

Saver's Switch 2019 Evaluation Report

Colorado, 2019 Program Year

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DISCLAIMER

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¹ On October 11, 2019, Guidehouse LLP completed its previously announced acquisition of Navigant Consulting, Inc. In the months ahead, we will be working to integrate the Guidehouse and Navigant businesses. In furtherance of that effort, we recently renamed Navigant Consulting Inc. as Guidehouse, Inc.

EXECUTIVE SUMMARY

Xcel Energy's Saver's Switch program provides residential customers in Colorado the opportunity to earn an incentive by allowing Xcel Energy to remotely control customers' air conditioning (AC) in the summer months during times of seasonal peak demand. These instances are known as demand response (DR) events. In this report, Navigant, a Guidehouse Company, documents its independent evaluation of Xcel Energy's Saver's Switch program. The evaluation addressed program processes only; it did not address load impacts, except to the extent that process elements such as recruitment, participant attrition, and event opt-outs affect kilowatt load reduction capability.

Methodology

The principal evaluation objective is to aid program managers by supplying information to enhance program design, delivery, and administration. Through discussion with Xcel Energy staff, the evaluation team identified the following five priority research objectives: recruitment, interaction with the AC Rewards program, pre-event notifications and participant awareness, and participant satisfaction. Navigant also includes the incentives research objective in this report because there are valuable findings resulting from the research conducted.

The evaluation included the following major activities:

1. Conducting *staff interviews* to inform research planning and scope refinement
2. Defining primary and secondary *research objectives*
3. Conducting the following research activities:
 - a. Residential participant *post-event surveys*, including a placebo survey
 - b. Residential participant *end-of-season survey*
 - c. Peer utility *program benchmarking*
4. Developing *key findings* related to defined research objectives
5. Providing *suggestions for program improvement*

Navigant sought feedback and collaboration with Xcel Energy at each step throughout the evaluation.

Key Findings

Table 1 highlights Navigant's key findings based on the defined research objectives; the Suggestions for Program Improvement section is based on these findings.

Table 1. Key Findings

Research Objectives	Key Findings
Recruitment	<ul style="list-style-type: none"> • Many customers respond to marketing outreach only to find that they are ineligible. • Due to high program saturation, a marketing strategy that focuses on high - potential market segments and offers easy, immediate enrollment will be most effective.

Research Objectives	Key Findings
Interaction with AC Rewards	<ul style="list-style-type: none"> Attitudes toward smart thermostats vary across the benchmarked utilities; some prefer smart thermostat DR programs over switch programs, while others prefer switch programs due to lower event opt-out rates. AC Rewards program awareness is low among recent Saver's Switch enrollees. Elements of program design may motivate the selection of Saver's Switch over AC Rewards for those customers who know about both programs.
Pre-Event Notifications and Participant Awareness	<ul style="list-style-type: none"> Some Saver's Switch customers would appreciate notifications; pros and cons to offering pre-event notifications and increasing customer awareness exist. Benchmarked utilities that offer pre-event notifications have not broadly marketed the option and have not noticed changes in attrition or opt-out rates. Other utilities do not offer notifications because they prefer low awareness of events.
Participant Satisfaction	<ul style="list-style-type: none"> Customers are satisfied with the way the program operates including the bill credits, comfort during events, length of events, number of events, and the program in general. Customer satisfaction and sentiment may change if events are called more frequently or for longer periods; benchmarked utilities find that longer and more frequent events, including back-to-back event days, are correlated with higher attrition rates.
Incentives	<ul style="list-style-type: none"> Bill credits are a primary motivation for customer enrollment in Saver's Switch and an ongoing driver for customer satisfaction.

Source: Navigant

Suggestions for Program Improvement

Based on the completed research activities and key findings, Navigant identified several suggestions for Xcel Energy to improve the Saver's Switch program.

- Recruitment:** Focus recruitment efforts on high potential market segments and digital marketing. Offer customers easy and immediate opportunities to enroll in the program, with clear messaging on eligible central AC systems.
- Interaction with AC Rewards:** Define target customer segments and geographic areas for Saver's Switch and AC Rewards to inform recruitment strategies. This segmentation can be achieved by conducting a billing analysis or geographic information system (GIS) participation mapping.
- Pre-Event Notifications:** Explore opportunities to offer *opt-in notifications* to participants to meet customer interest. Limit marketing for this option to provide value to the small number of customers that request it while avoiding negative impacts on current customer sentiments and attrition rates.
- Participant Satisfaction:** Begin to prepare customers for the potential change to the way events will be called, including event frequency and duration, once the *transition to two-way switches* is complete. Consider the customer experience, including changes to current customer satisfaction levels, when making decisions about event frequency and duration.
- Incentives:** Standardize incentive structures across states such that bill credits are made monthly. Inform customers when the bill credit is applied to ensure customers are aware the bill reduction is linked to program participation.

1. BACKGROUND, OBJECTIVES, AND METHODOLOGY

Xcel Energy's Saver's Switch program provides residential customers in Colorado the opportunity to earn an incentive by allowing Xcel Energy to remotely control customers' air conditioning (AC) in the summer months during times of seasonal peak demand. These instances are known as demand response (DR) events. In this report, Navigant documents its independent evaluation of Xcel Energy's Saver's Switch program. The evaluation addressed program processes only; it did not address load impacts, except to the extent that process elements such as recruitment, participant attrition, and event opt-outs affect kilowatt load reduction capability.

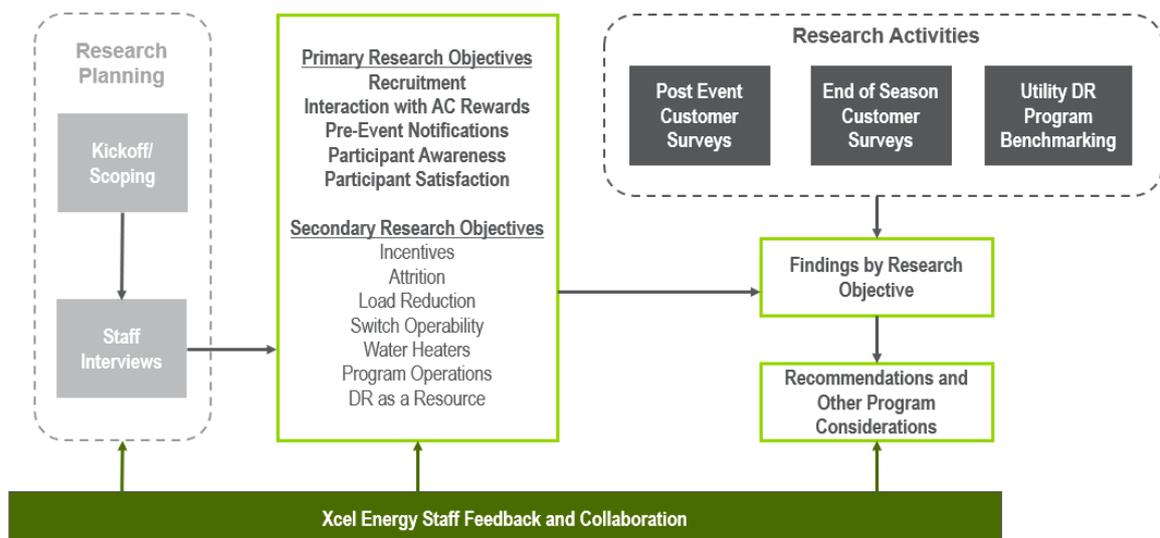
The remainder of this report is organized as follows:

- Methodology
- Findings through analysis
- Suggestions for improvement
- Supporting documentation contained in Appendices

The principal evaluation objective is to aid program managers by supplying information to enhance program design, delivery, and administration. Through discussion with Xcel Energy staff, the evaluation team identified the following five priority research objectives: recruitment, interaction with the AC Rewards program, pre-event notifications and participant awareness, and participant satisfaction. Navigant also includes the incentives research objective in this report because there are valuable findings resulting from the research conducted.

Figure 1 illustrates the evaluation process, linking the objectives to specific research activities and to development of findings/recommendations.

Figure 1. Research Process



Note: This graphic represents the original prioritization of research objectives. In executing and discussing the research, Navigant and Xcel Energy subsequently chose to combine Participant Awareness with Pre-Event Notifications and included the incentives research objective as a primary objective.

Source: Navigant

More detail on the identified research objectives and activities employed to explore these objectives can be found in Appendix A.

Post-Event and End-of-Season Surveys. Navigant conducted customer surveys to investigate customer satisfaction, program awareness, and pre-event notifications and to better understand a customer's overall engagement with the program. The evaluation team fielded both **event** and **placebo** post-event surveys on a day when Xcel Energy called a Saver's Switch event for a subset of the residential participant population. A random sample of Saver's Switch participants who were called for the event received the event survey, while a random sample of those who were not called received the placebo survey.

Navigant also fielded an **end-of-season** survey to residential program participants after the DR season concluded. Table 2 lists details on the number of completed surveys and survey mode.

Table 2. Summary of Completes for Each Survey and Mode

Survey Type	Customer Type	Phone Completes	Online Completes	Total Completes
Post-Event: Event Survey	Residential	40	53	93
Post-Event: Placebo Survey	Residential	44	53	97
End-of-Season Survey	Residential	83	1,259	1,342

Source: Navigant

Utility DR Program Benchmarking. Navigant investigated incentive levels and marketing strategies employed by other utilities, as well as whether other programs notify customers before an event. The evaluation team sought input from Xcel Energy to identify peer utilities that have similar programs and could best provide feedback on the defined research objectives. After defining the list of utilities, Navigant researched six peer utility programs (as detailed in Table 3).

Table 3. Summary of Peer Utilities Benchmarked

Peer Utility	Research Method
DTE Energy	Interview
Baltimore Gas and Electric Company	Interview
Pacific Gas and Electric Company	Interview
Duke Energy	Interview
Rocky Mountain Power – PacifiCorp	Interview
ComEd – An Exelon Company	Desk review

Source: Navigant

2. FINDINGS

This section summarizes key findings from the customer survey and peer benchmarking activities and is organized by research objective to provide a holistic discussion of research results. Detailed interim deliverables for the post-event customer surveys and benchmarking tasks can be found in Appendix B and Appendix C.

2.1 Recruitment

The Saver's Switch program is reaching saturation in the Colorado market, and Xcel Energy wants to develop an understanding of ideal program participants and recruitment strategies to inform future outreach efforts. Increased enrollment may be achieved through targeted outreach methods, with an emphasis on digital marketing for high potential market segments and by ensuring customers are offered easy, immediate enrollment.

Customers are motivated to enroll due to financial and environmental benefits. Recent Saver's Switch program enrollees (n=28) report being motivated to enroll in the program by a reduction in energy bills (n=19), financial benefits (n=16), and a reduction in their environmental impacts (n=14).²

Due to high program saturation, a marketing strategy that focuses on high potential market segments and offers easy, immediate enrollment will be most effective. Most benchmarked utilities identify email and social media campaigns, door-to-door canvassing, and phone banking as their most successful recruitment strategies in recent years. In the marketing of the program, these utilities reported that a single cycling strategy offer is ideal because it makes understanding and enrolling in the program simple for the customer. In addition, benchmarked utilities are finding success with marketing to fixed income, residential new construction, and energy aware customers. These segments could offer high potential in Colorado because of the high volume of new construction residences and because customers are motivated by the environmental benefits of program participation.

Many customers respond to marketing outreach only to find that they are ineligible. According to interviewed Xcel Energy staff, 60% of sign-ups do not result in enrollment. One factor related to failed enrollment is customer uncertainty about what qualifies as a central AC. Providing detailed information on qualifying equipment types at the point of enrollment can help increase enrollment rates.

2.2 Interaction with AC Rewards

Xcel Energy seeks to understand how Saver's Switch competes with or complements AC Rewards, and how customers decide between the programs.

AC Rewards program awareness is low among recent Saver's Switch enrollees. Elements of program design may motivate the selection of Saver's Switch over AC Rewards for those customers who know about both programs. Of recent enrollees in Saver's Switch (n=28), 18% reported being aware of the AC Rewards program in the end-of-season survey, indicating that most recent enrollees may not be directly choosing between the two programs due to lack of awareness. Among those aware of the AC Rewards program (n=5), customer-reported reasons for enrolling in Saver's Switch instead of AC Rewards included not owning or wanting to buy a smart thermostat, easier enrollment, and a higher incentive.

