other self-directed and custom programs.

Benchmarked programs generally fell into one of two categories. The first is "self-directed" programs, which are designed specifically to allow large commercial and industrial customers who have the capability and desire to implement projects internally to recapture a portion of their utility conservation



charge. The second is custom utility programs featuring performance-based incentives where the customer is responsible for estimating and potentially verifying energy savings from their projects.

The benchmarking study identified the following standard practices:

- **Most self-directed programs target only the largest business customers.** Like Xcel Energy's Self-Directed Custom program, five of the six self-directed programs researched have eligibility requirements based on minimum energy use or peak demand. In addition, one other self-directed program requires customers to be on their own transformer. Eligibility requirements based on annual kWh usage range from 7,000 MWh to 8,670 MWh and above.
- **Self-directed incentives are typically structured around recapturing utility bill conservation charges, opposed to performance-based rebates.** Performance-based rebates are the most common incentive structure among the custom utility programs researched, typically ranging between \$0.05 and \$0.08/kWh or between \$175 and \$250/kW. In contrast to the benchmarked custom programs, the benchmarked self-directed programs most commonly structured incentives around recovering companies' own conservation charges applied on their utility bill. Five of the six self-directed programs instead offer exemptions to individual conservation charges to recover up to 100 percent of project costs. The other self-directed program funds "program grants" also through individual conservation charges, allowing customers to use their own charge to fund up to the full cost of the project.
- **Preapproval is typically required for self-directed and custom projects.** Benchmarked programs generally require applicants to provide a detailed description of the proposed project, new and existing equipment specifications, engineering calculations and supporting assumptions, and projected project costs. Program managers interviewed generally reported having to work closely with customers and vendors to obtain quality project proposals and all required documentation. Notably, Xcel Energy's Self-Directed Custom Efficiency program provides among the most detailed instructions for how to participate available online.
- **Nearly all benchmarked programs require participants to estimate the energy saving resulting from proposed projects prior to approval.** Like Xcel Energy's Self-Directed Custom Efficiency program, all but one of the benchmarked programs require participating customers to estimate the energy savings resulting from their project(s). Programs typically require participants to submit an engineering analysis with equipment specifications and all assumptions used in the energy savings analysis. Most organizations rely on internal program energy efficiency engineers to review energy savings calculations for reasonableness and consistency with standard engineering practices.
- **Monitoring and verification activities are typically conducted by program staff.** While most programs researched require some level of measurement and verification on qualifying projects, only three programs researched hold the customer responsible for required M&V activities. Similar to Xcel Energy, two of these programs also require the customer to prepare and submit a monitoring and evaluation plan to verify project savings prior to project approval.
- **Program-specific outreach to customers and trade allies is generally very limited among self-directed programs.** Similar to Xcel Energy, outreach to prospective customers is mostly driven through account manager relationships, primarily due to restrictive eligibility requirements. Some self-directed program managers indicated they really do not directly *market* their self-direct offerings to customers. In general, this strategy works as most of the self-directed programs do not have formal goals established for them; rather the program is an option "put out there" for eligible customers who are interested. In addition, for many of the





benchmarked programs, customers can also complete projects through another business program, similar to Xcel Energy. Also, few programs researched conduct any program-specific outreach activities to engage trade allies; however, most organizations do reach out to trades for specific types of measures under their business portfolio. Only two programs we researched have specific requirements to become participating vendor.

- **Self-directed programs commonly fill a gap role in organizations' business portfolios, serving as a venue for customers seeking an alternative to standard rate-payer energy efficiency offerings.** Similar to Xcel Energy's program, many projects run through the benchmarked self-directed programs would also be eligible under other utility program offerings. One of the primary motivators for participating in a self-directed option over a different rebate program is that some of the largest customers with internal engineering resources feel like they "don't get back what they are putting in" in reference to their conservation charge. Other reasons for choosing a self-directed option include concerns over confidentiality, reliable funding from customer's own individual conservation charge, and a sense of pride in internal implementation capabilities.

### 6.3 DETAILED FINDINGS

This section first includes a summary table of the benchmarking results. Detailed findings are then presented in the following topic areas: program scope and goals; program design, measures and incentives; program impacts; and program recruitment and participation.

Table 6-1 summarizes study information from the internet research as well as general information from the program manager interviews. programs covered only in the internet research include: PNM's Self-Direct Custom Efficiency program, California's statewide Customized Retrofit program, California's statewide Savings By Design program, WE Energies Custom Incentives program, and Austin Energy's Power Saver Custom program. programs with both internet research and program manager interviews include: Puget Sound Energy's (PSE) Large Power User Self-Direct Custom Efficiency program, Energy Trust of Oregon's Self-Direct Custom Efficiency program, Michigan's statewide Self-Directed Optimization program, AEP Ohio's GridSmart Self-Direct Custom Efficiency program, El Paso Electric's (EPE) Large Customer Self-Directed Alternatives program, and PNM's Custom Retrofit program.





Table 6-1. Summary Information from Internet Research and Program Manager Interviews

Program Name (Organization Name)	Program Territory	Program Goals/Objectives/Scope	Incentive structure and rebate amounts	Application process / required documentation	Process for estimating and verifying impacts
Large Power User Self-Direct Program (Puget Sound Energy)	Washington	Launched in 1999. Implemented in four-year program cycles (current 2010-2013). Target savings for 2010-2013 cycle: 42,000 MWh. Achieved savings for 2006-2009 cycle: 34,371 MWh.	Incentive amount based on project costs, up to 100% of project cost. Average incentive of \$0.16/kWh saved in 2002-2005 cycle. Average incentive of \$0.20/kWh saved in 2006-2009 cycle.	Preapproval required. Customers must submit project proposal, including project description, energy savings calculations, estimated project costs, cost effectiveness calculations, and M&V strategy. Final cost documentation required for rebate payment.	Customer responsible for estimating energy savings and developing M&V plan. Program reviews energy savings calculations and verifies installation of equipment.
Self-Direct Custom Efficiency program (Energy Trust of Oregon)	Oregon	Launched in 2001. Only 8,760 MWh or greater customers are eligible. No formal energy savings or participation goals.	Incentive amount based on project cost. Customers recover up to 100% of approved project costs through exemption of portion of monthly public purpose charge.	Preapproval required. Customer must submit project proposal with energy savings estimates and supporting documentation.	Customer responsible for estimating energy savings and providing supporting documentation. Program responsible for reviewing estimates for reasonableness. No post-M&V conducted other than site visits to verify equipment was installed.
Self-Directed Optimization Program (Consumers Energy, DTE)	Michigan	Launched in 2009. Statewide electric offering administered by MI utilities with oversight from Michigan PSC. 1 MW or greater peak demand customers eligible. 5 MW or greater aggregated across customer sites also eligible. Customers required to achieve energy savings of 1% of annual sales.	Participants are exempt from Energy Optimization electric surcharge, with the exception of a portion of the surcharge that funds low-income programs as well as review and evaluation costs of the Self-Directed Optimization Program.	Customers must file implementation plan and submit energy savings calculations. Customers under 2 MW (single site) and under 10MW (aggregate) need to contract an energy optimization service company to develop and implement plan. Participants need to submit biannual progress reports documenting achieved savings versus estimated and implementation costs.	Customer responsible for estimating energy savings. Program responsible for verifying energy savings. Onsite visits not required to verify savings.



GridSmart Self-Direct Custom Efficiency program (AEP Ohio)	Ohio	Launched in 2009 along with other AEP Ohio efficiency programs. 7,000 MWh or greater customers or those having multiple locations eligible. Provides rebates for previously completed energy efficiency projects. Self-Direct Custom Efficiency program used to funnel customers into other programs and encourage continuing participation. Program has only internal savings goals.	Incentive amount based on energy savings. \$0.08/kWh saved. Self-Direct projects rebate up to 75% of estimated incentive amount. Two payment options: 1) One-time cash payment, or 2) Exemption on EE rider until incentive amount is recovered. Incentives limited to 50% of incremental project cost.	Customers must submit the application, energy savings estimates, and supporting documentation. Minimum required documentation includes, baseline and installed equipment and components and spec sheets.	Customer responsible for providing energy savings calculations and supporting documentation, including all assumptions used in analysis. Larger projects may require post-project sub metering or other M&V to verify savings. Program conducts necessary M&V.
EPESaver Large Customer Self-Directed Alternatives (EPE)	New Mexico	Currently available but inactive. No participants since inception in 2008. Only 0.7 MW or greater customers are eligible. No specific program goals.	Participants are exempt from portion of EE rider on utility bill. Exemption lasts as long as customer demonstrates that they are making all feasible energy efficiency improvements applicable to their facility.	Customer must submit proposal with engineering study estimating energy savings and supporting documentation.	Customer responsible for estimating energy savings and developing and implementing M&V plan in accordance with IPMVP. Program conducts onsite visits to verify installation of energy efficiency improvements.
Self-Direct Custom Efficiency program (PNM)	New Mexico	Currently available but inactive; no participants since 2008. Only 7,000 MWh or greater customers are eligible. No specific program goals.	Participants earn exemption credits to offset up to 70% of EE rider on utility bill.	Customers must submit application, an engineering study documenting energy savings, equipment specifications, and invoices.	Custom responsible for estimating energy savings. Program conducts M&V for all projects, M&V plan designed on a case-by-case basis. At minimum, Program M&V contractor verifies product purchase and installation, evaluates savings estimates, and validates payback calculations.
Custom Retrofit Program (PNM)	New Mexico	Launched in 2009. Part of Commercial Comprehensive (CC) program, which also includes New Construction and Small Business programs. Goals and savings reported at CC program level. All commercial customers eligible.	Incentive amount based on energy savings. \$0.06/kWh saved up to 50% of project cost or 100% of incremental costs, whichever is lower.	Preapproval typically required. Required documentation includes complete description of proposed project, definitions of the baseline case and details on the proposed equipment (including spec sheets), and detailed cost breakdown by measure.	Customer responsible for estimating energy savings calculations and supporting documentation, including equipment specs, hours of operation, facility characteristics, historical consumption data, and assumptions used in the analysis. Program conducts M&V on all custom projects.



