



**IN THE MATTER OF THE APPLICATION OF PUBLIC SERVICE COMPANY OF  
COLORADO FOR A COMMISSION DECISION (1) APPROVING ITS STEAM  
RESOURCE PLAN, (2) CONDITIONALLY GRANTING IT A CERTIFICATE OF  
PUBLIC CONVENIENCE AND NECESSITY TO CONSTRUCT ONE OF TWO NEW  
BOILER PROJECTS COMMENCING IN 2016, AND (3) GRANTING SUCH OTHER  
AND FURTHER AUTHORIZATIONS AND WAIVERS AS THE COMMISSION MAY  
DEEM NECESSARY**

**PROCEEDING NO. 14A- \_\_\_\_ ST**

**DIRECT TESTIMONY AND ATTACHMENTS OF JENNIFER B. WOZNAK**

**December 18, 2014**

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF COLORADO

\* \* \* \* \*

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OF PUBLIC SERVICE COMPANY OF )  
COLORADO FOR A COMMISSION )  
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**SUMMARY OF THE DIRECT TESTIMONY OF JENNIFER B. WOZNIAK**

Ms. Jennifer B. Wozniak is the Manager, Strategic Communications for Xcel Energy Services Inc. In this position, Ms. Wozniak has responsibility for leading the strategic communications effort for Public Service Company of Colorado. This includes driving overall communication strategy and stakeholder outreach planning efforts and ensuring alignment with the enterprise outreach and messaging strategy of Xcel Energy.

In her Direct Testimony, Ms. Wozniak provides an overview of the market research Public Service conducted with its steam customers. This market research was undertaken in response to Commission Decision No. C13-1549 in Proceeding No. 12A-1264ST, which directed Public Service to conduct a detailed survey of its steam customers to address their needs, options, and preferences for utility service. The survey was intended to help illuminate the causal

relationship between increased steam rates and customer erosion. The full research report is provided as a part of Ms. Wozniak's testimony.

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## GLOSSARY OF ACRONYMS AND DEFINED TERMS

<u>Acronym/Defined Term</u>	<u>Meaning</u>
Public Service or Company	Public Service Company of Colorado
Praxi	The Praxi Group
Xcel Energy	Xcel Energy Inc.
XES	Xcel Energy Services Inc.

## **LIST OF ATTACHMENTS**

Attachment No. JBW-1	Survey Questionnaire
Attachment No. JBW-2	Survey Results Report

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**DIRECT TESTIMONY AND ATTACHMENTS OF JENNIFER B. WOZNIAK**

**1        I.        INTRODUCTION, QUALIFICATIONS AND PURPOSE OF TESTIMONY**

**2        Q.        PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3        A.        My name is Jennifer B. Wozniak and my address is 1800 Larimer Street,  
4                Suite 1400, Denver, Colorado 80202.

**5        Q.        BY WHOM ARE YOU EMPLOYED AND WHAT IS YOUR POSITION?**

6        A.        I am employed by Xcel Energy Services Inc. (“XES”). XES is a wholly-owned  
7                subsidiary of Xcel Energy Inc. (“Xcel Energy”), and provides an array of  
8                support services to Public Service Company of Colorado (“Public Service” or  
9                the “Company”) and the other utility operating company subsidiaries of Xcel  
10              Energy on a coordinated basis.



1 **Q. WHOM ARE YOU REPRESENTING IN THIS PROCEEDING?**

2 A. I am testifying on behalf of Public Service.

3 **Q. HAVE YOU INCLUDED A DESCRIPTION OF YOUR QUALIFICATIONS,**  
4 **DUTIES AND RESPONSIBILITIES?**

5 A. Yes. A description of my qualifications, duties and responsibilities is included  
6 as Attachment A.

7 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

8 A. In Decision No. C13-1549 in Proceeding No. 12A-124ST, the Commission  
9 directed Public Service to conduct a detailed survey of its steam customers  
10 addressing their needs, options, and preferences for utility service. The  
11 survey was intended to help illuminate the causal relationship between  
12 increased steam rates and customer erosion. The purpose of my testimony is  
13 to present the format and results of that survey.

14 **Q. HOW WAS THE SURVEY DESIGNED AND CONDUCTED?**

15 A. The survey was designed by an outside consultant that we selected, The  
16 Praxi Group ("Praxi"). Public Service provided extensive and significant input,  
17 based upon the survey objectives described in Section II below. Praxi also  
18 compiled and analyzed the survey results, as described in Section II.