² Respondents could provide multiple responses.

Benchmarked utilities differ in their attitudes toward smart thermostats. Two utilities reported that customers are more interested in smart thermostats than switches: one utility has not seen significant conversion of switch customers to its thermostat program, and the other utility promotes smart thermostats over switches as a participation pathway. Another utility stopped offering smart thermostats as part of its program due to the high event opt-out rate of thermostat users.

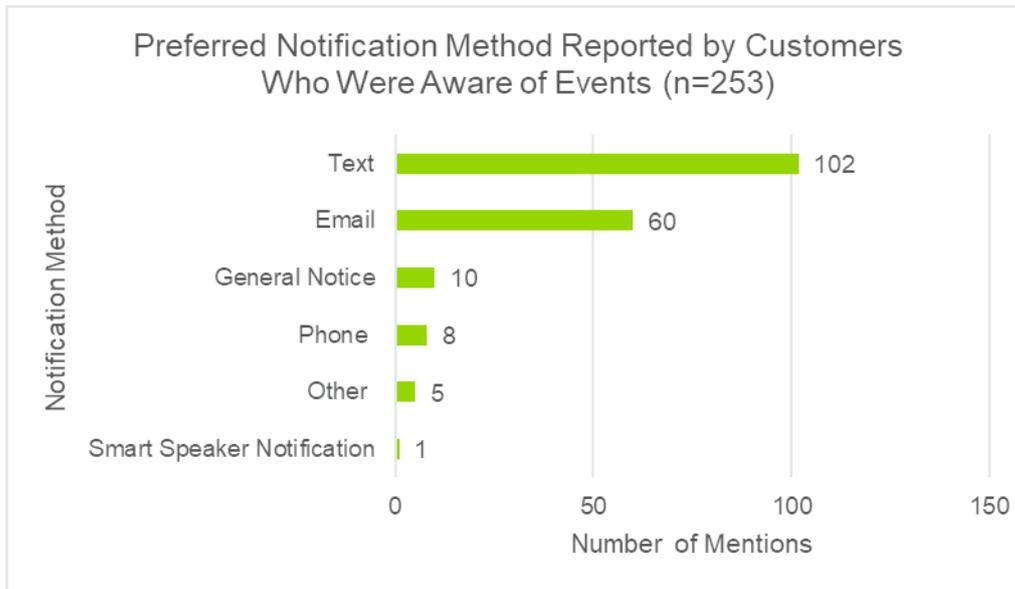
2.3 Pre-Event Notifications and Participant Awareness

Xcel Energy has historically found participant awareness of events to be low, and the company does not currently have the capability to offer pre-event notifications. However, the company is exploring the pros and cons of using pre-event notifications in the future. Consequently, Navigant sought to understand how increased awareness through notifications would affect the program. The mixed views of benchmarked utilities and the feedback from customers should be taken into careful consideration when making decisions around notifications.

Benchmarked utilities differ in their views on pre-event notifications. The overwhelming sense from benchmarked utilities is that most switch customers do not realize an event is taking place. Benchmarking utilities that offer pre-event notifications do so on an opt-in basis and have not noticed major changes in attrition or event opt-out rates (n=3). Other utilities do not offer pre-event notifications because they prefer low awareness and have concerns about potential spikes in attrition associated with increasing awareness (n=3).

Saver's Switch event awareness is low, and some customers would appreciate pre-event notifications. Event awareness for Saver's Switch is low, with only 10% (n=93) of post-event survey respondents and 19% (n=1,319) of end-of-season respondents reporting being aware of control events. By providing an opportunity for customers to opt in to receive notifications, Xcel Energy can focus on providing communication to the small number of end-of-season survey respondents who reported awareness of events that would prefer advance notice of events. Sixty-one percent of end-of-season respondents who were aware of events (n=253) expressed interest in advanced notice, and customers also demonstrate sufficient interest to make changes and improve comfort during an event by opting in to notifications. Customer preferences for event notification lean heavily toward text and email, as shown in Figure 2.

Figure 2. Preferred Methods of Event Awareness



Notes: Responses are from respondents who stated they were aware that an event had occurred. Respondents provided open-end feedback and could be assigned to multiple response categories during analysis. Source: Navigant analysis of end-of-season survey data

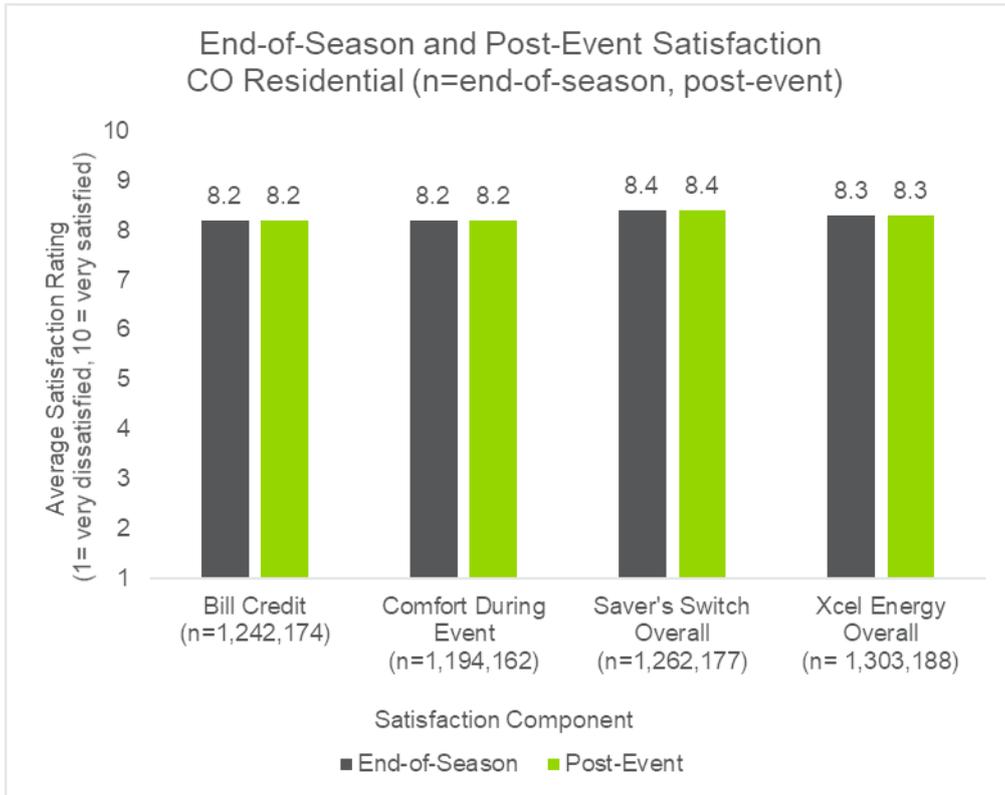
The survey results suggest that customer behavior in response to pre-event notifications would largely revolve around an attempt to improve comfort without increasing energy demand during event times. Navigant also sought to understand how event notifications, and the potential increase in customer awareness, might influence customer behavior during an event. Only 16% (n=189) of the post-event customers and 40% (n=253) of end-of-season Saver's Switch customers surveyed who were aware of events indicated they would change their actions after receiving a notification. These customers primarily suggested they would act to improve comfort without increasing demand during event times, such as by planning to be away from home or precooling the home. The responses do not suggest program attrition or an attempt to opt out of the events, though it is possible customer sentiment and attrition rates could change in the future if notifications are implemented.

2.4 Participant Satisfaction

Xcel Energy wants to better understand current levels of participant satisfaction with the Saver's Switch Program and Xcel Energy overall to identify areas to improve satisfaction.

Average satisfaction with all aspects of program participation is high, as shown in Figure 3. In addition to the satisfaction components shown below, the end-of-season survey gathered data on satisfaction with the number of events per season and the average length of events, as discussed further below. When asked, customers noted that their program satisfaction is driven by the bill credit and the minimal effect of participation on normal activities.

Figure 3. Participant Satisfaction



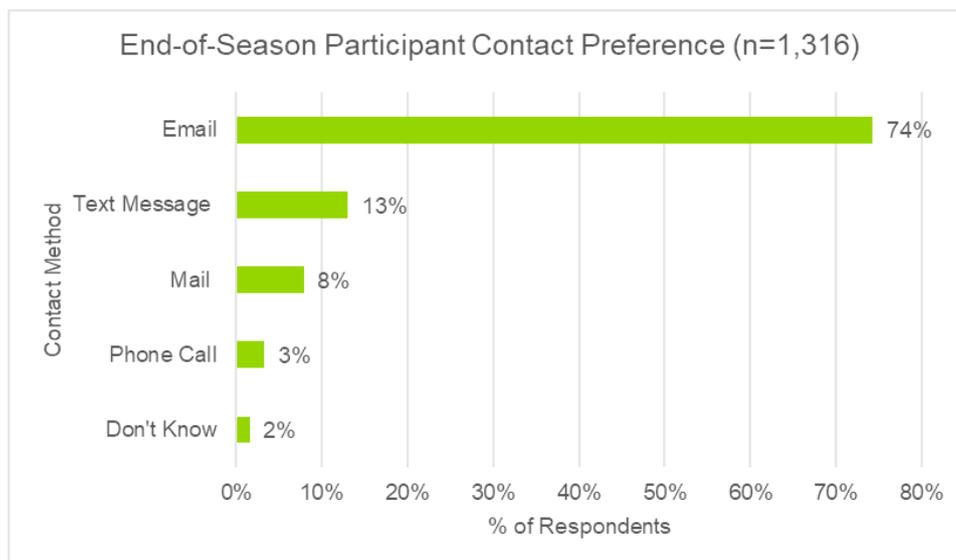
Note: Excludes respondents who indicated Don't Know or Prefer not to respond.
Source: Navigant analysis of end-of-season and post-event survey data

While the differences are not statistically significant, reported satisfaction differs slightly between move-in respondents and opt-in respondents,³ with move-in respondents reporting slightly lower satisfaction than opt-in respondents. Detailed information is included in the Appendix B.5.

Customers from the end-of-season survey report they prefer to be contacted by Xcel Energy about the Saver's Switch program via email (74% of respondents; n=1,316), as seen in Figure 4.

³ Move-in respondents refer to respondents who moved into a home with a Saver's Switch previously installed, while opt-in respondents refer to respondents who actively enrolled in the program.

Figure 4. Participant Contact Preference



Note: Excludes respondents who indicated Prefer not to respond.

Source: Navigant analysis of end-of-season survey data

Saver's Switch customers are satisfied with the way the program operates, but this may change if events are called more frequently or for longer periods. Customers reported the number of events called (n=898) and the length of events (n=872) had a positive or neutral impact on overall program satisfaction (both scored 7.9 on a 1-10 scale in the end-of-season survey). Any changes to the program design, particularly the number and length of events, may affect overall program satisfaction.

Benchmarked utilities find that longer and more frequent events, including back-to-back event days, are correlated with higher attrition rates. The utilities provided consistent feedback regarding retention rate, noting that attrition is correlated with the length and frequency of events; events that are several hours long or on back-to-back days cause an increase in customer attrition. One utility recently changed its strategy for calling events and now calls more frequent but shorter events. These shorter events are much less noticeable to customers, and the utility has seen a significant decrease in attrition.

2.5 Incentives

Xcel Energy offers a yearly bill credit for participation in the Saver's Switch program. The company wants to better understand customer awareness of this incentive as well as customer satisfaction with the value of the bill credit.

Bill credits are a primary motivation for customer enrollment in Saver's Switch and are an ongoing driver for customer satisfaction. When recent enrollees were asked in the end-of-season survey about their primary motivation for enrollment, the bill credit received the second highest number of mentions (57%), second only to reducing the customer's overall energy bill (68%) to which the credit contributes (n=28).⁴ When asked, customers noted that their program satisfaction is driven by the bill credit and customers report high satisfaction with the bill credit, as discussed in Section 2.4.