Customized Retrofit Program (PG&E, SDG&E, SCE)	California	Statewide custom offering for measures not offered through prescriptive programs. All C&I customers eligible. Rebates offered for both electric and gas savings improvements.	Incentive amounts based on energy savings. Electric rebates vary by end-use, ranging from \$0.05/kWh to \$0.09/kWh (\$0.15/kWh for some refrigeration). Gas rebate of \$1/therm. Maximum rebate of 50% of project costs. If M&V required, rebate increased 10%, up to an additional \$50,000, to help offset M&V costs.	Preapproval required. Project application must include energy savings estimates and supporting documentation. Customer must submit installation report including project invoices and post-monitoring data (if required) for rebate payment. Operating report required for projects need M&V.	Customer responsible for estimating energy savings. Must use either program energy-savings calculator, or engineering calculations (with supporting documentation) for measures not included in calculator. Customer responsible for conducting M&V, if deemed necessary by program to verify energy savings.
Custom Incentives Program (WE Energies)	Eastern Wisconsin and Northern Michigan	Custom offering for measures not offered through prescriptive programs. All C&I customers eligible.	Incentive amount based on energy savings. \$0.05/kWh up to 40% of project cost. Maximum rebate of \$15,000 per customer annually.	Preapproval required. Customer must provide project description, energy savings assumptions, and energy savings calculations.	Customer responsible for estimating energy savings. Program verifies equipment installation.
Power Saver Program: Custom Technologies (Austin Energy)	Austin, Texas	Custom offering for nonresidential customers in Austin Energy service territory. All C&I customers eligible.	Incentive amount based on kW savings and equipment type. Rebate amounts range from \$175/kW to \$250/kW. Maximum rebate of 50% of total project costs.	Preapproval required. Customer must submit application including project description, energy savings estimates, and supporting documentation. Program must perform site visit prior to installation of new equipment.	Customer responsible for estimating energy savings. Projects with \$50,000 or greater estimated incentive require energy analysis by a professional engineer. Program conducts pre and post installation site visits.
Savings by Design Program (SMUD, PG&E, SCE, SCG, SDG&E)	California	Statewide program offering. Projects limited to new construction and building renovations that add new load. Objective to optimize efficiency at the design stage of construction. Customer works closely with contracted design team.	Incentive amounts based on energy savings. Up to \$50,000 or 75% of incremental cost of upgrades.	Preapproval required. Customer must submit design plan, and letter of intent. Program prepares agreement and notifies customer of estimated rebate amount. After completion, customer must request onsite visit to verify installation.	Program responsible for verifying energy savings. Onsite visits required for all projects to verify equipment installation. M&V conducted for a selection of projects.



### 6.3.1 Program Scope and Goals

Benchmarked programs ranged in maturity from launching as early as 1999 to as recently as 2009. Like Xcel Energy's program, five of the six self-directed programs researched (five of 11 programs total), have customer eligibility requirements based on minimum energy consumption or peak demand. PNM's Self-Direct Custom Efficiency program and AEP Ohio's GridSmart Self-Direct Custom Efficiency program are both limited to customers with 7,000 MWh and greater annual electric consumption. The Energy Trust of Oregon's Self-Direct Custom Efficiency program is restricted to customers with 8,670 MWh or greater annual electric consumption. Michigan's statewide Self-Directed Optimization program is limited to customers with at least one MW in peak demand at a single site or at least five MW aggregated across sites, and EPE's Large Customer Self-Directed Alternatives program is limited to customers with at least 0.7 MW in peak demand. These eligibility requirements are generally less restrictive than Xcel Energy's Self-Directed Custom Efficiency program, where customers must consume at least 10,000 MWh and have an aggregate peak demand of two MW. In addition, PSE's Large Power User Self-Direct limits eligibility to customers who are on their own transformer.

Most of the benchmarked programs (nine of 11) are solely utility-administered. Oregon's Self-Direct Custom Efficiency program is co-administered by the Energy Trust of Oregon (a nonprofit organization), and the Oregon Department of Energy. Michigan's statewide Self-Directed Optimization program is administered by the individual utilities; however, the Michigan Public Service Commission creates all program rules, sets program goals, and develops standard program forms to be used across all utilities. While the two California benchmarked programs are administered by the individual utilities, they also subscribe to a standard statewide approach. Two utility program managers mentioned using a third-party vendor to implement the program.

We were unable to find specific program goals for most benchmarked programs. Interviewees of Oregon's Self-Direct Custom Efficiency program, PNM's Custom Retrofit program, and EPE Large Customer Self-Directed Alternatives program reported that they do not have program-specific goals. In PNM's case, goals are only set and reported at the business portfolio level. From 2009 through 2010, Oregon's Self-Direct Custom Efficiency program achieved 207,000 MWh in electric savings and 706,000 MMBtu in natural gas savings. The program manager for AEP Ohio's Self-Directed program mentioned that they have only internal program goals, and none that they are required to file or meet. Michigan's Self-Directed Optimization program requires that participants achieve a one percent reduction in their overall energy consumption, which is the same target for the state's energy efficiency programs overall. Finally, Puget Sound Energy's Large Power User Self-Direct Custom Efficiency program, which is implemented in four-year cycles, has a goal of 42,000 MWh for the 2010-2013 program cycle. The program achieved over 34,000 MWh during the 2006-2009 cycle.

Notably, AEP Ohio's GridSmart Self-Direct Custom Efficiency program is completely retrospective, offering incentives for only previously completed projects. Launched in 2009 with the startup of AEP Ohio's other GridSmart program offerings, the Self-Direct Custom Efficiency program was designed to provide a cost-recovery mechanism for self-directed energy-saving projects that were completed recently prior to utility incentives becoming available. Even though the projects were all completed before the existence of the program, AEP Ohio is permitted to claim energy savings resulting from these projects toward their portfolio goals. According to the program manager, one of the primary objectives of the Self-Direct Custom Efficiency program is to act as a funneling tool for other AEP Ohio programs, to promote future participation from customers who have recently



completed energy efficiency improvements. FirstEnergy's Ohio utilities also just recently launched a similar program (called the Mercantile Customer program), where 7,000 MWh and over customers are eligible to receive either a cash rebate or an exemption from their conservation rider for energy savings resulting from a previously completed project.

Also of note, PNM's Self-Direct Custom Efficiency program and EPE's Large Customer Self-Directed Alternatives program are currently offered, but do not have any active participants. PNM's program has not had any participants since 2008, and EPE's program has not had any participants since its inception in 2008. New Mexico's regulatory body mandates that utilities offer a self-directed option for customers who wish to opt-out of participating utility programs and paying their conservation rider used to fund those programs. EPE's program manager explained that while EPE offers a self-directed option, the utility does not actively promote the program participation requirements are very strenuous. As a result, they have seen minimal interest in the program.

### 6.3.2 Program Design, Measures, and Incentives

Benchmarked programs can generally be summarized as falling into one of two categories: 1) programs designed specifically to allow customers who have the capability and desire to implement projects internally to recapture a portion of their utility conservation charge, and 2) custom utility programs where the customer is responsible for estimating energy savings and/or verifying the savings from their project. All of the benchmarked programs with "self-direct" included in the program name fall into the first of these two categories. Our research identified several similarities as well as some differences between programs in measure eligibility requirements, the participation process, and how incentives are structured and calculated.

The programs researched generally offer incentive custom measures not incentivized through other utility or more complex projects involving interactive effects and building optimization. Typical project requirements include that it saves energy and/or reduces demand, the savings persist for a specified number of years, and that the project passes a cost-effectiveness test. Some programs have requirements on the length of the payback period. Two utilities require a payback period between one and seven years, while another requires a payback period of between one and ten years. Only one benchmarked program has specific requirements on the amount of savings that need to be achieved by a project.

#### a. Incentives

Our research identified two primary incentive structures: 1) cash rebates, and 2) exemptions to conservation riders applied to utility bills. Programs offering rebates include California's Customized Retrofit program, California's statewide Savings By Design program, WE Energies Custom Incentives program, Austin Energy's Power Saver Custom program, PNM's Custom Retrofit program, AEP Ohio's Self-Direct Custom Efficiency program, and Puget Sound Energy's Large Power User Self-Direct Custom Efficiency program. All custom rebates are performance-based up to a maximum dollar amount, calculated based on the energy savings achieved by the project. Custom rebate amounts typically range from \$0.05-\$0.08/kWh or \$175-\$250/kW for electricity-saving projects. California's Customized Retrofit program offers also a rebate of \$1/therm for gas-saving projects. Compared to Xcel Energy's Business DSM program offerings, these incentive levels are more comparable to the standard Custom program. Custom rebates for benchmarked programs are typically limited to 50 percent of the total project costs. Only one benchmarked program offers increased rebates to compensate for M&V cost similar to Xcel Energy. California's



Custom Retrofit program increases rebates by ten percent, up to an additional \$50,000, if the program requires the customer conduct M&V activities for their project.

All of the self-directed programs researched structure their incentives around individual customer conservation charges. All but one of the “self-direct” labeled programs provides incentives in the form of exemptions from conservation charges. These programs include Oregon’s Self-Direct Custom Efficiency program, Michigan’s Self-Directed Optimization program, AEP Ohio’s Self-Direct Custom Efficiency program, and El Paso Electric’s Large Customer Self-Directed Alternatives program. Instead of a lump-sum rebate check, participants are exempt from all or a portion of their conservation charge on their monthly utility bill until the incentive amount is recovered. Xcel Energy proposed a similar incentive structure in the original filing of the Self-Directed Custom Efficiency program; however, the program plan was ultimately revised to offer increased performance-based rebates. Incentive levels for these programs are most commonly based on project costs, in some cases up to 100 percent of project costs. During the exemption period, participants are typically not eligible for other utility conservation programs funded by the portion of the conservation charge from which they are exempted. PSE’s Large Power User Self-Direct Custom Efficiency program is the only self-directed program which does not offer an exemption to conservation charge; however, program incentives are still structured around conservation charges. During the first-two years of each four-year program cycle, eligible customers are guaranteed access to their individual estimated conservation charge throughout the full program cycle to fund energy efficiency projects up to 100 percent of project costs. After the first two years, the remaining unclaimed conservation charges are pooled and put up for competitive bid for additional projects.

*b. Application Process and Required Documentation*

The application process and types of documentation required to receive an incentive is generally consistent across benchmarked programs. Notably, Xcel Energy’s Self-Directed Custom Efficiency program provides among the most detailed instructions for how to participate available online. Benchmark programs generally require preapproval of projects. At minimum, applicants typically need to provide a detailed description of the proposed project, existing equipment and proposed equipment manufacturers specifications, building description, energy savings calculations and supporting assumptions, and projected project costs. After project completion, final invoices or cost documentation is required before the incentive is paid.

Program managers interviewed generally reported having to work closely with customers and vendors to obtain quality project proposals with all required documentation. One program manager noted having to routinely follow-up with applicants to gather additional information. He/she emphasized the importance of effective communication between all of the different stakeholders involved (e.g., customer, vendor, account managers, program staff) in obtaining quality project proposals. Another program manager echoed this sentiment, attributing the success of their application process in part to customer relationships with dedicated utility account managers and utility energy efficiency engineers.

Like Xcel Energy’s, Puget Sound Energy and El Paso Electric also require the customer to prepare and submit a monitoring and evaluation plan to verify project savings. EPE’s Self-Directed Alternatives program requires M&V plans to adhere to the International Performance Measurement and Verification Protocol (IPMVP). In addition, Michigan’s Self-Directed Optimization program requires participants to submit biannual progress reports documenting achieved savings





and implementation costs, while California's Customized Retrofit program requires submission of an operating report for projects requiring M&V.

### 6.3.3 Program Impacts

One of the defining features of Xcel Energy's Self-Directed Custom Efficiency program is that the customer is responsible for estimating and verifying the energy savings achieved by their project. All but one of the benchmarked programs require the participating customer to estimate project energy savings. Programs typically require participants to submit an engineering analysis with equipment specifications and all assumptions used in the energy savings analysis. California's Custom Retrofit program provides an energy savings calculator, which must be used for some eligible custom measures. For measures not included the calculator, customers are allowed to submit their own engineering calculations. Austin Energy's Custom Technologies program also requires that a professional engineer be listed on all project proposals with an estimated incentive of over \$50,000. Internal program engineers are generally responsible for reviewing energy savings calculations for reasonableness and consistency with standard engineering practices.

Benchmarked programs are less homogeneous in their measurement and verification requirements. Most, but not all, programs require some level of additional measurement and verification other than verifying that proposed equipment is installed. Three of the 11 programs researched hold the customer responsible for all required M&V activities, including PSE's Self-Direct Custom Efficiency program, EPE's Self-Direct Custom Efficiency program, and California's Customized Retrofit program. While PSE requires the customer to develop and implement their own M&V plan, the program's manager noted that M&V activities are often collaborative efforts between the custom and program. As one example, the program has lent their data logging equipment to customer to gather usage data. All of the other programs conduct necessary M&V activities internally or contract a third-party M&V contractor.

We were only able to find net-to-gross (NTG) adjustments for two of the benchmarked programs (both custom utility programs). PNM's uses a NTG ratio of 0.77 for its Commercial Comprehensive program, which includes its Custom Retrofit program. This estimate was based on self-reports from program participants. SDG&E's Savings By Design program applies NTG ratios by end-use, ranging from 0.70 to 0.84, based on estimates from California's Database for Energy Efficient Resources.

### 6.3.4 Program Recruitment and Participation

Similar to Xcel Energy's Self-Directed Custom Efficiency program, participation in benchmarked programs is dominated by larger customers with dedicated utility account representatives. For most self-directed programs, outreach to customers and vendors is largely project-specific and built on existing utility relationships. Below we summarize our findings on outreach activities to customers and trade allies, as well as reasons for choosing self-directed offerings over other utility programs, and barriers to participation.

#### a. Outreach to Customers

Most program managers we interviewed reported limited program-specific marketing efforts. Similar to Xcel Energy, outreach to prospective customers is largely driven through account manager relationships. A few self-directed program managers indicated they really do not directly *market* their self-direct offerings to customers; rather the program is just "put out there" for





eligible customers who are interested. One main reason for the lack of marketing is the limited number of customers who are eligible for these programs. Another reason is because prospective projects are often eligible for rebates under other utility programs. Oregon's Self-Direct program conducted a bill insert marketing campaign when the program initially launched, but have done minimal marketing since because the high level of interest in the program. In addition to using utility account managers, PNM's Custom Retrofit program uses, bill inserts, newsletters, mass advertising, and trade ally relationships to raise awareness with customers. Finally, while AEP Ohio's Self-Directed program manager said that their most effective marketing channel is account manager relationships, they also promote the program through trade shows, newsletters, and bill inserts.

Comparable to Xcel Energy, most benchmarked programs provide limited program materials on their website beyond instructions on how to begin the participation process, presumably as method to monitor and screen customer interest due to the complexity of the participation process. With the exception of a few custom utility programs, most benchmarked programs do not have program application forms available online. Instead, most organizations provide a description of the program and direct interested customers to their utility account manager or other utility contact.

#### *b. Outreach to Trade Allies*

While customers often contract vendors to implement projects, few programs conduct any program-specific outreach activities to engage trade allies. Most organizations do; however, engage trade allies in some capacity at a portfolio level. Several organizations list contractors and vendors who participate in their programs on their website, along with the vendor's area of expertise. The Energy Trust of Oregon also features participating contractors in case studies and news releases. California's Savings by Design program provides trade allies and customers with a suite of energy efficiency design tools and workshops available free online. None of the organizations we research specifically provided information on M&V providers. Also, none of the programs researched offer financial incentives directly to participating vendors.

Two programs we researched have specific requirements to become participating vendor. Michigan's Self-Directed Optimization program requires participating vendors to meet qualifications specified by the Michigan Public Service Commission. The program reached out to energy optimization vendors during the programs design to help develop vendor qualifications and an approval process. To date, the program has not had any companies apply to be a participating vendor. Program staff are currently investigating reasons why there has been no interest from vendors. PNM's Custom Retrofit program requires trade allies to sign a participation agreement and to attend trainings. Currently, PNM has around 100 participating vendors, mainly lighting and HVAC installation contractors.

#### *c. Reasons for Participating in Self-directed Programs*

Similar to Xcel Energy's program, many projects run through the benchmarked self-directed programs would also be eligible under other utility program offerings. Feedback from program managers of self-directed programs suggests that there are a variety of reasons why customers choose to participate in one program over another. One of the most important factors discussed is how incentives are structured. As mentioned above, all of the self-directed programs structure their incentives around customer's own conservation charge responsibility, most commonly through an exemption on their utility bill. Many larger businesses with internal engineering



capability are more interested in recapturing their energy conservation charge than pursuing utility rebates for projects they can commission in-house. One program manager noted that many of their largest customers feel like “they don’t get back what they are putting in” in reference to their conservation charge. In addition, another self-directed program manager explained that customers find peace of mind in knowing that they have a pool of money (from their own conservation charge) available over an extended period of time to fund projects. Most program projects have lengthy lead periods and participating businesses generally have longer capital plans.

In addition to the incentive structure, interviewees discussed a few other motivations for why their customers choose to participate in their self-directed program over another program offering. One program manager mentioned that some customers are concerned about confidentiality, and that they do not want their competitors to know what they are doing. The same interviewee also noted that a sense of pride, or an attitude of “we know we’re doing”, sometimes plays into the decision-making. Another program manager pointed out that their Self-Direct Custom Efficiency program offers a higher maximum rebate than their standard C&I offering. While their customers can recover up to 100 percent of project costs through the Self-Direct Custom Efficiency program, the standard C&I offering limits rebates to 70 percent of project costs.

#### *d. Barriers to Participation*

Interviewees reported few major barriers to participation. Because most target customers have dedicated utility account managers, project leads can be more readily identified than for some other types of energy efficiency programs. Also, because of their size and level of energy uses, customers targeted for these programs generally more energy savvy and are more likely to have engineering and/or facility management staff in-house.

Still, a few program managers did mention some barriers to participation or challenges for their program going forward. The most common concern, mentioned by three interviewees, is that they have captured most of the low-hanging fruit and will soon be running out of project opportunities. A couple of program managers also said that the length of time needed complete projects and receive an incentive can be a barrier to participation for some customers. Finally, one program manager is a low prioritization of energy savings among some businesses.

## **6.4 CONCLUSIONS**

Compared to benchmarked programs, Xcel Energy’s Self-Directed Custom Efficiency program is unique in its design: Xcel Energy’s program is one of only a few that requires customers to develop and conduct their own M&V plan, and only one other program offers increased rebate levels if M&V is required. In addition, Xcel Energy’s incentive structure is unlike any other self-directed programs across the nations that target only the largest business customers, which typically structure incentives around a mechanism for recovering an individual’s own conservation charge. Compared to other self-directed programs, Xcel Energy also has among the most restrictive eligibility requirements.

However, the program is largely consistent with standard implementation practices: Xcel Energy’s program participation processes and outreach approaches to customers and trade allies is comparable to most of the programs researched. Interviewed program managers also face many of the same challenges as Xcel Energy, including obtaining quality project proposal and the length of the participation process.



## APPENDIX A: PROGRAM STAFF INTERVIEW GUIDE

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### Interview Objectives

- Understand program design, including recent changes and proposed changes.
- Characterize program activities, inputs (resources), outputs, short to medium term outcomes and long term outcomes to develop the program logic model
- Identify important influences on program operation and achievements
- Identify issues that should be incorporated into evaluation activities, including specific technical assumptions for investigation.
- Characterize program operations including staffing, outreach activities and marketing, types of customers participating and not participating and role of the trade allies
- Define participants and non-participants.
- Identify program areas that are working well and opportunities for improvement

### Describe your role within Xcel Energy and with the program(s)

- 1) Responsibilities or role regarding the program
- 2) when became involved
- 3) how have responsibilities/role changed over time
- 4) on average, what percent of your workload is spent on the program monthly?
- 5) Who do you interact with (others) regarding the program?
- 6) other Xcel Energy staff, trade allies, customers, organizations, peer utilities
- 7) roles and responsibilities of these other persons
- 8) success of interactions; suggestions for improvements

### Program Design and Marketing

- 1) Who was involved in the program design? Was the program patterned after another program(s)? If so, were any modifications made to improve the program design?
- 2) How has the program design changed in the past year? Why did you make these changes?
- 3) What are the program goals? How are program goals communicated internally and externally? How well has the program been performing in relation to goals? Why?