One benchmarked utility recently changed its incentive structure and now pays incentives monthly during the DR season to remind customers of the program benefit and help offset

⁴ Respondents could provide multiple responses.

higher bills during the summer months. Given that the bill credit is a primary motivation for enrollment and contributes to high customer satisfaction, ensuring that customers are reminded of their incentive and do not overlook the credit on their bill is a simple but impactful way to maintain enrollment and high customer satisfaction.

3. SUGGESTIONS FOR PROGRAM IMPROVEMENT

Navigant's suggestions for program improvement are summarized in this section and *organized by high, moderate, and lower priority*. Relative indications of cost and Xcel Energy staff time and effort for these initiatives can be found in Appendix D. Overall, the Saver's Switch program is well established; as such, many of these suggestions are minor modifications for improvement.

Table 4. High Priority Initiatives

Research Objective	Initiative
Recruitment	<p>Improve screening for central AC during enrollment by:</p> <ul style="list-style-type: none"> Assessing the call center script to identify opportunities to improve screening questions. Adding more detailed checkboxes and visual aids to the online enrollment form. <p>Consider targeting new construction neighborhoods in Colorado for new household enrollment via door-to-door canvassing or by working with a network of heating, ventilation, and air conditioning technicians and building industry professionals.</p>
Interaction with AC Rewards	<p>Define target customer segments and geographic areas for Saver's Switch and AC Rewards through a billing analysis or GIS participation mapping.</p>
Participant Satisfaction	<p>Start to test Saver's Switch customers with different event characteristics in advance of changes to the way Xcel Energy calls events, including event frequency and duration.</p> <p>Avoid back-to-back event days; instead, attempt to call more frequent, shorter events to maintain high customer satisfaction and prevent attrition.</p>
Incentives	<p>Implement a fixed monthly incentive throughout the cooling season.</p> <p>Use on-bill messaging to highlight when the bill credit is applied to ensure customers are aware of when the bill credit is applied and can attribute the savings to Saver's Switch.</p> <p>Maintain one cycling strategy and incentive structure to ensure the program is easy for customers to understand.</p>

Source: Navigant

Table 5. Moderate Priority Initiatives

Research Objective	Initiative
Recruitment	Explain the benefits of a Saver's Switch-enrolled home to move-in⁵ customers when they turn on their electricity service, either by phone or online. Highlight that the customer has skipped the installation appointment, saved time, and is automatically signed up for the bill credit. Emphasize the bill credit and environmental benefits.
	Improve program education for move-in participants by including a QR code on move-in outreach letters to direct move-in customers to the Saver's Switch Frequently Asked Questions webpage. Offer customers the option to provide their email address on this page for further engagement. Alternatively, a special webpage for move-in customers could be created and provided with move-in-specific communications.
	Shift to digital media-heavy outreach to attract customers who prefer email communication and online information, and to ensure easy, immediate enrollment.
Incentives	Send a thank you letter to participants at the end of the cooling season summarizing the program's collective savings.

Source: Navigant

Table 6. Low Priority Initiatives

Research Objective	Initiative
Pre-Event Notifications	Explore opportunities to offer opt-in pre-event notifications and limit marketing for this option to provide value to the small number of customers that request it while avoiding negative impacts on current customer sentiments and attrition rates.
	Pair notifications with customer education on why the notification is being offered and suggested actions customers might take in response to the pending event.
	Provide a program fact sheet or bill insert (email for paperless customers) that includes the new opt-in notification process.
Participant Satisfaction	Update the call center script to include the opt-in notification process.
	Provide customers a thank you gift (e.g., a free LED light bulb, an Xcel Energy-branded LED night light) if there is customer pushback for being present during the switch upgrade.

Source: Navigant

⁵ Move-in respondents refer to respondents who moved into a home with a Saver's Switch previously installed, while opt-in respondents refer to respondents who actively enrolled in the program.

APPENDIX A. DETAILED RESEARCH OBJECTIVES

Table A-1 lists the research questions from the Research Objectives Memo provided to Xcel Energy to consider for this evaluation, including those questions developed for optional research activities. These research questions were further informed and refined through interviews with Xcel Energy staff. Xcel Energy and Navigant agreed on objectives 1 through 5 as the primary research objectives for the evaluation. More detail on objectives for each approved research activity can be found in Table A-2, Table A-3, and Table A-4.

Table A-1. Saver's Switch Program Research Objectives and Potential Research Questions

Research Objectives	Saver's Switch Program Context	Research Questions
1. Recruitment	Program recruitment has slowed and is approaching saturation.	<ul style="list-style-type: none"> • How can Xcel Energy increase enrollment? • How can Xcel Energy recruit nonparticipating eligible customers that have already been marketed to? • What types of customers typically enroll in Saver's Switch? • What customer characteristics should Xcel Energy target? • What program benefits are most important to the ideal target market segment? • How should those benefits be communicated—i.e., message, media?
2. Participant Awareness	Program awareness is low.	<ul style="list-style-type: none"> • What portion of participants are aware of their enrollment in the program? • What portion of participants are aware of specific DR events? • How can Xcel Energy increase awareness and engagement with the program? • How would increasing program awareness affect participant satisfaction? • How would increasing program awareness affect attrition? • How would increasing program awareness affect participant satisfaction with Xcel Energy overall?
3. Event Notifications	Xcel Energy is considering pre-event notifications.	<ul style="list-style-type: none"> • In what ways would event notifications affect participant satisfaction? • In what ways would participants benefit from event notifications? • Would event notifications lead to higher attrition? • Which other similar programs notify participants and what can be learned from them?
4. Participant Satisfaction	Participants are relatively satisfied.	<ul style="list-style-type: none"> • What portion of participants are satisfied with the program overall? • What portion of participants are satisfied with the control events? • How do participants feel about the length and frequency of control events? • What could Xcel Energy do to increase participant satisfaction? • How do participants feel about Xcel Energy overall?

Research Objectives	Saver's Switch Program Context	Research Questions
5. Interaction with AC Rewards	AC Rewards is a new residential DR program, and dual enrollment with Saver's Switch is not allowed.	<ul style="list-style-type: none"> • In what ways do AC Rewards and Saver's Switch complement or compete with each other? • Do customers understand the differences? • How does a customer decide which program is right for them? • How can these programs work more effectively together?
6. Incentives	Colorado participants are paid \$40 per season; Minnesota participants receive a 15% discount on June-September bills.	<ul style="list-style-type: none"> • What portion of participants are aware of their current incentive level? • Are the current incentives appropriate? • How would participants react to a decreased incentive? • How would changing incentives affect Xcel Energy's ability to recruit new participants? • Would decreasing incentives cause participants to drop out of the program? • Would participants place greater value on alternative incentives? Would alternative incentives resonate with new participants?
7. Attrition	Participant attrition is low.	<ul style="list-style-type: none"> • None (<i>captured in 5 and 7</i>)
8. Cycling Strategy	All participants are cycled using a 50% adaptive algorithm.	<ul style="list-style-type: none"> • How would participants react to higher cycling strategies? Would they notice? Would they drop out of the program? • How could Xcel Energy change the incentives structure if the program adopted varied cycling strategies? • Which other similar programs use varied cycling strategies and what can be learned from them?
9. Switch Operability	Xcel Energy is making hardware updates to facilitate two-way communications with switches.	<ul style="list-style-type: none"> • What is the current estimated rate of switch failure? • Is the failure rate different between residential and commercial switches? • How can Xcel Energy best maximize the value of two-way communications for identifying failed switches?
10. Water Heaters	Minnesota residential participants can enroll an electric water heater along with their AC.	<ul style="list-style-type: none"> • How saturated are electric water heater enrollments in Minnesota? • What would be the benefits of expanding the water heater program to Colorado? What might be the costs?
11. Program Operations	The Saver's Switch program is cost-effective.	<ul style="list-style-type: none"> • What is the cost-effectiveness ratio? • How could the program's operations be changed to (more) cost-effectively meet participant needs? • How could operations be streamlined?

Research Objectives	Saver's Switch Program Context	Research Questions
12. DR as a Resource	Xcel Energy anticipates increasing the proportion of intermittent resources in its portfolio and pursuing use of DR for targeted locations.	<ul style="list-style-type: none"> • How can Saver's Switch be used as a tool for managing energy supply in the future? • What program changes would need to be made? • What would be the implications on existing participants? • How are other utilities controlling their DR programs and what are the event triggers they use (e.g., systemwide vs. localized capacity constraints)?

Source: Navigant

A.1 Peer Benchmarking Research Objectives

The peer benchmarking task focused on the research objectives outlined in Table A-2.

Table A-2. Peer Benchmarking Research Objectives

Peer Benchmarking Research Objectives
Program Design: Determine key elements of program design including age of program, incentive levels, number of participants, average number of events, equipment cycled through program, switch type.
Recruitment: Understand customer demographics and segmentation, as well as recruitment, retention, customer education, marketing, and messaging strategies.
Awareness and Event Notifications: Assess customer awareness and how notifications affect the customer experience.
Participant Satisfaction: Collect customer feedback provided in past participant surveys, including key metrics such as program satisfaction.
Cycling Strategies: Understand the cycling strategies used by the program and key lessons learned.
Interaction with Smart Thermostat Program: Assess how the direct control program interacts with the smart thermostat program (if offered by the utility).
Switch Operability: Determine how the utility uses two-way switches to identify failures and the approach for replacing failed switches.
DR as a Resource: Understand the utility's strategy for triggering events and the program's role in managing energy supply in the service territory.

Source: Navigant

A.2 Post-Event Customer Survey Research Objectives

The post-event customer survey focused on the research objectives outlined in Table A-3.

Table A-3. Post-Event Customer Survey Research Objectives

Post-Event Customer Survey Research Objectives
Awareness: Understand current levels of event awareness and how respondents become aware of events in the current program state.
Event Notifications: Collect feedback on how customer actions would have changed if they were to receive a pre-event notification from Xcel Energy.

Post-Event Customer Survey Research Objectives

Comfort: Collect data on event and placebo survey respondents' changes in comfort, how the changes in comfort aligned with the event hours or peak temperatures, and any changes to typical routines made as a result of changes in comfort.

Participant Satisfaction: Assess customer satisfaction with specific program characteristics, such as the incentive amounts, the program overall, and Xcel Energy in general.

Demographics: Collect data on Saver's Switch customer demographics to better understand what types of customers typically enroll in the Saver's Switch program and form an understanding of targeted customer characteristics for additional recruitment.

Source: Navigant

A.3 End-of-Season Customer Survey Research Objectives

The end-of-season customer survey focused on the research objectives outlined in Table A-4.

Table A-4. End-of-Season Customer Survey Research Objectives

End-of-Season Customer Survey Research Objectives

Motivations for Enrollment: Understand how recent Saver's Switch enrollees first heard about the program and the primary motivations for choosing to enroll.

Interactions with AC Rewards: Understand Saver's Switch recent enrollee awareness of the AC Rewards program and the decision-making process to choose between the two programs.

Awareness: Understand customer awareness of events throughout the season and how respondents become aware of events in the current program state.

Event Notifications: Collect feedback on how customers would prefer to find out about control events and how customers actions would have changed if they were to receive a pre-event notification from Xcel Energy.

Comfort: Collect data on event and placebo survey respondents' changes in comfort, how the changes in comfort aligned with the event hours or peak temperatures, and any changes to typical routines made as a result of changes in comfort.

Participant Satisfaction: Assess customer satisfaction with specific program characteristics, such as the incentive amounts, number of control events, length and duration of control events, the program overall, and Xcel Energy in general.

Demographics/Firmographics: Collect data on Saver's Switch residential customer demographics and business customer firmographics to better understand what types of customers typically enroll in the Saver's Switch program and form an understanding of targeted customer characteristics for additional recruitment.

Source: Navigant

APPENDIX B. INTERIM DELIVERABLE: POST-EVENT SURVEY MEMO

B.1 Executive Overview

The Saver's Switch program allows Xcel Energy's residential customers in Colorado to earn an incentive by providing the Company control of their air conditioning (AC). The Company controls customer's AC during times of seasonal peak demand when the Company calls demand response (DR) direct load control (DLC) events. In the summer of 2019, Navigant fielded both an event and placebo survey on a day when Xcel Energy called a Saver's Switch event. A random sample of customers who were called in the event received the event survey, while a random sample of those who were not called received the placebo survey.