- 4) How does the type of equipment being purchased and installed through the program vary? Why do you think there is this variation?
- 5) How do you define participants, both prescriptive and custom? How do you define non-participants? What seems to lead to lost opportunities? Are your participants typically new to Xcel Energy CIP/DSM programs?
- 6) Are there similarities between the projects that participate in the program, or is each project unique?
- 7) What are the target markets within the commercial sector for the program? How is this changing?
- 8) What marketing activities are being used to reach the different target markets? How have these activities changed in the past year? How effective have each of these methods been in identifying and enrolling potential participants? Why?
- 9) What are major barriers to participation?
- 10) Why do you think customers choose to participate or not participate?
- 11) What are the comparative strengths of these reasons?
- 12) In your opinion, do the current marketing efforts adequately reinforce customers' reasons for participation and/or minimize reasons for nonparticipation?
- 13) Are there sufficient program resources to meet the programs goals? (Probe: Examples of resources are staff resources, incentives, program partners support (co-op ads, spiffs), and marketing materials.)

## Program Operations

- 1) What are the participation steps from the customer's perspective? Can customers enter the program via various methods (i.e., study-driven)? Have these changed over time?
- 2) What is the overall quality/accuracy of the customer applications that you receive? Have you taken any steps recently to improve the quality of these applications? What improvements are needed but currently unavailable?
- 3) What is the level of customer satisfaction with the various aspects of the program (participation process, program application, measure performance, rebate processing, etc.)? How can satisfaction be improved?
- 4) Describe your communications and working relationship with trade allies. What support is provided through the program to trade allies? (Probe to see if systematic or ad-hoc.) In what areas could this be improved?
- 5) How are trade allies recruited into the program? What makes your trade allies unique in their offerings due to the program?
- 6) How are you seeing the market transform through your trade allies and customers?



- 7) What aspects of the program implementation are working well? Which are not working well?
- 8) Do the incentive levels seem appropriate? If not, why not? What, if any, changes in the incentive levels do you think may be needed? *(Probe about recent changes in incentive levels as relevant by program.)*
- 9) What do you see as future challenges for the program?
- 10) How are participants and non participants (i.e., marketing leads) tracked? Is the system used for tracking helpful or not? What would be helpful to track that is not currently available? How easy is it to use the tracking system?
- 11) How do you identify prospective customers for the program?

**Program impacts—(Do not ask for the Colorado Self-Direct Custom Efficiency program)**

- 1) *(Relevant for Energy Efficiency Engineers and Product Managers)* Next I'd like to ask you about various technical inputs into your current tracking system estimates for gross energy and demand impacts. Could you please briefly summarize your approach for these inputs and any concerns/issues you may have with the input. Capture across the specific pieces of program equipment.

Inputs	Summary of Approach	Concerns/issues (if any)
Baseline equipment		
Replacement equipment specifications (e.g., capacity, nominal rating of equipment capacity, energy efficiency ratio)		
Operating hours		
System coincidence factors		
Load factors		
O&M savings and/or costs		
Equipment/measure life		
Persistence, rebound, snapback, and degradation		
Incremental costs		
NTGR (Free-ridership) and spillover rate		

- 2) Have these inputs changed over the course of the program? If so, how?
- 3) What level of rigor do you feel is needed around these technical assumptions, e.g., which are the most critical with respect to verification?  
Are there any plans to make changes to these inputs moving forward? If so, how?



- 4) For custom projects, how is additional information gathered to determine impacts? How is this process working? (Interviewer note: Probe for any concerns or improvements in processes. The 2010 evaluation found concerns with turnaround times for approval of custom projects, but Xcel Energy has been working to improve this across the board and has had success doing so as measured by metrics.)

## Evaluation

- 1) What do you hope to learn from the evaluation?
- 2) *(Probe if not mentioned in 1 or 2)* Do you have any specific questions that you want to make sure are included in primary data collection activities with market actors. Probe about trade ally interviews, participant and non-participant surveys, the benchmarking study and the engineering review.

## Inputs for Logic Model.

This next series of questions will be used to supplement the program documentation to develop the program logic model. The program logic model is a visual representation of the program's theory. The program theory articulates what the program is trying to achieve, through what interventions, and with respect to which market actors.

- 1) What are the primary activities the program is expecting to conduct? (Interviewer note: Probe about activities with trade allies, other stakeholders and customers as applicable. If needed give examples such as recruitment and training of contractors, recruiting customers and installing high efficiency equipment or performing audit.)
- 2) For each of the activities we just discussed, what are the outputs of the activities? Outputs are direct, immediate results from the activity and often can be contract metrics for the program. Examples include number of trade allies participating, number of incentive equipment or marketing activities conducted.
- 3) Now for each program activity and corresponding output, what are the expected outcomes? For example, how do you expect the program to influence trade allies business practices? How is the program expected to influence customer awareness and behaviors? (Probe to distinguish outcomes that are in the program's control from those that are not)
- 4) Now for each of the outcomes we just discussed, can you tell me if you think this will be a near-term outcome of the program in the next 12 months or if this is a longer-term outcome of the program (2-3 years out)?
- 5) Now I would like to step back through each program activity with you and discuss the resources that are needed to support each program activity we talked about. (Interviewer note: Walk them through each program activity.) Examples of resources are staff resources, incentives, program partners and marketing materials.
- 6) What are other key outputs you have developed for the program that we have not already discussed? Examples include a tracking system or application materials.



### Other Suggestions for Improvement

- 1) marketing
- 2) staffing
- 3) resources
- 4) training
- 5) quality control
- 6) program tracking system
- 7) communication
- 8) evaluation





## APPENDIX B: TRADE ALLY INTERVIEW GUIDE

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### Interview Guide Format

This interview guide is for trade allies that have participated within the last two years in Xcel Energy's DSM business programs being evaluated in 2011. This includes both trade allies that have been fairly active in the program as well as 'informed' non-participants. Informed non-participants are trade allies that have completed a project through the program, but have had very limited involvement. An example would be a trade ally who has done one or two projects through the program or who completed projects in 2010, but not 2011 to-date. For the Self-Directed Custom program, informed nonparticipants would include any vendors who have submitted an application but have not yet completed a project through the program.

First the guide summarizes the key researchable issues that the interviews will explore across all the programs and at the program-specific level. Next, the interview guide presents the specific questions to be asked. Trade allies will only be asked about the relevant program, indicated by [program] when name of the program is to be stated or referred to as the program in the below guide. Specific questions and probes only relevant for one program are noted at the beginning of the question with the program indicated in (). There are also program specific modules, which will only be asked for that program.

Because senior staff will be conducting interviews, trade ally interviews will be semi-structured. Therefore the following interview protocol is only a guide to ensure certain topics are covered, but evaluators will follow the flow of the interview and modify questions as needed to fit the interviewee's circumstance.

Below we list the key researchable questions the trade ally interviews are intended to answer. This is followed by the actual script and questions to discuss with trade allies.

### Overarching Key Researchable Issues

- How are the programs leveraging the trade ally infrastructure and are there areas for improvement?
- How satisfied are vendors with communications about the program? Are any changes needed?
- What impact have the programs had on the relevant commercial market in terms of greater availability of efficient products or program services?
- Per trade ally experience with other utility programs, is there anything trade allies would suggest to Xcel Energy?
- What are the opportunities to streamline the application and rebate process?
- Are trade allies effectively conveying program information and encouraging customer participation? What additional training or support from Xcel Energy do trade allies need to more effectively support the programs?
- How effective are trade reward promotions at influencing trade referrals of the program?



- How effective is the marketing of the programs? Are there customer segments that marketing efforts should specifically target? What are strategies for effectively marketing the program to identified customer segments such as small/medium business? Is more program-specific marketing needed?
- Are rebate levels and program equipment/services optimally set to encourage participation while maximizing the cost-effectiveness of the program?
- What is the customer decision-making processes regarding participation in Xcel Energy's Business DSM Programs? What are customer barriers to participation?
- How receptive are customers towards energy efficiency measures given the current economic conditions?

### **Motors/VSDs key Researchable Issues**

- How informed are customers about program equipment and rebates?
- What barriers prevent customers from purchasing program equipment?
- What is the impact of the general economy, versus other factors?
- Is it difficult to obtain motors specification information?
- Are sales of VSDs projected to increase, decrease or remain level?
- Have vendor stocking or sales practices changed due to the new federal standards for motors?
- How effective are trade incentives for motors? Should there be any changes to the current structure?
- What would cause vendors to specify program equipment more often?
- How important are Xcel's vendor incentives in their equipment recommendations? How well is this program element working for vendors?

### **Minnesota and Colorado Commercial Heating Researchable Issues**

- How can the program encourage participants that conduct a boiler tune-up or install efficiency enhancements to continue with the program by replacing larger equipment?
- What are the barriers to conducting boiler tune-ups and how can the program best overcome them?
- Has trade ally experience with the program changed the way trade allies conduct tune-ups? What influence does the program have on participants that have on-going service agreements for the boilers in their facility? What could Xcel Energy do to influence increased efficiency during any tune-up? During service agreement tune-ups?
- Is there customer demand for other heating equipment currently not included in the program?



- Are the sales of high efficiency boilers and boiler tune-up services expected to increase, decrease, or remain the same?
- How effective could a trade ally incentive be? What does an effective trade incentive look like? (INTERVIEWER NOTE: Xcel Energy is considering rolling out trade incentives at 10 percent of customer rebate for Commercial Heating).
- (IN COLORADO) How effective is the Plan B option in encouraging the replacement of “young” boilers?
- (IN COLORADO) Are trade allies aware of the eligibility requirements for their customers, specifically gas transport customers?
- (IN MINNESOTA) How can the program encourage more participation in the Heating Efficiency Optimization Study? Are customers familiar with the Heating Optimization Study?
- Is an incentive for trade allies’ participation in the program needed? If so, what is the best way to structure this incentive?
- If the program required pre-qualification in order to conduct tune-ups, would trade allies participate in the pre-qualification process?
- What do trade allies see as emerging issues or opportunities (e.g., “next big thing”) for enhanced efficiency that they’d like Xcel Energy to consider when developing future program options?

### **Self-Directed Custom Researchable Issues**

- How much experience do participating vendors have with implementing custom energy efficiency projects and conducting measurement and verification of energy savings?
- What types of relationships did vendors have with participating customers prior to participating in the Self-Directed Program? Have they performed similar services for the customer in the past?
- What level of involvement do vendors have at each stage of implementation?
- How familiar are customers with the measurement and verification process?
- Are the increased incentive levels sufficient to encourage customers to conduct M&V on their own or hire a contractor to conduct M&V?
- What barriers, if any, have vendors faced in progressing from one stage to another throughout the participation process?



## Introduction

My name is \_\_\_\_\_, with [company]. Xcel Energy has hired us to evaluate its [relevant program]. The study will provide recommendations on how they can improve the program for you and your customers. I would like to ask you some questions about your experience with the [program]. Your feedback on the program is extremely valuable as Xcel Energy wants to improve your experience and satisfaction with the program as well as your customers. As part of this study we are talking to approximately ten businesses such as yourself that work with the [program] as well as customers who have participated in the program, and those who have not. This interview should take approximately 30 minutes of your time. May we take some time now to do the interview? (If no, when would be a convenient time?)

**NAME:** \_\_\_\_\_

**COMPANY:** \_\_\_\_\_

**TITLE:** \_\_\_\_\_

**PHONE:** \_\_\_\_\_

**INTERVIEWER:** \_\_\_\_\_

**DATE COMPLETED:** \_\_\_\_\_ **LENGTH:** \_\_\_\_\_

## Company Profile

*Research company website before interview to learn about company.*

F1. What is your primary role(s) in the supply and delivery of [relevant program equipment or service] to the commercial customer market? (Examples include manufacturer, manufacturer representative, wholesale distributor, engineering firm, contractor, energy services/management firm, etc.)

F2. Could you please tell me specifically the types of [program] equipment or services you sell/specify for commercial customers? (Probe for the specific types, sizes and efficiency levels as applicable.) (Self-Directed Custom: probe on whether provide M&V services) Note: Commercial refers to all businesses in Xcel Energy's territory that qualify for the program.

F3. What percentage of your commercial business is:

Planned Equipment Replacement (for currently operating equipment)? \_\_\_\_\_%

New Equipment Purchases (for new buildings or processes) \_\_\_\_\_%

Failed/Emergency Equipment Replacement \_\_\_\_\_%

(HEATING ONLY) Maintenance Services (such as boiler tune-ups) \_\_\_\_\_%



Other (specify)\_\_\_\_\_%

F3b. (HEATING ONLY AND IF CONDUCTS MAINTENANCE SERVICES) Do you have on-going service agreements with any of your customers? If so, how many?

F4. What percent of the projects that you completed in the last 12 months were for small or medium businesses in terms of energy usage versus large businesses? We are defining small businesses as those with 100 or less employees. Medium businesses have over 100 employees. Large businesses are those that have an Xcel Energy account manager.

### **Program Awareness and Involvement**

P1. Could you describe for me your participation in [Program]? Probe for reasons trade ally participates at the reported level of activity.

P2. When did you first get involved with [Program]?

P3. How did you first hear about [Program]? (Do not prompt. Circle all that apply)

- Through Xcel Energy staff (probe if account manager, channel manager, product manager, etc.)
- Attended workshop or training seminar and learned about the program
- Through a manufacturer/supply house
- Learned about the program at trade show
- Saw/heard ads for the program (Where?\_\_\_\_\_)
- Attended a program-sponsored information session
- Magazine, newspaper, TV, radio, on-line advertising, or billboards (morning, evening, weekend,)..etc
- Xcel Energy Website
- Other Xcel Energy marketing efforts, such as a newsletter, email or mailing
- Business Colleague
- Business Customer
- Other \_\_\_\_\_
- Don't know/unsure

P4. Why did you decide to participate/get involved in the program? (Do not prompt)]

P4a. What is the primary benefit(s) you receive from [Program]?



P4b. When was the last time you completed a project through/sold equipment through the program?

P4c. (IF HAVEN'T COMPLETED A PROJECT/SOLD EQUIPMENT IN LAST YEAR) Why have you not completed a project through the program recently?

P5. Do you feel there are adequate program communications? Are any changes needed? How do you like to receive communications about the program?

P6. Who do you typically interact with from the program? For what purposes? How would you describe your interactions with program staff? (minimal, helpful, very involved, probe to characterize)?

P7. What additional support could the program offer that you would find beneficial? Are there any additional tools that the program should offer? (Self-Directed Custom: What level of support would you expect from a program such as Xcel Energy's Self-Directed Custom program?)

P7a. (IF TRADE INCENTIVE NOT MENTIONED IN P7) If Xcel Energy offered an incentive for trade allies, how would that change your participation in the [program]? What would be the best structure for this incentive?

P8. Are there other types of energy efficiency programs that you participate in /are aware of? If yes, do you think there are lessons learned for Xcel Energy from these other programs?

### **Customer Interactions**

C1a. Do you actively promote [Program]? If yes, how?

C1b. What percent of your customers already know about [Program] before you tell them about it? Has customer program awareness increased or decreased in the past 12 months? Why do you think this is?

C1c. Who (title/position) do you need to work with in order to get interest and close the sale? What info do they seek from you? Why do customers call you – equipment failure, maintenance/service call, warranty work, primary interest in energy efficiency, other?

C2. What are the primary reasons customers typically want to install program-qualifying equipment/conduct program-eligible services?

C2a. What factors most influence customer project decision-making? Ask of mentioned factors: which are the one or two most important in influencing customers' decisions? Probe for differences among customer segments and differences for new construction and retrofits.

If needed, examples of factors include the following:

- *Fits standard design*
- *Overall cost of the project*
- *Availability of a rebate through utility program*



- *Information and education provided by utility on the benefits of energy-efficient technologies or services*
- *Saves energy costs*
- *Helps the environment*
- *Shows good corporate citizenship*
- *Meets payback criteria*
- *Impact on company financials*
- *Recommendation of manufacturer, supplier, contractor, etc.*

C3. On a scale of 1 to 5 where 1 is very difficult and 5 is not at all difficult, how difficult do you find it to sell [high efficiency program equipment or service] to your customers?

C3a. And why do you say that? (Probe to understand why the program equipment or service is easy or difficult to sell for respondent and why there are “lost opportunities” for Xcel Energy (e.g., projects that are not high efficiency that could have been). Characterize customer participation barriers (e.g., incremental cost of efficient high efficiency equipment, too long of a payback period, rebate application process, etc.) to the extent possible. If not mentioned, probe specifically about the effect of the slower economy on customers’ decision to participate in program.)

C4. What are the primary reasons customers typically do not want to participate in the program? Do these reasons vary across different customer segments? (PROBE: small vs large customers)

C5. What can be done to increase the number of participating customers in the program? Probe about managed accounts (large customers) versus small and medium size customers.

C6. What do you think are the main benefits your customers receive by participating in [Program]?

C7. Are there other opportunities to promote energy-efficient products and services to business customers that the program is not currently addressing?

C8. Would you like to see the program do more direct or specific marketing to customers eligible for the program? If yes, what kind of marketing would you like to see added? [For Motors and Drives, probe specifically about magazines Xcel Energy should use/subscribe to for placing program-specific advertising]. For heating explore the option for joint marketing efforts between the trade and Xcel.

## **Program Procedures**

E1. On a scale of 1 to 5 where 1 is ‘very difficult’ and 5 is ‘not at all difficult’, how would you rate the difficulty of completing Xcel’s program applications? Why do you give this ranking?

E2. What is your involvement with the application portion of the program? What is working well about the application process from the customer’s point of view, if anything? Your point of view? How would you like to see the application process improved? [MOTORS] Probe to see if specifications requirements are a problem.





E3. Are the customer rebates offered through the program adequate? How would you like to see the rebate structure revised?

E3a. (HEATING equipment (not tune-ups) and MOTORS) Are you aware that the program changed its rebate levels in 2010? Has this change affected your communications with customers? Has it affected customer interest in the program?

### **Motors and Drives Specific Questions**

M1. Are there components of the program that are confusing to you? (If YES) What do you find that is unclear or confusing about Xcel's program?

M2. What tools/resources do you use to promote the higher efficient equipment? Do you use any of the tools/resources that Xcel Energy makes available to you? Why or why not?

M3. What is the biggest challenge that you face with the motors/drive program?

M4. What do you need from the program to assist you in promoting motors and drive equipment? Are there any marketing materials or analytical tools (feature sheets, calculation spreadsheets) that would help you to sell/specify program equipment?

M5. How often do you do a motor inventory /assessment planning for your customers? An example of this is how many motors a customer has and what of their stock they should replace/repair or rewind.

M6. Have you received any incentive payments from Xcel Energy for your motors sales or specifications?

- (If YES) Please describe what you have to do to receive these incentives.
  - How well is this process working for you?
  - How important are these incentives to your promotion of program motors? Would you say they are: extremely important, very important, somewhat important, not very important, or not at all important?
- (If NO) Why haven't you received any payments? Probe to see if unaware of incentives, payments not worth effort, etc.

M7. Have you ever heard from a customer or Xcel Energy staff that you mistakenly recommended or installed equipment that did not qualify for Xcel's rebates?

### **Commercial Heating Specific Questions**

H1. (IF CONDUCT TUNE-UPS) Does every boiler tune-up you perform, regardless of whether it goes through Xcel Energy's rebate program, include all of the items on the Xcel Energy checklist? Do tune-ups vary in any other way depending on if they receive a rebate? If yes, how do they differ?

H2. (IF TUNE-UPS DIFFER) Are the customers that receive a tune-up rebated by Xcel Energy aware of this difference? How do you communicate this difference to them?



H3. Did you conduct boiler tune-up services before your participation in Xcel Energy's program? Has there been any change in your tune-up practices offered outside of the Xcel Energy program **as a result** of your participation in the program? If yes, what changes?

H4. (IF HAS SERVICE AGREEMENTS) Has your participation in the program changed the way you work with customers that have on-going service agreements?

H5. How much "follow-up" do you do with customers where you conduct maintenance or replace parts (e.g., conduct a tune-up or replace a steam trap)? Do you use these opportunities to identify boilers that should be replaced?

H5A. (IF PERFORMS TUNE-UPS) Does the tune-up rebate eligibility of every other year serve as a reminder to customers that it's time to do a tune-up?