This memo presents preliminary findings from the survey with an emphasis on the impact events have on customer comfort, the pros and cons of notifications and the associated increase in customer awareness, and drivers for current levels of satisfaction. A summary of key findings is presented in Table B-1.

Table B-1. Key Findings from the Post-Event Survey

<p>Comfort (see p. B-2)</p>	<ul style="list-style-type: none"> • The control events are not affecting comfort for most customers, with only about 2 in 10 event survey respondents reporting a change in comfort during the time of the event. • Even among those event survey respondents who reported a change in comfort, 56 percent were not aware an event occurred and therefore could not possibly attribute any discomfort to their participation in Saver's Switch. • The survey results further suggest that more than half of the reported discomfort is attributable to the hot weather generally, not related to the event itself (based on the fact that about 1 in 10 placebo respondents reported a change in comfort even though they were not subject to an event).
<p>Awareness & Event Notifications (see p. B-4)</p>	<ul style="list-style-type: none"> • Current event awareness is low, with only 10 percent of event survey respondents aware of the control event. The low awareness and the survey results suggest this may be beneficial for overall program satisfaction. • Sixteen percent of respondents anticipated changing their behavior in response to events if Xcel Energy sent a notification. Respondent changes to energy use in the home after receiving a notification would most likely be related to improving comfort with little change in energy use during the event and the results do not suggest notifications would lead to attrition. Some customers may even take additional action to support Xcel Energy's goals during the event.
<p>Participant Satisfaction (see p. B-6)</p>	<ul style="list-style-type: none"> • On average, participants are highly satisfied with bill credits, comfort during events, Saver's Switch overall, and Xcel Energy overall. • Respondent satisfaction with the Saver's Switch program tends to be driven by the minimal impact the events have on customers and by dollar savings from the bill credit. • While most respondents indicated participation in Saver's Switch had a positive or neutral impact on satisfaction with Xcel Energy in general, there may be room to improve the experience of move-in participants, who were more likely to report that Saver's Switch decreased their satisfaction with Xcel Energy.

Source: Navigant

B.2 Post-Event Survey Approach

Navigant designed the post-event surveys to assess participant awareness of events, satisfaction, participant comfort during events, and actions taken to stay cool during the event. Navigant fielded both an event and placebo survey on a day when Xcel Energy called a Saver's Switch event. A random sample of customers who were called on the event received the event survey, while a random sample of those who were not called received the placebo survey. Customer responses from the placebo survey provide a measure of baseline customer comfort, actions, and satisfaction against which the event survey customer responses can be compared. Key details for the event and placebo survey can be found in Table B-2.

Table B-2. Placebo and Event Survey Key Details

Survey Type	Event Date	Event Time	Peak Temperature	Heat Index ⁶
Event	August 19th	3 – 9 PM	96	97
Placebo	August 19th	3 – 9 PM	96	97

Source: Navigant

Navigant collected data from customers through both phone and online surveys, as described in Table B-3.

Table B-3. Summary of Completes for each Survey and Mode

Survey Type	Phone Completes	Online Completes	Total Completes
Event	40	53	93
Placebo	44	53	97

Source: Navigant

In addition to analyzing differences between event and placebo survey respondents, Navigant analyzed responses to understand differences between respondents who actively enrolled in the program (opt-in respondents), and respondents who moved into a home with a Saver's Switch previously installed (move-in respondents).

Navigant designed the survey instrument to ask specific questions of certain respondents, dependent on whether the respondent received an event or placebo survey, as well as their responses to previous questions. Since the number of responses for each question varies, this memo includes "n" values in parentheses to indicate the total number of responses to a given question where appropriate.

B.3 Post-Event Survey Analysis Findings: Comfort

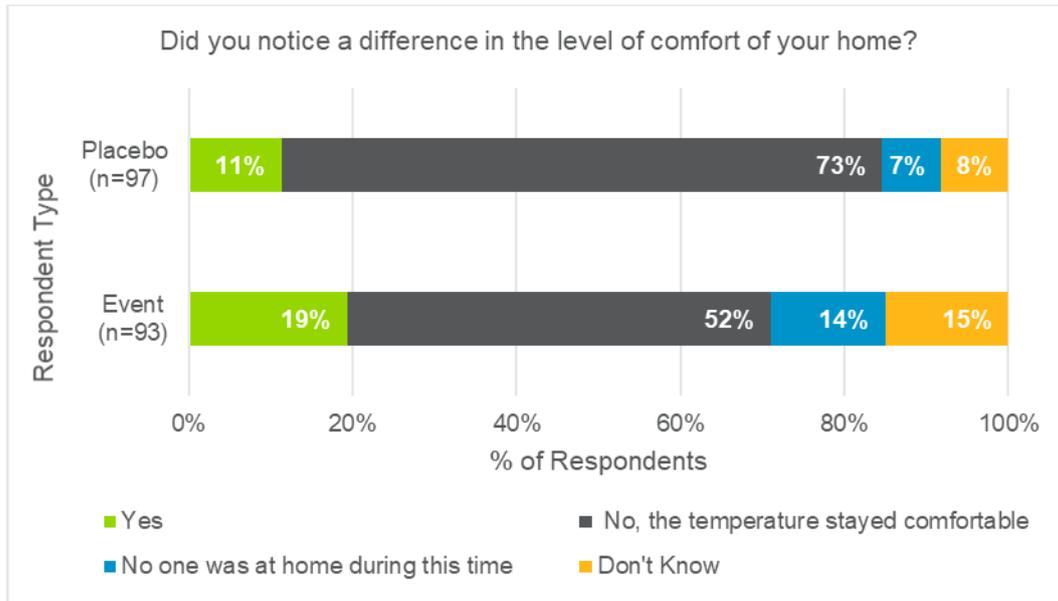
Navigant compared event and placebo survey respondent comfort during the event times to help Xcel Energy better understand the customer experience and satisfaction with the program. The vast majority of event survey respondents (more than 80%) did not experience any change in comfort, and the presence of discomfort amongst the placebo survey respondents suggests the event may not be the only driver of discomfort.

As shown in Figure B-1, only a small portion of event survey respondents, 19 percent, reported a change in comfort in their home during the time of the event (n=93). Of these event survey

⁶ Heat index takes into account relative humidity in addition to temperature, therefore, providing a more accurate, real feel metric.

respondents, 56 percent were not aware an event occurred and therefore could not possibly attribute any discomfort to their participation in Saver's Switch. Even among placebo respondents who were not subject to an event, 11 percent reported a change in comfort during the time of the event (n=97). The difference between event and placebo survey respondents is statistically significant, suggesting that much of the discomfort from event respondents is attributable to the hot weather generally and not entirely to the change in indoor temperature caused by AC cycling.⁷

Figure B-1. Reported Changes in Respondent Level of Comfort



Note: Excludes respondents who indicated Prefer not to respond.

Source: Navigant analysis of post-event survey data

Among respondents who noticed a change in comfort, this change appears to be significant for only about half—although the small sample size for this nested question limits the generalizability of the findings. Navigant received comfort ratings on a scale of 1 (No Change in Comfort) to 5 (Very Uncomfortable) from seven event survey respondents and six placebo survey respondents who reported a change in comfort.^{8,9} Of these respondents, 86% of event survey respondents and 67% of placebo survey respondents reported some level of discomfort (a 2-5 rating on the 1-5 scale).

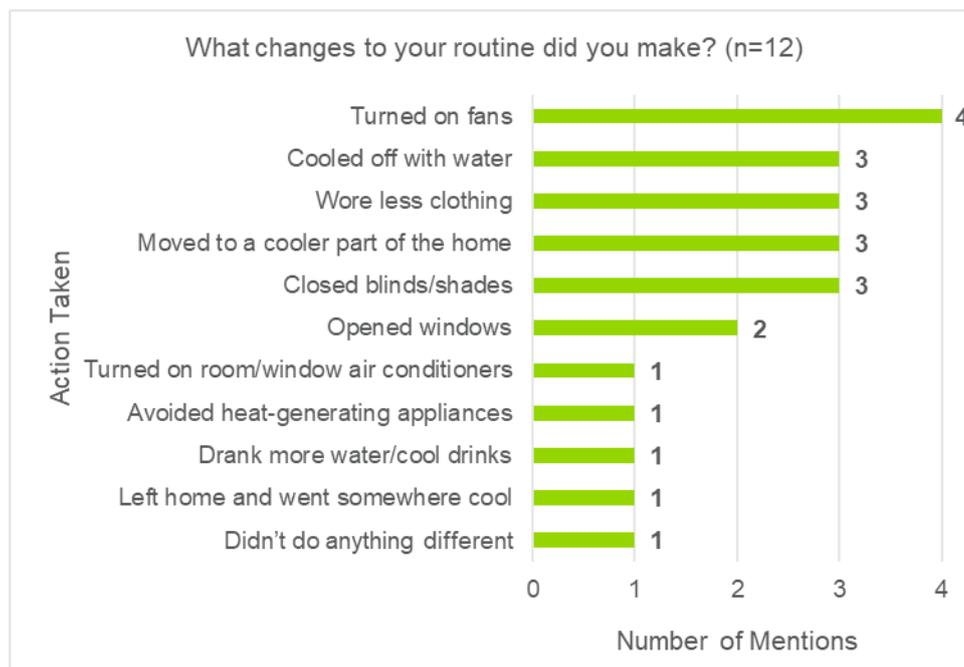
Of the respondents who reported discomfort, some event survey (n=7) and some placebo survey (n=5) respondents reported making a change to their typical daily routine or taking actions to keep cool. Figure B-2 shows the actions these respondents took in response to experiencing discomfort. Most respondents took actions to improve their comfort without increasing their demand during the event times.

⁷ Pearson-Chi Square test used to determine significance at a 90% confidence level.

⁸ Average comfort rating results exclude online survey responses due to data collection issues.

⁹ The differences between event and placebo are not statistically significant based on the Pearson Chi-Square test at a 90% confidence level.

Figure B-2. Actions Taken to Keep Cool



Notes: Includes responses only from respondents who reported making changes to their routine. Respondents were allowed to provide multiple responses.

Source: Navigant analysis of post-event survey data

B.4 Post-Event Survey Analysis Findings: Awareness & Event Notifications

Xcel Energy has historically found participant awareness of events to be low and is now considering pre-event notifications. Consequently, Navigant sought to understand how increased awareness through notifications would impact the program. Based on survey responses, participant awareness of events continues to be low and most respondents would be unlikely to change their behavior during the event even if the Company provided a notification. Of respondents who would anticipate changing their behavior in response to a notification, respondent changes to energy use in the home would most likely be related to improving comfort with little change in energy use during the event and the results do not suggest notifications would lead to attrition. Some customers may even take additional action to support Xcel Energy's goals.

Just 10 percent of event survey respondents reported being aware that Xcel Energy had initiated a Saver's Switch event (n=93) with most of those respondents indicating they knew there was an event because of the heat. This may indicate that the most engaged customers are thinking about when their switches might be activated. This segment of the program participants might also be most interested in opting into notifications if they were offered in the future. In addition, fifteen percent of move-in respondents were aware of the event, while only 8 percent of opt-in respondents were aware of the event, suggesting that move-in respondents may be more sensitive to changes in indoor temperature caused by AC cycling.¹⁰

Navigant also sought to understand how event notifications, and the anticipated potential increase in customer awareness, might influence customer behavior during an event. Only 16 percent of respondents anticipated making changes to their actions to stay cool during a control event if Xcel

¹⁰ The differences between move-in and opt-in customers are not statistically significant based on the Pearson Chi-Square test at a 90% confidence level.