H5B. Do you typically contact customers to tell them it's time for a tune-up, or do you wait until they call to schedule an appointment? Who usually brings up the rebate – you or the customer?

H6. (IN COLORADO) How effective is the Plan B option in encouraging the replacement of boilers? Is 25 years an appropriate age limit? Are the incentive amounts effective at convincing customers to replace working boilers?

H7. (IN COLORADO) Are you aware of when your customers are "gas transport" customers (i.e., buy natural gas from a third party and have it distributed by Xcel Energy pipelines)? Does the sales process with these customers differ from other customers?

H8. (IN MINNESOTA) Minnesota offers rebates for conducting a Heating Optimization Study (explain in detail if necessary). How can the program encourage more participation in the Heating Efficiency Optimization Study? In your opinion, what benefit do customers receive from conducting an Optimization Study?

H9. If Xcel Energy required all tune-up providers participating in the rebate program to become pre-qualified in order to be eligible for rebates, would you apply? If no, why not? (Pre-qualification might consist of attending training and pre-qualified vendors might be listed on the Xcel Energy website and the only ones permitted to perform advanced tune-ups that include assessing additional energy-savings opportunities and offer a larger rebate.)

### **Self-Direct Specific Questions**

S1. Can you please describe your involvement with each stage of the participation process? (Probe on submitting application, estimating savings, developing M&V plan, conducting baseline measurement, post-measurements).

S2. Did you experience any challenges or difficulties in progressing through the participation process, from start to finish? Do you have any recommendations for how to improve or streamline the process?

S3. Do you feel that the program provided you adequate information on what is expected to receive a rebate through the Self-Directed Custom program? (Probe on M&V requirements, pre-installation or baseline monitoring, TRC calculations, etc.)



S4. Did you have an existing relationship with the customer(s) who participated in the Self-Directed Custom program prior to your participation in the program? If yes, what types of work have you done for them?

S5. Based on your experiences, how familiar are business customers with the measurement and verification process?

S6. Do you feel that the higher rebate level for this program compared to other Xcel Energy programs is sufficient to encourage customers to conduct the necessary M&V on their own or to hire a contractor to conduct the M&V?

S7. Do you think the program could benefit for listing participating implementation and M&V vendors on the program's webpage? How so?

### **Market Transformation**

MT1. How would you say Xcel Energy's program rebates affect your sales/installations of program-qualifying equipment? Since the program began, would you say that your sales/installations have increased: significantly, somewhat, a little, hardly at all?

MT2. Using a 0 to 100 percent scale, in what percent of total sales situations did you recommend high efficiency equipment/(IF APPLICABLE: "boiler tune-ups") before you learned about the [Program]?

MT3. And using the same 0 to 100 percent scale, in what percent of total sales situations do you recommend high efficiency equipment/(IF APPLICABLE: "boiler tune-ups") now that you have worked with the [Program]?

MT4. Approximately what percentage of your sales to Xcel Energy customers are energy efficient models that qualify for incentives from the Xcel Energy program?

MT5. Of those projects with Xcel Energy customers that qualify for incentives, approximately what percentage do not apply for the incentive (CO Heating addition to the question – "including transport gas customers)?

MT6. What direction do you see the commercial (IF HEATING: "gas") market taking in [state] in the next 2 years? Do you see specific challenges for Xcel Energy or opportunities to promote efficient equipment or services? Please describe.

MT7. Do you expect your sales/specifications/installations of program-qualified equipment/(IF APPLICABLE: "boiler tune-ups") to increase, decrease or stay the same in the next 12 months? Why? If not mentioned, probe specifically what the slower economy has on their current and expected involvement in the program.

MT8. [MOTORS OR CONDENSING BOILERS] Have you changed your equipment stocking or sales practices in any way due to the new federal motors standards or other factors like the general economy? Probe to see if carrying more/less US premium models, and/or particular hp sizes.

MT9. [MOTORS] Have the new federal motors requirements made it easier to sell program-qualifying motors?



## **Conclusion**

C1. What do you think is working best in Xcel Energy's [program]?

C2. What do you think is most in need of improvement?

C3. Overall, how satisfied are you with the program? Would you say you are very satisfied, somewhat satisfied, neither satisfied or dissatisfied, somewhat dissatisfied, or very dissatisfied? How could your satisfaction be increased?

C4. Would you recommend the program to others in your field, i.e., other trade allies you know? Is there anything else that you would like to share concerning the [Program]?

**Thank you for your time. This completes our interview**



## APPENDIX C: PARTICIPANT INTERVIEW GUIDE

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This guide will be used to conduct interviews with participants of Xcel Energy's Self-Directed Custom Efficiency program in Colorado. For the purpose of these interviews, participants include both customers who have completed projects through the program as well as customers who are currently implementing projects that have been approved by the program.

Because senior staff will be conducting interviews, participant interviews will be semi-structured. Therefore, the following interview protocol is only a guide to ensure certain topics are covered, but evaluators will follow the flow of the interview and modify questions as needed to fit the interviewee's circumstance.

The complete list of interview guide sections follows:

- Introduction
- Project and Installation Verification
- Participation Experience
- Decision-Making Processes
- Experience with Vendor
- Other Energy Efficiency Actions
- Program Satisfaction
- Customer Profile



### Introduction

My name is \_\_\_\_\_, with Tetra Tech, an independent research firm. Xcel Energy has hired us to evaluate its Self-Directed Custom Efficiency program in Colorado. I am calling to learn about your participation in and overall satisfaction with the program.

I'm not selling anything; I'd just like to ask about your experiences with and opinions about this program. You may have already received communication from Xcel Energy explaining the purpose of this study. Let me assure you that your responses will be kept confidential and your individual responses will not be revealed to anyone unless you grant permission. This interview should take approximately 30 minutes of your time.

NAME: \_\_\_\_\_

COMPANY: \_\_\_\_\_

TITLE: \_\_\_\_\_

PHONE: \_\_\_\_\_

INTERVIEWER: \_\_\_\_\_

DATE COMPLETED: \_\_\_\_\_ LENGTH: \_\_\_\_\_

### Project and Installation Verification

- I1 Can you give me a description of the project you implemented through the program? [IF NOT COMPLETE] Where are you in the project's implementation? When is the project expected to be completed? (Probe: equipment installed, control strategies implemented, number of buildings and areas affected).
- I2 [IF COMPLETED PROJECT] Our records show that your organization received a rebate for your project around [Date], is this correct?
  - 1 Yes
  - 2 No (Probe for what is incorrect)
- I3 [IF COMPLETED PROJECT] Are all of the equipment you installed and/or control strategies you implemented still in place and operating as intended? If not, how so and why?
- I4 Please describe your role in deciding to implement a project through the Self-Directed program? Was anybody else in or outside your organization involved in the decision to participate? (Record names of other decision-makers)



### Participation Experience

- P1** How did you learn about Xcel Energy's Self-Directed Custom Efficiency Program? (Probe: method and source) Did you hear about the program from any other sources?
- P2** How would you prefer to learn more about the Self-Directed Custom program or other energy efficiency programs offered by Xcel Energy in the future? (Probe: method and source)
- P3** Did your organization implement the project internally, or did you hire a contractor to implement the project? (Probe on project design, equipment installation, measurement and verification)
- P4** Who was involved in completing and submitting the initial project application/proposal?
- P5** Did you interact with anyone from Xcel Energy regarding the project application? Who? What did you discuss? How would you describe those interactions?
- P6** What information or documentation did you need to provide to Xcel Energy before your project was approved? Who completed this documentation? (Probe: M&V plan, energy savings estimates, cost-effectiveness (total resource cost (TRC) test) calculations, pre-installation monitoring data) Were you aware that you needed to provide this level of information when you decided to apply for the program?
- P7** Were you familiar with monitoring and verification processes (referred to as M&V) to document energy savings of energy efficiency projects prior to participating in the program? How so?
- P8** Do you feel that the program provided you adequate information on what is expected to receive a rebate through the Self-Directed Custom program? (Probe on M&V requirements, pre-installation or baseline monitoring, TRC calculations, etc.)
- P9** Do you feel the information and documentation required for project approval is reasonable? Why do you say that?
- P10** Did you experience any challenges or difficulties in progressing through the participation process, from start to finish? Do you have any recommendations for how to improve or streamline the approval process?
- P11** [IF COMPLETED PROJECT] Was the rebate amount you received less, more, or the same as was initially estimated? If not the same, why was it different?

### Decision-Making Processes

- D1** Why did your organization decide to participate in the Self-Directed Custom program? (Probe: Any other reasons?) How important was the program rebate relative to other





factors in deciding to participate?

- D2** We talked earlier about the different parties involved in your decision to participated in the program; how would you characterize the role and influence of each party in the decision? (Probe: internal staff, Xcel Energy account manager, vendor)
- D3** Were you aware that you could get assistance from Xcel Energy before or after deciding to implement the same project you eventually implemented through the program? Were you aware of the Self-Directed Custom Program, specifically? (Probe: If after, were you planning to implement the exact same project?)
- D4** How long after you initially became aware of the Self-Directed Custom program did you decide to apply for the program?
- D5** Using a 0 to 10 scale, where 0 is not at all likely and 10 is extremely likely, how likely is it that you would have implemented the exact same energy efficiency improvements if a rebate from Xcel Energy had not been available? What about the increased rebates through the Self-Directed Custom program, specifically? What would you have done differently? Would the timing of the project changed?
- D6** What barriers did you face, either inside or outside of your company, when deciding whether or not to implement this project through the program? (Probe: initial barriers (capital, financing, management, staff resources, economy, etc.) as well as any barriers faced moving through the participation process)
- D7** Did you consider implementing this project through a different Xcel Energy program? Which one(s)? Why did you ultimately decide to pursue this project through the Self-Directed Custom program versus another Xcel Energy program?
- D8** Are you aware the one of the unique aspects of the Self-Directed Custom program is that the program is able to offer increased rebates because the customer is responsible for implementing the project, estimating savings, and conducting necessary measurement and verification on their own?
- D9** Based on your experience with the program, is the rebate amount adequate for conducting all of these activities on your own? (Probe: What do you mean by that?) If you were doing the project all over again, would go through the Self-Directed Program, a different Xcel Energy program, or no program at all?