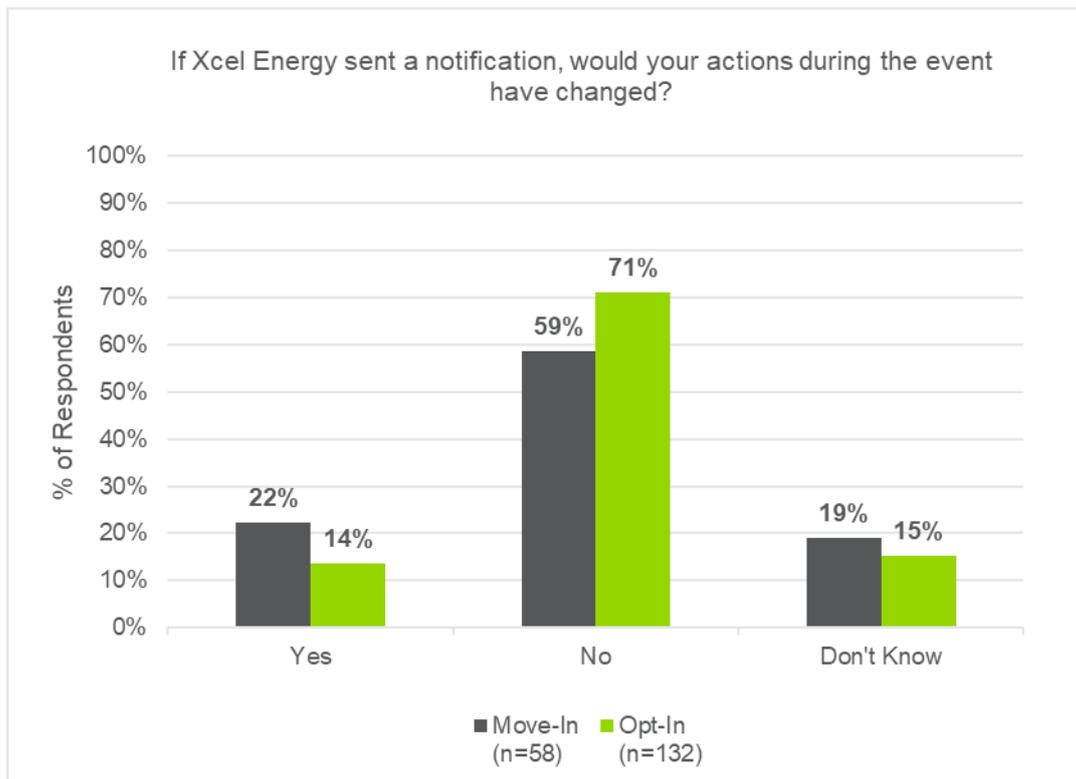
Energy sent a notification with information about why control events are important to ensuring reliability and reasonable energy prices. The most frequently reported anticipated changes (n=28) included precooling the home by setting the thermostat lower for a period prior to the event (5 mentions) and not using large appliances or the AC during the event (5 mentions). Respondents also reported they would have been better informed and aware of the program if they received event notifications (5 mentions), which suggests some customers may seek to further support Xcel Energy's goals during events if they better understood them.

Given this feedback, notifications likely will not impact the behavior of most customers. Of the customers whose behaviors would change, the responses would likely vary:

- Comfort-driven customers may attempt to shift their energy use to an earlier time to improve their comfort during DR events.
- Customers who support Xcel Energy's efforts to ensure reliability and reasonable energy prices may seek additional actions to reduce their energy use.

As seen in Figure B-3, move-in respondents more frequently reported their behavior would change if they received a notification.¹¹ Move-in respondents may not currently fully understand the details of AC cycling during events due to a lower level of education about the program. Improved education could impact anticipated behavior change if Xcel Energy provided notifications.

Figure B-3. Potential Impact of Notifications on Customer Behavior



Source: Navigant analysis of post-event survey data

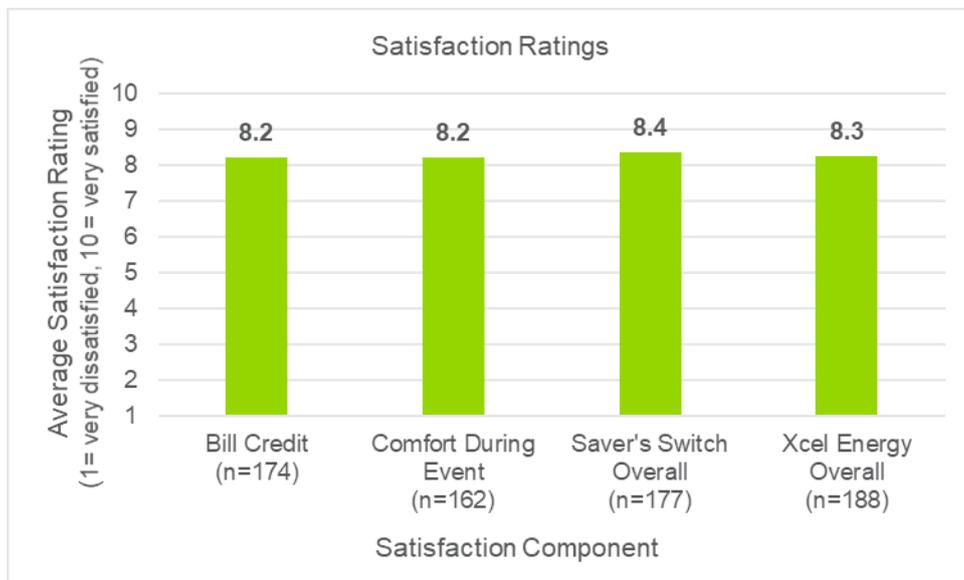
¹¹ The differences between move-in and opt-in customers are statistically significant based on the Pearson Chi-Square test at a 90% confidence level.

B.5 Post-Event Survey Analysis Findings: Participant Satisfaction

Xcel Energy wants to better understand current levels of participant satisfaction with the Saver's Switch Program and Xcel Energy overall and identify areas of improvement to improve satisfaction. In addition, Xcel Energy has different incentive levels across states and wants to understand whether current incentive levels are appropriate and how decreasing incentives might impact participant attrition. Respondents are satisfied with the program, including the bill credit, and Xcel Energy in general. The survey results suggest the bill credit is a driver for overall program satisfaction, so changes to the bill credit could impact general program satisfaction.

As shown in Figure B-4, participants are highly satisfied on average with bill credits, comfort during events, Saver's Switch overall, and Xcel Energy overall. Of respondents who provided a rating, very few customers reported a satisfaction rating below 5 on a 1 ("Very Dissatisfied") to 10 ("Very Satisfied") scale for all topics: bill credits (20 percent), comfort during events (16 percent), Saver's Switch overall (17 percent) and Xcel Energy overall (12 percent). Appendix B.8 includes the distribution of satisfaction ratings for each satisfaction component included in the survey.

Figure B-4. Average Satisfaction Ratings



Note: Excludes respondents who indicated Don't Know or Prefer not to respond.
Source: Navigant analysis of post-event survey data

Respondents had the lowest average satisfaction rating with the bill credits and comfort during events. When respondents who reported low or neutral satisfaction with the bill credit (a rating of 1-6 on the 1-10 scale) were asked for feedback on the rating, they tended to report they preferred higher credit amounts (n=19). Unsurprisingly, the comparatively lower satisfaction with comfort during the event is driven by customers feeling too hot.

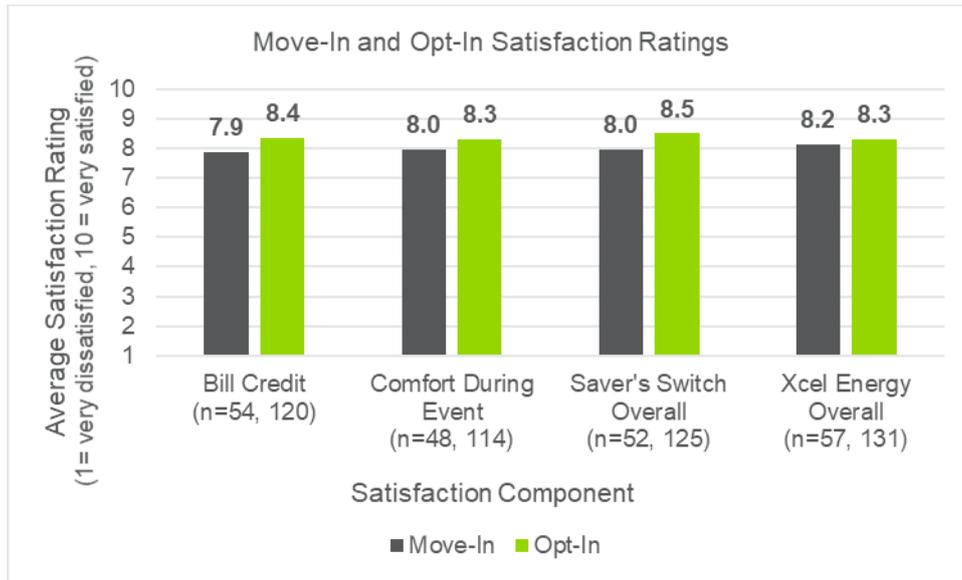
According to verbatims (n=176), respondent satisfaction with the Saver's Switch program overall tends to be driven by the minimal impact the events have on customers (54 mentions) and dollar savings from the bill credit (34 mentions). Consequently, customer sentiment and satisfaction may change as a result of program design changes, such as increasing the length of events or a change to energy bill credits.

Xcel Energy's energy prices both positively (14 mentions) and negatively (26 mentions) influence satisfaction with Xcel Energy in general, according to verbatims (n=204). Respondent satisfaction with

Xcel Energy is positively impacted by the Company's fast resolution and communication related to power outages (16 mentions).

While the differences are not statistically significant, reported satisfaction differs slightly between move-in respondents and opt-in respondents as shown in Figure B-5, indicating respondent satisfaction is not strongly influenced by whether the current homeowner or participant actively made the decision to enroll in the Saver's Switch program.¹²

Figure B-5. Average Satisfaction Ratings, Move-In versus Opt-In (n=move-in, opt-in)



Note: Excludes respondents who indicated Don't Know or Prefer not to respond.

Source: Navigant analysis of post-event survey data

Again here, the differences are not statistically significant, though event survey respondents and placebo survey respondents reported differences in satisfaction.¹³ As expected, event respondents reported lower satisfaction with comfort during the event than did placebo respondents. This difference in satisfaction between event and placebo respondents also appears in participant satisfaction with Saver's Switch overall and Xcel Energy overall, shown in Figure B-6.

¹² Independent-Samples Mann-Whitney U Test used to determine significance at the 0.10 level.

¹³ Independent-Samples Mann-Whitney U Test used to determine significance at the 0.10 level.

Figure B-6. Average Satisfaction Ratings, Event versus Placebo (n=event, placebo)



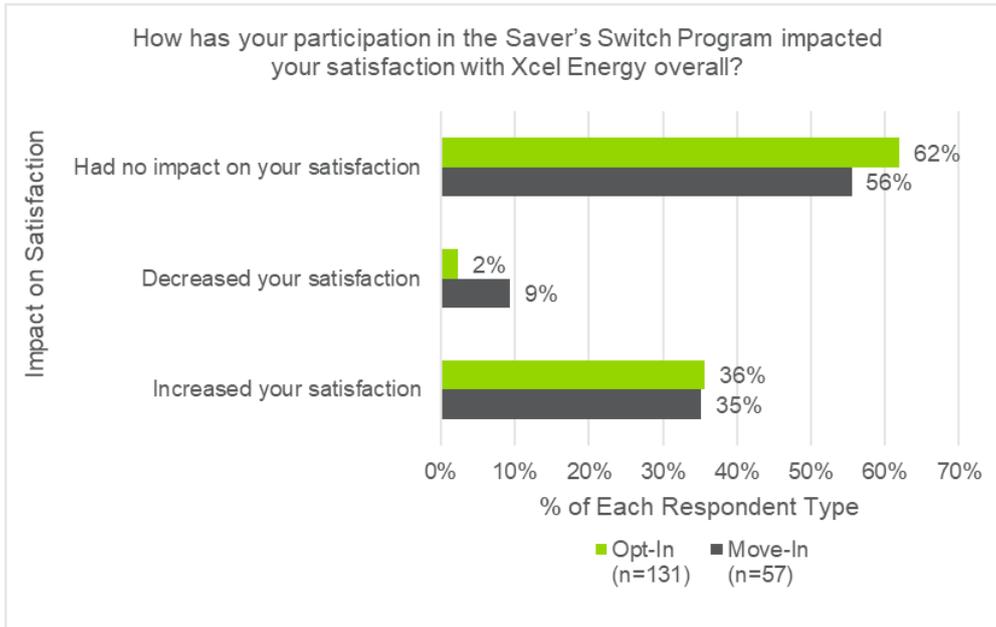
Note: Excludes respondents who indicated Don't Know or Prefer not to respond.

Source: Navigant analysis of post-event survey data

Some respondents indicated that their participation in Saver's Switch impacted their satisfaction with Xcel Energy overall. As shown in Figure B-7, slightly over half of respondents indicated no impact, while slightly over one-third indicated their participation in the program increased their satisfaction with Xcel Energy overall. While most respondents indicated participation in Saver's Switch had a positive or neutral impact on satisfaction with Xcel Energy in general, there may be room to improve the experience of move-in participants, who were more likely to report that Saver's Switch decreased their satisfaction with Xcel Energy.¹⁴

¹⁴ The differences between move-in and opt-in customers who reported decreased satisfaction compared to those who reported increased or no effect on satisfaction are statistically significant based on the Pearson Chi-Square test at a 90% confidence level.

Figure B-7. Saver's Switch Participation Impact on Xcel Energy Overall Satisfaction

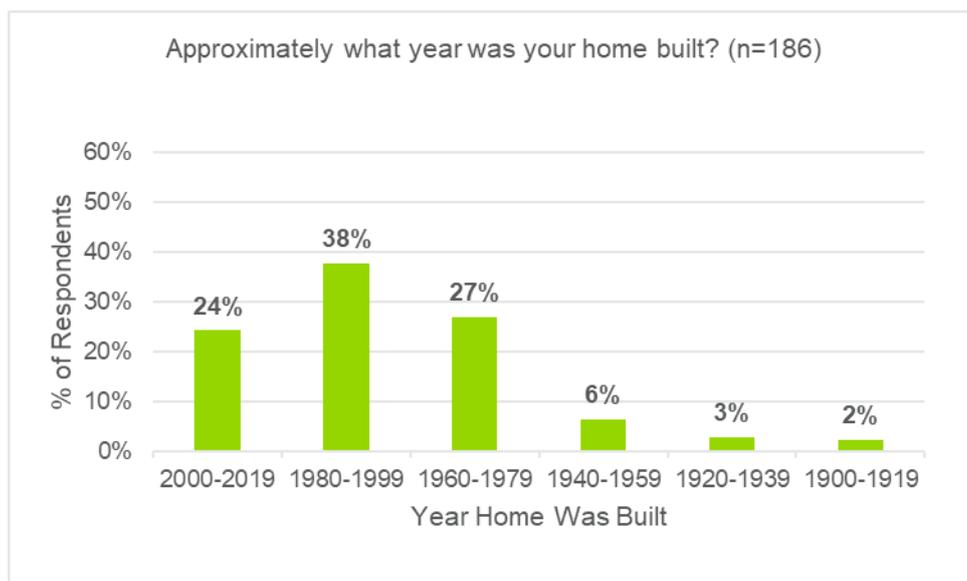


Note: Excludes respondents who indicated Don't Know or Prefer not to respond.
Source: Navigant analysis of post-event survey data

B.6 Post-Event Survey Analysis Findings: Demographics

The Saver's Switch Program is reaching saturation and Xcel Energy wants to better understand the current participant population to help develop an understanding of ideal program participants and to inform recruitment strategies. Navigant gathered customer demographic information to understand the profiles of program participants. Most respondents, 83 percent (n=158), live in a single-family home. As shown in Figure B-8, only 38% of respondents (n=186) live in a home that is older than 40 years, while nearly a quarter, 24 percent, live in a home built in the last 20 years.

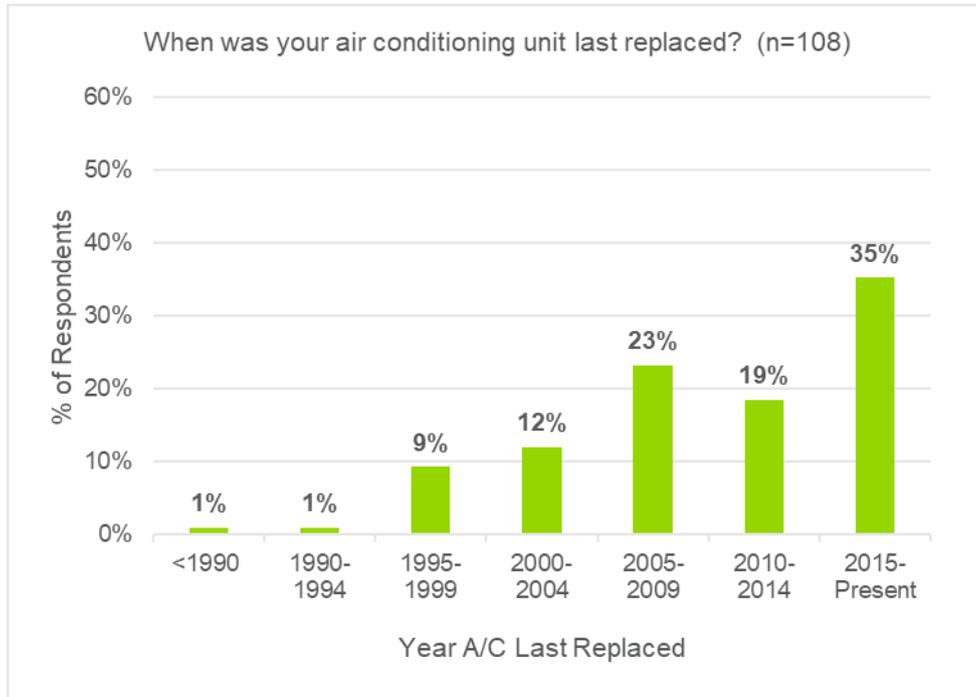
Figure B-8. Age of Home



Note: Excludes respondents who indicated Don't Know.
Source: Navigant analysis of post-event survey data

Sixty-five percent (n=108) of respondents live with two to three people (including themselves) in their home at least six months out of the year. As shown in Figure B-9, 35 percent of respondents (n=83) replaced their AC units in the last 4 years, which may help inform decisions about recruitment not only for Saver's Switch but also for other AC-related programs.

Figure B-9. AC Replacement



Source: Navigant analysis of post-event survey data

The appendix includes additional demographics charts related to number of home occupants, approximate home square footage and home type.

B.7 Post-Event Survey Research Objectives

The post-event surveys were designed to collect data to inform insights on various topic areas, as outlined in Table B-4.

Table B-4. Summary of Research Objectives

Topic	Research Objectives
Comfort	Navigant collected data on event and placebo survey respondents' changes in comfort, how the changes in comfort aligned with the event hours and/or peak temperatures, and any changes to typical routines made as a result of changes in comfort. Respondent feedback on these elements can provide insight on the customer experience participating in the Saver's Switch Program and the associated DR events and help assess the value of increased customer awareness and engagement.

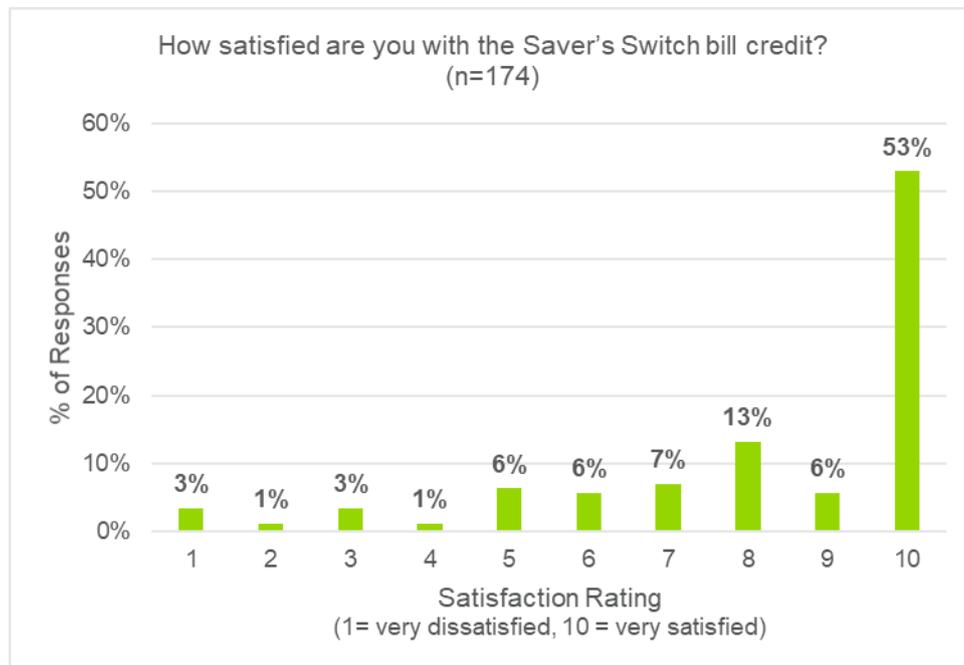
Topic	Research Objectives
Awareness & Event Notifications	Navigant collected data on event survey respondent awareness of the event and how respondents became aware of the event. In addition, survey respondents provided feedback on how their actions would have changed if they were to receive a notification from Xcel Energy. Respondent feedback on these elements can help inform changes around customer awareness and engagement with the program. These objectives are also researched in more depth in the end-of-season survey.
Participant Satisfaction	Navigant assessed customer satisfaction with specific program characteristics, such as the incentive amounts, the program overall, and Xcel Energy in general. Respondent feedback on these elements can inform opportunities to improve customer satisfaction.
Demographics	Navigant collected data on customer demographics to help Xcel Energy understand what types of customers typically enroll in the Saver's Switch Program and form a foundation of understanding for targeting customer characteristics for additional recruitment. These recruitment objectives are also researched in more depth in the end-of-season survey.

Source: Navigant

B.8 Participation Score Distributions

The graphs below show the distribution of satisfaction ratings among respondents.

Figure B-10. Satisfaction Rating Distribution, Bill Credit

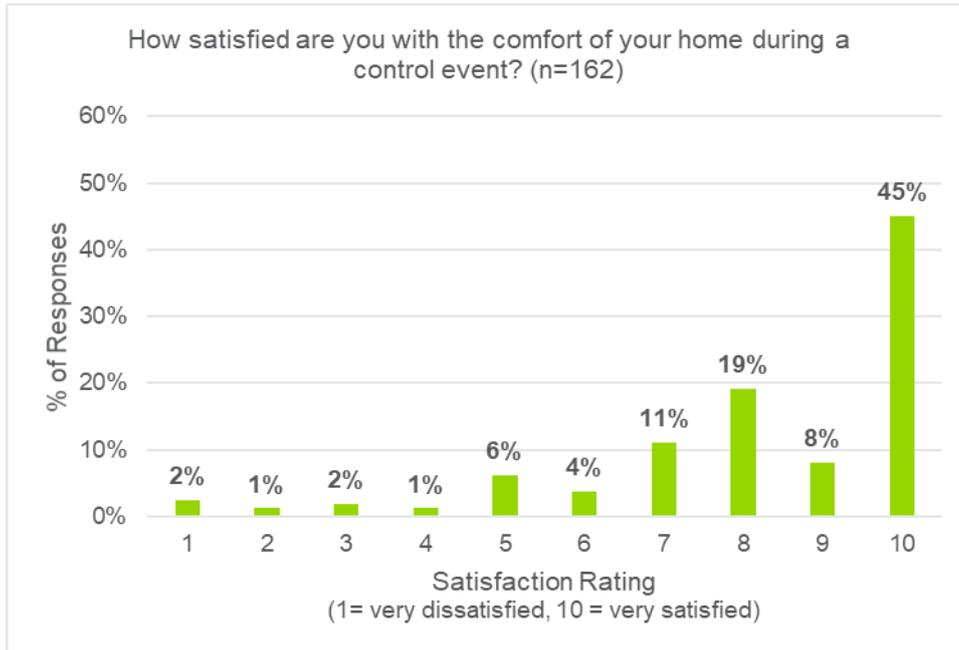


Average satisfaction rating for bill credit = 8.2.

Note: Excludes respondents who indicated Don't Know or Prefer not to respond.