### Experiences with Vendor

#### [ASK V SERIES IF USED IMPLEMENTATION OR M&V CONTRACTOR]

- V1** Why did you decide to hire a contractor to implement your Self-Directed Custom project? Does your organization have any staff with experience implementing energy efficiency projects? What about conducting engineering analyses of energy savings from energy efficient equipment?



- V2** How did you select your contractor? Did your organization already have a relationship with this provider before participating in the program? If not, did you have any difficulty in finding a vendor? (Probe: specifically who can perform M&V)
- V3** How would describe your interactions with your contractor regarding the project you implemented through the program?
- V4** Do you think it would be useful if the program provided a listing of energy service providers and M&V contractors who have worked with this program in the past? Why or why not?

### Other Energy Efficiency Actions

#### [ASK EE SERIES ONLY IF COMPLETED PROJECT]

- EE1** Since you participated in the Self-Directed Custom Efficiency program, have you implemented any other energy efficiency improvements without the assistance of an Xcel Energy program at this facility or at other locations served by Xcel Energy? What improvements?
- EE2** Did you pursue rebates from Xcel Energy for any of these improvements? If not, why not?
- EE3** Did your participation in the Self-Directed Custom program influence your decision to implement any of these improvements? How so? How influential was it?

### Program Satisfaction

Next I want to ask you a few questions about your satisfaction with your experiences with Xcel Energy's Self-Directed Custom Efficiency program.

- S1** How satisfied are you overall with the program? Would you say you are very satisfied, satisfied, dissatisfied, very dissatisfied, or neutral? Why do you say that?
- S2** Next, I'd like you to tell me how satisfied you are with specific aspects of the Self-Directed Custom Efficiency program using those same categories from very satisfied to very dissatisfied. (Probe: if dissatisfied or neutral, why?) .
- a. Eligibility requirements
  - b. [IF COMPLETED PROJECT] The length of time it took from project start to end
  - c. [IF COMPLETED PROJECT] The amount of the rebate
  - d. The application process, including the required project documentation
  - e. The amount of information and documentation required for project approval



- f. The program's handling of your questions or complaints
  - g. [IF COMPLETED PROJECT] The amount of time it took to receive the rebate
  - h. The contractor who implemented the project and/or performed the project measurement and verification
  - i. The support you received from Xcel Energy
  - j. The amount of energy savings you've seen since the project completed
- S3** Which aspects of the Self-Directed Custom Efficiency program, if any, would you change? Why do you say that? (Probe: anything else?)
- S4** I would like you to think in terms of your satisfaction with Xcel Energy overall. On a 0-to-10 scale where 0 means very dissatisfied and 10 means very satisfied, how would you rate your satisfaction with Xcel Energy?

<b>Customer Profile</b>
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- C1** What actions other than the ones we have already discussed has your business taken at this location within the past five years in order to reduce your energy use. Did you make any of these improvements through any Xcel Energy programs? Why or why not?
- C2** (IF HAVEN'T DONE ANYTHING) What are the reasons you haven't been able to make any additional energy saving improvements at this facility?
- C3** Do you have plans for implementing any other energy efficiency projects within the next two years at your facilities? What types of projects?
- C4** Can we have your permission to release your company's answers to Xcel Energy on an individual basis and possibly have a representative from Xcel Energy follow up with you to discuss issues that are of particular concern to you?
- 1 Yes
  - 2 No
- C5** As part of our evaluation, we may need to follow-up on some of this information. Would it be all right if someone called you if needed?
- 1 Yes
  - 2 No
- COM** That is all of the questions I have for you. Do you have any comments you'd like us to share with Xcel Energy?

**Thank you for your time. This completes our interview.**





## APPENDIX D: NONPARTICIPANT INTERVIEW GUIDE

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This guide will be used to conduct interviews with nonparticipants of Xcel Energy's Self-Directed Custom Efficiency program in Colorado. For the purpose of these interviews, nonparticipants include 1) customers who have been informed about the program by Xcel Energy but have not yet applied, 2) customers who have submitted a project application but have not yet submitted a letter of intent (if any), and 3) Xcel Energy customers who completed a project through another Xcel Energy program in 2010 that was eligible to participate in the Self-Directed Custom program.

Because senior staff will be conducting interviews, participant interviews will be semi-structured. Therefore, the following interview protocol is only a guide to ensure certain topics are covered, but evaluators will follow the flow of the interview and modify questions as needed to fit the interviewee's circumstance.

The complete list of interview guide sections follows:

- Introduction
- Program Awareness
- Involvement with the Program
- Participation in Other Programs
- Energy Efficiency Actions
- Decision-Making Processes
- Satisfaction
- Conclusion



### Introduction

My name is \_\_\_\_\_, with Tetra Tech, an independent research firm. Xcel Energy has hired us to evaluate its Self-Directed Custom Efficiency program in Colorado. I am calling to learn about your awareness and opinions of the program.

I'm not selling anything; I'd just like to ask about your opinions about this program. You may have already received communication from Xcel Energy explaining the purpose of this study. Let me assure you that your responses will be kept confidential and your individual responses will not be revealed to anyone unless you grant permission. This interview should take approximately 20 minutes of your time.

NAME: \_\_\_\_\_

COMPANY: \_\_\_\_\_

TITLE: \_\_\_\_\_

PHONE: \_\_\_\_\_

INTERVIEWER: \_\_\_\_\_

DATE COMPLETED: \_\_\_\_\_ LENGTH: \_\_\_\_\_

### Program Awareness

- A1** Are you familiar with Xcel Energy's Self-Directed Custom Efficiency program?
- 1 Yes (Probe: Can you tell me what you know about the program?)
  - 2 No (Ask for someone familiar; if no one is aware after program description, end)
- A2** How did you learn about Xcel Energy's Self-Directed Custom Efficiency Program? (Probe: method and source) Did you hear about the program from any other sources?
- A3** (If not mentioned in A2) Did you discuss the Self-Directed Custom Efficiency program with your Xcel Energy account representative? What did you discuss?
- A4** Did you receive enough information to know how to participate in the program if you wanted to? If no, what additional information would you need?
- A5** How would you prefer to learn more about the Self-Directed Custom program or other energy efficiency programs offered by Xcel Energy in the future? (Probe: method and source)



### Involvement with Program

#### [ASK I SERIES IF SUBMITTED APPLICATION, BUT HAVE NOT SIGNED LETTER OF INTENT]

- I1 Our records show that you submitted an application through the Self-Directed Custom program, were pre-approved by the program, but you have not yet submitted a letter of intent to proceed with the project. Do you still plan to eventually implement the project through the program? If so, when? If not, why not?
- I2 What barriers do you face in moving to the next step of the implementation process? (Probe about factors that are delaying the submission of the letter of intent if they do intent to submit it)
- I3 Who all was involved in completing and submitting the initial project application/proposal? Probe about all parties involved including their own internal staff, Xcel Energy staff and external contractors.
- I4 If worked with Xcel Energy on the project staff, who did you interact with from Xcel Energy regarding the project application? What did you discuss? How would you describe those interactions? Probe about what was helpful and where more assistance/information could have been provided.
- I5 Do you feel that the program provided you adequate information on what is expected to receive a rebate through the Self-Directed Custom program?  
  
(Probe on each aspect below)
  - A. M&V requirements
  - B. Pre-installation or baseline monitoring
  - C. TRC calculations
- I6 Do you feel the information and documentation required for project approval is reasonable? Why do you say that?
- I7 Based on your experiences with the program up to this point, how satisfied are you with the program overall? Why do say that?

### Participation in Other Programs

#### [ASK P SERIES IF PARTICIPATED IN OTHER XCEL ENERGY PROGRAM]

- P1 Our records show that you participated in Xcel Energy's [PROGRAM] in 2010. Can you describe what improvements you made in order to participate in this program?
- P2 Did you discuss different rebate or program options with your account manager before





deciding to participate? What did you discuss?

**P3** Were you aware of the Self-Directed Custom program prior to participating in this program?

- 1 Yes
- 2 No

**P4** [IF AWARE] Did you consider going through the Self-Directed Custom program instead of the [PROGRAM] for this project? What are the reasons you ultimately decided to go through this program instead?

**P5** [IF NOT AWARE] If you would have been aware of the Self-Directed Custom program at the time, how likely is it that you would have still implemented the project through the [PROGRAM]. Would you have implemented the exact same project?

### Energy Efficiency Actions

**E1** Have you implemented or considered implementing any other energy efficiency improvements in the past two years? What did you do/consider doing?

**E2** (IF HAVEN'T DONE ANYTHING) What are the reasons you haven't been able to make any additional energy saving improvements at your facilities?

**E3** Why didn't/haven't you completed these improvements through the Self-Direct Custom Efficiency program?

**E4** What additional support would you need to consider completing these improvements through the program?

**E5** Do you have plans for implementing any other energy efficiency projects within the next two years at your facilities? What types of projects?

**E6** How interested would you be in participating in Xcel Energy programs in the future? What about the Self-Direct Custom Efficiency program specifically? Why do you say that?

### Decision-Making Processes

**D1** Within your organization, what factors are involved in making decisions about energy use in your facilities? Who is involved in making these decisions?

**D2** Does your business have a policy that mandates the installation of energy efficient equipment when purchasing new equipment? What is this policy?

**D3** What barriers did you face, either inside or outside of your company, when deciding whether or not to implement energy efficiency projects? Do you face any barriers in



accessing rebates available from Xcel Energy?

- D4** If you were considering installing processes to save energy or new energy efficient equipment at your company, where would you look for information regarding the new equipment or processes?
- D5** And who would you contact to implement the new equipment or process?
- P6** Are you familiar with monitoring and verification processes (referred to as M&V) to document energy savings of energy efficiency projects? Does your company have the capability to perform M&V in house?
- D7** Does your organization already have an established relationship with any energy service provider or ESCO? Do any of these vendors perform measurement and verification of energy savings from energy efficient equipment? If not, do you know where to go to find vendors who conduct M&V?
- D8** Do you think it would be useful if Xcel Energy provided a listing of energy service providers and M&V contractors who have worked with the Self-Directed Custom program in the past? Why or why not?
- D9** One of the unique aspects of the Self-Directed Custom program is that the program is able to offer up to 30 percent higher rebates because the customer is responsible for implementing the project, estimating savings, and conducting necessary measurement and verification on their own.