Source: Navigant analysis of post-event survey data

Figure B-11. Satisfaction Rating Distribution, Comfort

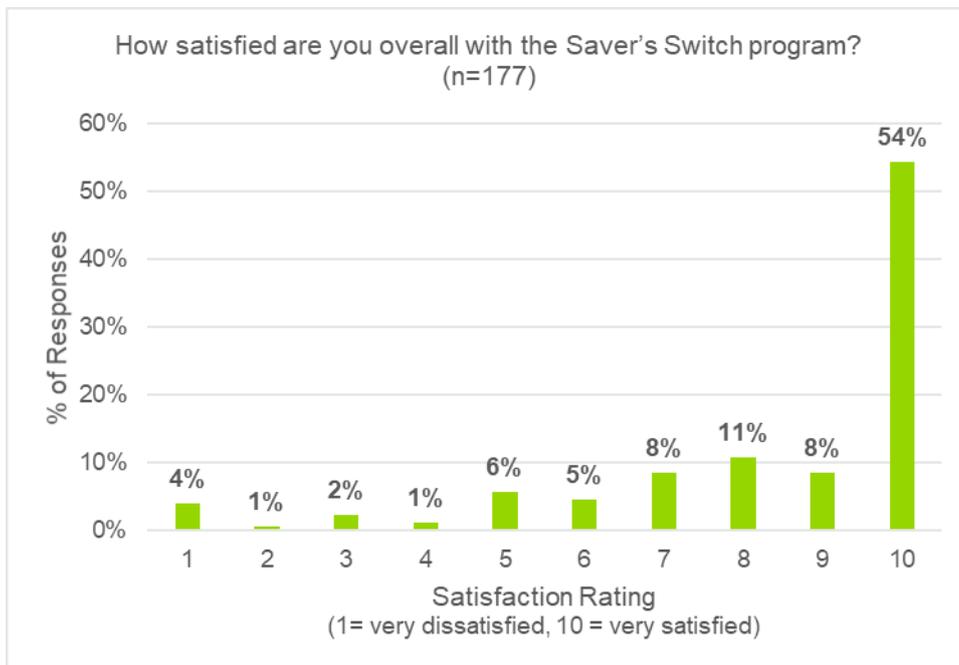


Average satisfaction rating for comfort = 8.2.

Note: Excludes respondents who indicated Don't Know or Prefer not to respond.

Source: Navigant analysis of post-event survey data

Figure B-12. Satisfaction Rating Distribution, Saver's Switch Overall

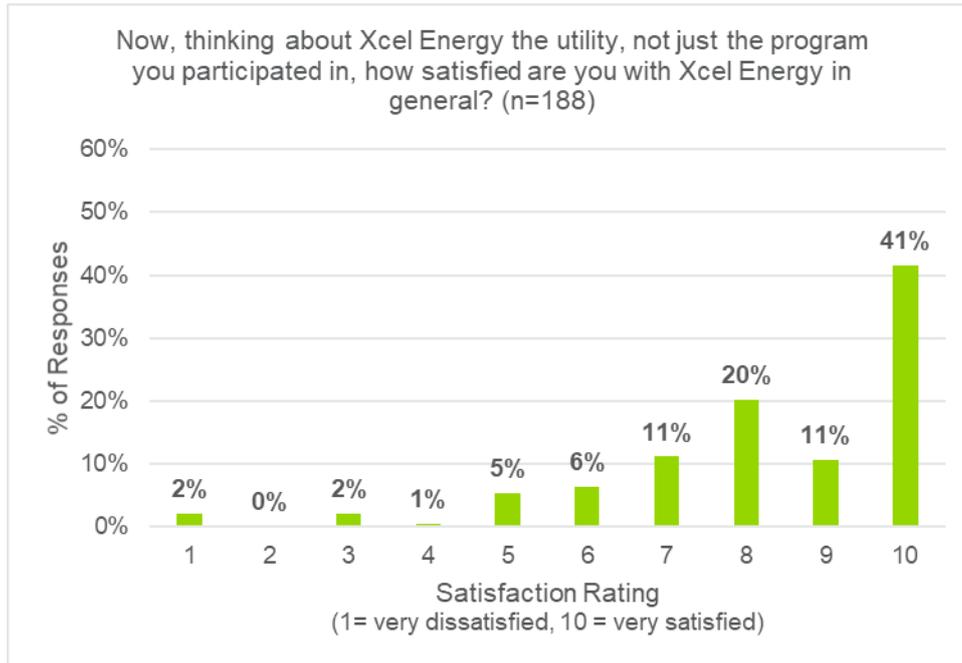


Average satisfaction rating for Saver's Switch overall = 8.4.

Note: Excludes respondents who indicated Don't Know or Prefer not to respond.

Source: Navigant analysis of post-event survey data

Figure B-13. Satisfaction Rating Distribution, Xcel Energy Overall



Average satisfaction rating for Xcel Energy overall = 8.3.

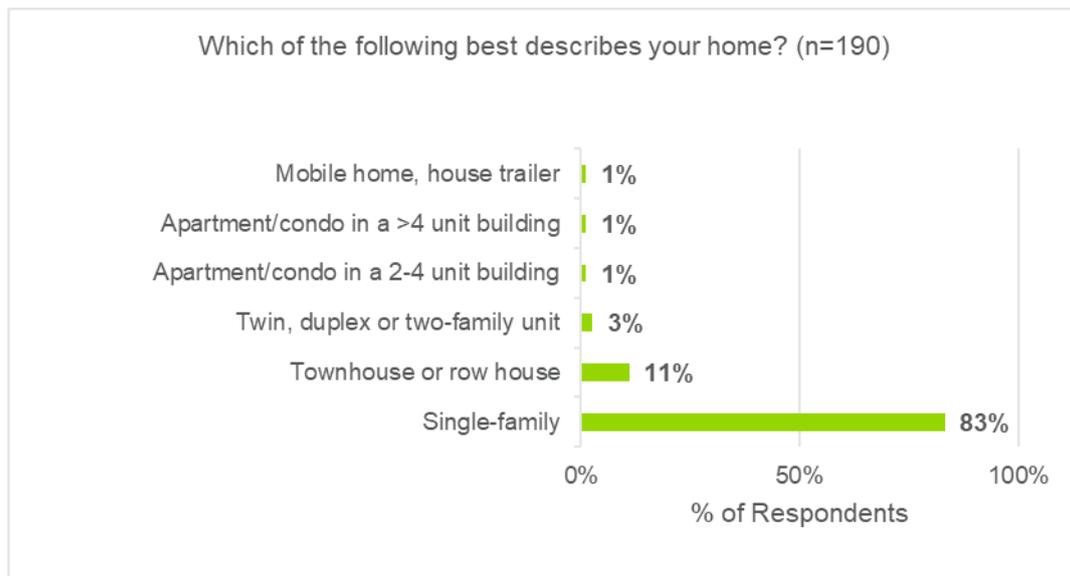
Note: Excludes respondents who indicated Don't Know or Prefer not to respond.

Source: Navigant analysis of post-event survey data

B.9 Demographic Graphs

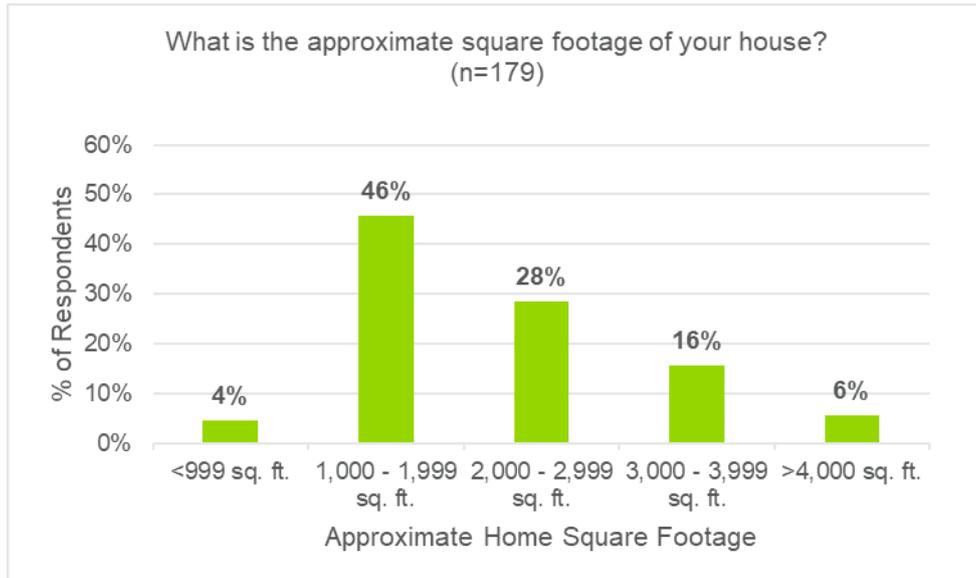
The figures below display demographic information among respondents.

Figure B-14. Type of Home



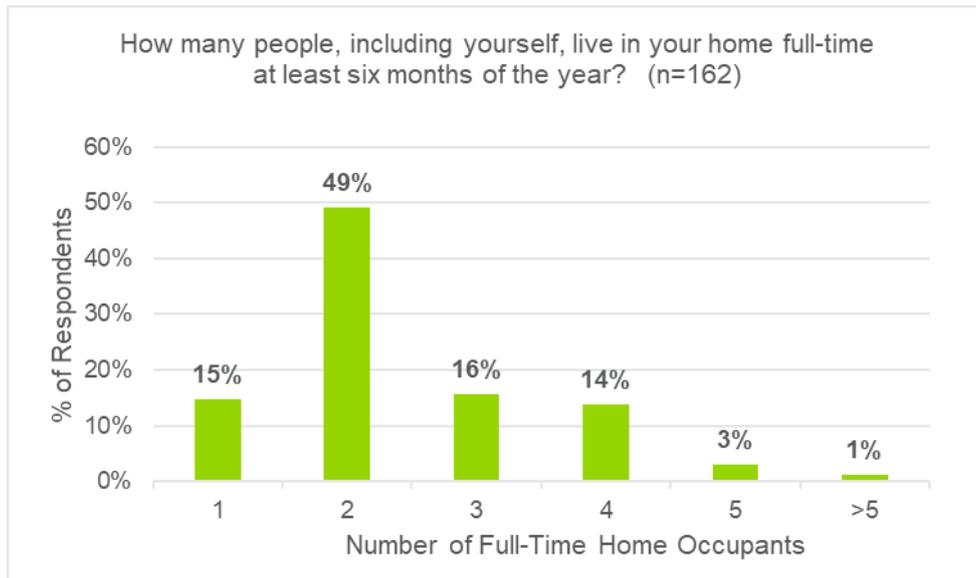
Source: Navigant analysis of post-event survey data

Figure B-15. Home Square Footage



Note: Excludes respondents who indicated Don't Know or Prefer not to respond.
Source: Navigant analysis of post-event survey data

Figure B-16. Home Occupants



Note: Excludes respondents who indicated Don't Know or Prefer not to respond.
Source: Navigant analysis of post-event survey data

APPENDIX C. INTERIM DELIVERABLE: BENCHMARKING SUMMARY

Navigant conducted five benchmarking interviews and one desk review of peer companies with programs like Xcel Energy's Saver's Switch program, a demand response (DR) direct load control (DLC) program. This document provides a summary of the key findings on program design, recruitment strategies, participant satisfaction, participant event awareness, utilities' cycling strategies, DLC switch operability, and how utilities see DR as a resource now and in the future.

C.1 Program Design

- The DR DLC programs that Navigant analyzed are mature programs, ranging from 9 to 40 years in age.
- In terms of size, the programs vary from 70,000 to 925,000 participants.
- Half of the utilities analyzed serve residential customers, while the other half serve a mix of residential and small commercial.
- The incentive levels of the programs mainly include a combination of a one-time enrollment incentive (ranging from \$25-\$100) and/or yearly bill credits.
- Other program design elements, such as number and duration of events, vary across utilities. Most benchmarked utilities call 2-5 events that last 1-4 hours.

C.2 Recruitment

- Retirees on fixed incomes, residential new construction, and "energy aware" customers are the customer segments most likely to participate in benchmarked utilities DR DLC programs.
- Bill inserts have historically been the most successful recruitment method, with email and social media campaigns, phone banking, and direct mail also among the recruitment strategies used.
- Most utilities identify email and social media campaigns, door-to-door canvassing, and phone banking as their most successful recruitment strategies in recent years.

C.3 Participant Satisfaction

- Residential DLC programs generally have high customer satisfaction. The benchmarked utility programs reported participant satisfaction rates between 75% and 98%.
- Clear communication about program structure in marketing and outreach materials contributes to program participant satisfaction.

C.4 Awareness & Event Notifications

- Most benchmarked utilities prefer low awareness of events among program participants, as they believe this reduces dropout/opt-out rates.

- The utilities provided consistent feedback regarding retention rate, noting that the opt-out rate is correlated with the length and frequency of events; events that are several hours long or on back-to-back days cause an increase in customer attrition. For one utility, switching to shorter, more frequent events resulted in a significant decrease in the opt-out rate for many of these utilities.
- Despite some attrition across these programs, the overwhelming sense is that most DR DLC customers do not realize an event is taking place. Thus, the utilities, with the exception of one, either do not notify customers of an event or offer notifications on an opt-in basis only.

C.5 Cycling Strategies

- Cycling strategies vary across all six utilities. Utilities use adaptive strategies, cycling dependent on duration of events, fixed cycling percentages chosen by customers, and strategies selected by the utility based on need.
- A single cycling strategy offer provides clarity to customers, reduces administrative burden, and allows for a streamlined marketing approach. However, the utility has less control to scale up the resource if needed.
- While giving customers a choice in cycling strategy can give the utility more control to manage the resource dynamically, it adds complexity to the program design, making the program more difficult for customer comprehension. It also complicates administration and marketing activities.

C.6 Switch Operability

- Four of the six benchmarked utilities have converted from one-way to two-way switches in recent years. Two-way switches provide increased capabilities for monitoring and repair strategy, plus flexibility.
- Of the utilities that reported active identification of switch failure, each utilizes a different monitoring system. Two benchmarked utilities incorporate dashboards or real time data to gauge issues with two-way switches, while another leverages post-event AMI data.

C.7 DR as a Resource

- Event triggers for deploying DR events are similar across the utilities. The most common triggers are emergency, economic, capacity constraints, system integrity, and test events.
- Most of the benchmarked utilities believe DR DLC can play an important role in the age of the modernizing grid, with one utility viewing DR DLC as an insurance program, providing stability to the grid as needed.

APPENDIX D. DETAILED SUGGESTIONS FOR PROGRAM IMPROVEMENT

The following tables summarize Navigant's suggestions for program improvement organized by high, moderate, and low priority. For each initiative, the table lists relative indications of cost and Xcel Energy staff time and effort. The Saver's Switch program is well established; as such, many of these suggestions are minor modifications for improvement.

Table D-1. High Priority Initiatives

Research Objective	Initiative	Cost ¹	Staff Time/Effort ²
Recruitment	Improve screening for central AC during enrollment by: <ul style="list-style-type: none"> Assessing the call center script to identify opportunities to improve screening questions. Adding more detailed checkboxes and visual aids to the online enrollment form. 	\$	†
	Consider targeting new construction neighborhoods in Colorado for new household enrollment via door-to-door canvassing or by working with a network of heating, ventilation, and air conditioning technicians and building industry professionals.	\$	† †
Interaction with AC Rewards	Define target customer segments and geographic areas for Saver's Switch and AC Rewards through a billing analysis or GIS participation mapping.	\$\$	†
Participant Satisfaction	Start to test Saver's Switch customers with different event characteristics in advance of changes to the way Xcel Energy calls events, including event frequency and duration.	\$	† †
	Avoid back-to-back event days; instead, attempt to call more frequent, shorter events to maintain high customer satisfaction and prevent attrition.	\$	† †
Incentives	Implement a fixed monthly incentive throughout the cooling season.	\$	† †
	Use on-bill messaging to highlight when the bill credit is applied to ensure customers are aware of when the bill credit is applied and can attribute the savings to Saver's Switch.	\$\$	† †
	Maintain one cycling strategy and incentive structure to ensure the program is easy for customers to understand.	\$	† †

¹**Cost Estimate**

\$ = Little or no financial outlay required
 \$\$ = Modest expenditure
 \$\$\$ = Major investment

Source: Navigant

²**Staff Time/Effort Estimate**

† = Minimal effort required
 † † = Moderate time commitment
 † † † = Significant impact on staff responsibilities

Table D-2. Moderate Priority Initiatives

Research Objective	Initiative	Cost ¹	Staff Time/ Effort ²
Recruitment	Explain the benefits of a Saver's Switch-enrolled home to move-in¹⁵ customers when they turn on their electricity service, either by phone or online. Highlight that the customer has skipped the installation appointment, saved time, and is automatically signed up for the bill credit. Emphasize the bill credit and environmental benefits.	\$	†
	Improve program education for move-in participants by including a QR code on move-in outreach letters to direct move-in customers to the Saver's Switch Frequently Asked Questions webpage. Offer customers the option to provide their email address on this page for further engagement. Alternatively, a special webpage for move-in customers could be created and provided with move-in-specific communications.	\$-\$\$	† †
	Shift to digital media-heavy outreach to attract customers who prefer email communication and online information.	\$\$	† †
Incentives	Send a thank you letter to participants at the end of the cooling season summarizing the program's collective savings.	\$\$	†

¹Cost Estimate

\$ = Little or no financial outlay required
 \$\$ = Modest expenditure
 \$\$\$ = Major investment

Source: Navigant

²Staff Time/Effort Estimate

† = Minimal effort required
 † † = Moderate time commitment
 † † † = Significant impact on staff responsibilities

¹⁵ Move-in respondents refer to respondents who moved into a home with a Saver's Switch previously installed, while opt-in respondents refer to respondents who actively enrolled in the program.

Table D-3. Low Priority Initiatives

Research Objective	Initiative	Cost ¹	Staff Time/ Effort ²
Pre-Event Notifications	Explore opportunities to offer opt-in pre-event notifications and limit marketing for this option to provide value to the small number of customers that request it while avoiding negative impacts on current customer sentiments and attrition rates.	\$\$	† †
	Pair notifications with customer education on why the notification is being offered and suggested actions customers might take in response to the pending event.	\$	†
	Provide a program fact sheet or bill insert (email for paperless customers) that includes the new opt-in notification process.	\$	†
	Update the call center script to include the opt-in notification process.	\$	†
Participant Satisfaction	Provide customers a thank you gift (e.g., a free LED light bulb, an Xcel Energy-branded LED night light) if there is customer pushback for being present during the switch upgrade.	\$	† †

¹**Cost Estimate**

\$ = Little or no financial outlay required

\$ \$ = Modest expenditure

\$ \$ \$ = Major investment

Source: Navigant

²**Staff Time/Effort Estimate**

† = Minimal effort required

† † = Moderate time commitment

† † † = Significant impact on staff responsibilities

Saver's Switch 2019 Evaluation

2019 Program Evaluation: Recommendations and Responses

The Xcel Energy ("the Company") Saver's Switch product in Colorado is a residential load management offering that helps customers save on summer cooling bills. When customers enroll, the Company installs a load control receiver (switch) on or near the central AC unit. In a control event, a signal is sent to the switch and the switch cycles the AC unit on and off in 15-20-minute increments. This helps the Company manage peak system loads. Participants receive a \$40 annual bill credit on their October energy bill.

Xcel Energy engaged a team of researchers led by Navigant (now known as Guidehouse) conducted a modified comprehensive evaluation of the Saver's Switch product. The evaluation team completed activities that considered the following research objectives as part of that evaluation:

- The participant recruitment process
- Participant awareness of control events
- Satisfaction with event notifications
- Satisfaction with the product
- Interaction with the AC Rewards product
- Participant incentives
- Participant attrition
- Cycling strategy
- Switch operability
- Cost effectiveness of adding a water heater option
- Program operations

The assessment was conducted via interviews with employees, customer surveys, and a peer benchmarking review. Based on the results of this research, the evaluation team developed suggestions for Xcel Energy.

Recommendation	Response
<p>1) Improve screening for central AC during enrollment by:</p> <ul style="list-style-type: none">• Assessing the call center script to identify opportunities to improve screening questions.• Adding more detailed checkboxes and visual aids to the online enrollment form. <p>Consider targeting new construction neighborhoods in Colorado for new household enrollment via door-to-door canvassing or by working with a network of heating, ventilation, and air conditioning technicians and building industry professionals.</p>	<p>The Company is evaluating these recommendations as part of its review of current marketing tactics for selecting prospective customers for marketing campaigns.</p>
<p>2) Define target customer segments and geographic areas for Saver's Switch and AC</p>	<p>The Company is evaluating this recommendation as part of its review of current marketing tactics for</p>

<p>Rewards through a billing analysis or GIS participation mapping.</p>	<p>selecting prospective customers for marketing campaigns.</p>
<p>3) Start to test Saver’s Switch customers with different event characteristics in advance of changes to the way Xcel Energy calls events, including event frequency and duration.</p> <p>Avoid back-to-back event days; instead, attempt to call more frequent, shorter events to maintain high customer satisfaction and prevent attrition.</p>	<p>In recent years, the number of annual control events have not been high enough to effectively test multiple control strategies. It is not unlikely that, as the Company makes headway towards carbon free generation, the future will include higher numbers of control events. The Company will prepare plans for when and how incremental communications may be needed to avoid attrition from the product.</p>
<p>4) Implement a fixed monthly incentive throughout the cooling season.</p> <p>Use on-bill messaging to highlight when the bill credit is applied to ensure customers are aware of when the bill credit is applied and can attribute the savings to Saver’s Switch.</p> <p>Maintain one cycling strategy and incentive structure to ensure the program is easy for customers to understand.</p>	<p>Currently, participant incentives vary across the Company’s operating companies. In some states, incentives are governed by tariffs. In some it is part of a DSM plan. Standardizing the incentive structure may be helpful for promotional purposes, although it may be challenging to implement. The Company will conduct a review and determine best practices going forward.</p>
<p>5) Explain the benefits of a Saver’s Switch-enrolled home to move-in customers when they turn on their electricity service, either by phone or online. Highlight that the customer has skipped the installation appointment, saved time, and is automatically signed up for the bill credit. Emphasize the bill credit and environmental benefits.</p> <p>Improve program education for move-in participants by including a QR code on move-in outreach letters to direct move-in customers to the Saver’s Switch Frequently Asked Questions webpage. Offer customers the option to provide</p>	<p>The Company agrees with the importance of communication to new homeowners. We will review the current correspondence to new homeowners at premises with an installed switch to emphasize the benefits of the program and evaluate the potential for utilizing QR codes and additional web resources.</p>

<p>their email address on this page for further engagement. Alternatively, a special webpage for move-in customers could be created and provided with move-in-specific communications.</p> <p>Shift to digital media-heavy outreach to attract customers who prefer email communication and online information, and to ensure easy, immediate enrollment.</p>	
<p>6) Send a thank you letter to participants at the end of the cooling season summarizing the program’s collective savings.</p>	<p>The Company agrees this may be a useful way of not only thanking customers for participating, but also reminding them that they remain enrolled in the program.</p>
<p>7) Explore opportunities to offer opt-in pre-event notifications and limit marketing for this option to provide value to the small number of customers that request it while avoiding negative impacts on current customer sentiments and attrition rates.</p> <p>Pair notifications with customer education on why the notification is being offered and suggested actions customers might take in response to the pending event.</p> <p>Provide a program fact sheet or bill insert (email for paperless customers) that includes the new opt-in notification process.</p> <p>Update the call center script to include the opt-in notification process.</p>	<p>With the pending implementation of the new meter reading system and associated field network, the Company plans to start utilizing 2-way communicating switches. The Company will evaluate if it is feasible to build out opt-in customer notification functionality in conjunction with the new switch control system.</p>
<p>8) Provide customers a thank you gift (e.g., a free LED light bulb, an Xcel Energy-branded LED night light) if there is customer pushback for being present during the switch upgrade.</p>	<p>The Company will review the potential for distributing thank-you items during field visits with the installation service provider.</p>