From your perspective, do you think the higher rebate amount is adequate for conducting all of these activities on your own? (Probe: What do you mean by that?)

### Satisfaction

- S1** How satisfied are you with the rebates offered by Xcel Energy to business customers for installing energy efficient equipment? Are there any additional offerings that would be useful?
- S2** Now I would like you to think in terms of your satisfaction with Xcel Energy overall. On a 0-to-10 scale where 0 means very dissatisfied and 10 means very satisfied, how would you rate your satisfaction with Xcel Energy?

### Conclusion

- C1** Can we have your permission to release your company's answers to Xcel Energy on an individual basis and possibly have a representative from Xcel Energy follow up with you to discuss issues that are of particular concern to you?

1 Yes



2 No

**C2** As part of our evaluation, we may need to follow-up on some of this information. Would it be all right if someone called you if needed?

1 Yes

2 No

**COM** That is all of the questions I have for you. Do you have any comments you'd like to share?

**Thank you for your time. This completes our interview.**



## APPENDIX E: BENCHMARKING PROGRAM MANAGER INTERVIEW GUIDE

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### Introduction

Identify Xcel Energy as the company commissioning this study; provide a brief description of Xcel Energy's program, then a brief description of the program that we're interested in learning more about in an effort to improve Xcel Energy's program.

Explain purpose of study and which measures you want to discuss (e.g., motors and drives, boilers, etc.) if others may be included in program.

Offer to share results as motivation to participate – see needed information to share study results at the end of this interview guide.

### Program scope and goals

- 1) How long has the program been offered?
- 2) What are your roles and responsibilities for the program? Is the program delivered internally or by a 3rd party?
- 3) What are your program goals and/or objectives? (Probe for both written and informal) Who sets the goals? Are they annual goals or multi-year goals? How does the program fit within your overall business portfolio goals and objectives (important probe for Self-Directed)?
- 4) Overall, how effective has the program been in achieving these goals and objectives (actual or estimated savings, participant data)? Are there ways you think the program could be more effective in achieving its goals?

### Program Design, Measures and Incentives

- 1) (Self-Directed Custom) What types of energy efficiency projects are eligible for the program? What types of projects are typically implemented through the program?
- 2) (Motors/Heating) What are the products/measures offered by your program?
  - A) Which measures comprise the bulk of the program participation and energy savings?
  - B) (Motors, if Drives component) What types of end use equipment must the drives be used for?
  - C) What are the HP parameters for both motors and VFDs? For example, 1 to 500 HP motors and 1 to 200 HP VFDs?



- D) (Heating if program includes tune-ups) Do you find repeating participants for tune-ups? How frequently do you typically see/allow repeat customers?
- E) (Motors) How is your program changing as a result of new motor standards? Do you plan to close your prescriptive portion of the program due to the NEMA Premium standards change that took place on 12-19-2010?
- F) (Motors/Heating) Do you have a custom measure component? What is/are the qualifying criteria? What percent of program participation/achievement is from the custom component?
  - i. (If YES) What types of projects are typically covered?
- 3) (Heating) Do you limit participation in your prescriptive rebate program to certain uses? (such as space/domestic water heating)? If no, how do you deem operating hours for additional process loads?
- 4) (Motors) Do you have a motor inventory program?
  - A) (If YES) Is the program run in-house or outsourced?
    - i. What aspects are outsourced?
    - ii. Is the inventory program leading to efficient motor purchases? Do you also identify opportunities for VFDs as part of this inventory?
- 5) (Motors) Do you offer rebates for green motor rewinds?
  - A) (if YES) How are qualifying rewind shops selected?
  - B) How do you measure energy savings for these projects? Are there any industry standards you are following?
- 6) (Motors) Did you change any program offerings in 2011 due to the new federal motors legislation? If no, do you expect to change offerings in 2012 and how?
- 7) (Heating) Does the program offer a heating optimization study component? If yes, what are the parameters of the study? Does the program offer a boiler tune-up component? If yes, what are the tune-up requirements?
  - A) (Heating) Are there any limitations to what types of boilers are covered?
- 8) Are there any particular measures that customers are not purchasing/installing? (If YES) Why do you think this is?
- 9) (Heating, if studies/audits offered) What percentage of your customers implement the opportunities identified in the study within one year? What is the typical timeframe for implementing measures?
- 10) (Heating, if tune-ups offered) How does the program-rebated tune-up differ from a standard tune-up?
- 11) What is the incentive structure (i.e., prescriptive, custom, both)? How are incentive levels determined – are they based on estimated incremental costs and/or other factors?



- A) (IF MOTORS) Do you offer higher rebates for motors that are not NEMA Premium?
- 12) Do you offer rebates for motors that exceed baseline NEMA Premium levels? How much more are these rebates versus your standard rebates?
- 13) What criteria do you use to determine motors that exceed baseline NEMA Premium levels?
- 14) What are the current rebate/incentive levels? Probe to see average incentives levels as a percentage of total project costs.
- 15) What are the current rebate/incentive levels payback estimates?
- 16) (Heating) Of your heating rebates for space/DHW systems, which provide the greatest energy savings impact overall to your program, and which have the most participation?
- 17) (Heating) Specifically, discuss the availability, success and impacts of the following rebate program components:
  - A) Condensing boiler rebates
  - B) Non-condensing boiler rebates
  - C) Steam boiler rebates
  - D) Do you offer different rebate amounts for new vs. replacement (early retirement) new boiler installations?
  - E) Steam to hot water conversions
  - F) Modulating burner controls
  - G) Outdoor air resets controls
  - H) Stack dampers
  - I) Turbulators
  - J) O2 trim controls
  - K) Cut-out controls
  - L) Steam trap repair
  - M) Steam trap audits
  - N) Pipe insulation – new or replacement
  - O) Commercial water heaters
  - P) What else do you offer that's been successful?
- 18) How have your rebate levels changed over time?
  - A) (If changes made) Why did you make these changes?



19) What documentation or approvals are required to receive a rebate?

- A) (Motors) Does this vary by motor size?
- B) Do you require spec sheets for all motors that receive a rebate?
- C) Do you have any special arrangements for receiving applications from trade allies on behalf of customers?
- D) Have you had any problems obtaining correctly completed documentation from customers or trade allies?
  - i. If YES, What problems do you have, and what steps have you taken to address this?

### Trade Ally Outreach

1) How does the program leverage the trade ally market infrastructure?

- A) (If allies utilized) How do you conduct outreach to trade allies? Has this been effective?
- B) What do allies have to do to participate in the program (e.g., attend training, register, etc)
- C) (Heating, if studies/audits/tune-ups are offered) How does the program communicate what is expected in the study or tune-up to the vendors?
- D) What tools or information do you provide to vendors to inform their customers about program offerings and requirements?
- E) What types of vendors typically participate in the program (e.g., lighting, HVAC, process, ESCOs, engineering consultants)?
- F) Do trade allies receive incentives from your program?
  - i. (If YES) What are the incentive levels, and what is required of the trade allies to get them?
- G) Are the incentives offered always or periodically? Why?
  - i. (IF NO) Have you ever offered these incentives?
  - ii. (IF YES) Why did you eliminate the incentives?
- H) Do you belong to any trade organizations such as Motor Decisions Matter (MDM) or other type of affiliation?

### Program Recruitment, Outreach, and Participation

1) What types of customers do you target for the program (business types, size, etc.)? Typically which customer segments deliver the most participation/energy savings?





- A) (Motors/Heating) What is the mix of managed and non-managed accounts?
- B) Do you have eligibility requirements relating to customer energy consumption or building size? If so, what are those thresholds, and how did you determine them?
- 2) What is the process for recruiting customers for the program, and who does this?
  - A) Do you use any outside contractors for customer recruitment or providing other services to customers related to the program?
  - B) Are there other marketing efforts? Any social media marketing? Case studies or success stories?
  - C) (Motors) Do you do targeted advertising specifically for motors and VFDs?
- 3) (Motors, Heating) Do you do anything different to target small to mid-size businesses? Probe about any effective strategies with this sector. Probe about any specific incentives or rebates if applicable.
- 4) (Self-Directed Custom) Are customers able to implement eligible projects through any other programs sponsored by your organization? What factors go into customers choosing one program over another? How does this affect your marketing strategy, both at the program and portfolio level (probe how they avoid 'cannibalizing' their other program offerings)? How does this impact setting participation and energy savings goals?
- 5) Can you describe the participation steps from the customer's perspective?
- 6) Why do customers typically decide to participate in the program? Do reasons vary by customer types (or segments)?
- 7) What are the major barriers to participation?
- 8) What external influences are impacting your program? How are you addressing them?
  - A) (Motors) Probe on any unexpected impacts of federal legislation.
  - B) (Motors) Probe to see if customers buying more used motors.
  - C) (Motors) Probe to see if issues with customers buying non-NEMA premium motors.

### **Program Impacts and M&V**

- 1) What M&V is required as part of project implementation? For Self-Directed programs probe specifically about who is responsible for conducting the necessary M&V and any issues encountered.
  - A) (Motors) Probe to see if audits are conducted on completed projects.
- 2) How do you determine your baseline and technical assumptions for energy impacts? What M&V do you conduct as part of project implementation? Probe about savings thresholds for conducting M&V, percentage of projects metered, etc.



- 3) Have you performed any net-to-gross or spillover calculations for the program? At the portfolio level? (If YES) How were those derived, and what are the results? Can we see a copy of the study? (If NO) Does your program incorporate net-to-gross, free-ridership or spillover, and if yes, what are those numbers?
- 4) How do you estimate and track penetration and standard practice in your market? Does this vary by customer segment?
- 5) How much of your overall energy savings for businesses is contributed by your <program> program?

### **Program Successes and Challenges**

- 1) What has worked particularly well with the program? What has been a problem?
- 2) What do you see as future challenges for the program?

### **Conclusion**

- 1) Are there any other topics that we have not covered in this interview that we should be aware of about this program?
- 2) Do you have any program information (e.g., FAQ sheets, evaluation results) that you would be willing to share with us?

**Thank you for your time. Verify their name, position and email address for receiving the summary of results (if a summary of the results is desired).**