19 **Q. WHY WAS THE PRAXI GROUP CHOSEN TO CONDUCT THE SURVEY?**

20 A. The Company selected an outside consulting firm to conduct the survey in  
21 order to ensure that the methodological approach was sound and consistent  
22 with the methodology used in other market research surveys specific to the  
23 energy industry. In addition, by using a third party we were able to ensure the

1           anonymity of customer responses. Public Service did not receive individual  
2           customer results from Praxi, only the aggregated results.

3                     We selected Praxi because of their utility industry experience and  
4           proven quantitative capabilities. The Company has used Praxi for concept  
5           testing on solar projects over the last few years. They have also been used to  
6           conduct focus groups on outage management and emerging technologies.  
7           On average, the Company conducts 3-6 projects a year with Praxi. The work  
8           was sole sourced to Praxi due to time limitations, challenges with the limited  
9           population and the condensed contact list. Praxi has been successful in fully  
10          leveraging limited samples in past studies conducted on behalf of the  
11          Company.

## II. SURVEY REQUIREMENTS AND DESIGN

1 **Q. WHAT WERE THE OBJECTIVES OF THE SURVEY?**

2 A. The primary objectives of this research were to develop additional insight into  
3 the actions that steam customers might take as the result of rising steam  
4 rates and to assess the potential for customers to migrate away from the  
5 steam service. The survey was designed to help provide insight into the  
6 causal relationship between increased steam rates and potential future  
7 customer erosion. The survey responses and findings are only one input the  
8 Company will utilize to evaluate this causal relationship, as Mr. Scott Brockett  
9 discusses in his Direct Testimony.

10 **Q. WHO DETERMINED THESE OBJECTIVES?**

11 A. The survey objectives were developed by Company employees.

12 **Q. PLEASE DESCRIBE THE SURVEY.**

13 A. Working with the Company, Praxi designed an online survey, and I  
14 individually reviewed and approved the survey. In addition, we provided the  
15 proposed draft survey to Commission Staff, and afforded Staff the opportunity  
16 to provide input before we finalized the survey format and questions. Staff  
17 requested the addition of two questions, which were added to the survey as  
18 question 23 (How satisfied were you with the overall package of products and  
19 services you currently purchase from Xcel Energy?) and question 24 (Do you  
20 have any suggestions or comments that you would like to make regarding  
21 Xcel Energy's district steam service?). There were 26 questions in total with  
22 some subparts, and the survey was designed to take between 9 to 12 minutes  
23 to complete. We sent invitations to participate in the survey using a list of

1 customer email addresses. The invitation included a link to the survey and a  
2 signed letter from Jerome Davis, Public Service's Regional Vice-President.  
3 Respondents were incentivized to complete the survey with a \$50  
4 Amazon.com gift certificate. The survey is attached to my testimony as  
5 Attachment No. JBW-1.

6 **Q. WHAT WERE THE INITIAL ASSUMPTIONS AND CHALLENGES WITH**  
7 **THE SURVEY?**

8 A. In any of the research studies conducted with our large business customers, it  
9 is often a challenge to directly survey the decision-maker. The Company  
10 primarily retains billing contact information for the customer, but the individual  
11 that pays the bill is typically not the decision-maker. Each customer has its  
12 own management structure, and it is often the case that local management  
13 reports to leadership in another location outside the Denver area. Public  
14 Service has approximately 98 customer agents, who account for 137 installed  
15 meters and 129 discrete metered accounts. Some customers have multiple  
16 locations with multiple meters. The Company only had sufficient contact  
17 information for 69 of these 98 customer agents to allow for potential  
18 participation in the study. For the remaining 29 of these 98 customer agents,  
19 as described above, we had billing information only, and no particular  
20 individual contact name to which we could direct the survey. In instances  
21 where customers did not have an email address on file, we were able to  
22 contact customers and obtain an email address.

1           In addition, all of the steam customers are unique entities, with  
2 different types of facilities (hotels, offices, condominiums, etc.), ownership  
3 structures, financial situations and decisional processes. This made  
4 designing a “one size fits all” survey a difficult task. The survey results must  
5 be viewed with this consideration in mind. While customers were asked in the  
6 survey what they would likely do as a result of differing levels of price  
7 increases, it is apparent those decisions would be based on very  
8 heterogeneous customer operations and management models.

### **III. SURVEY ANALYSIS AND RESULTS**

1 **Q. WHAT WAS THE RESPONSE RATE TO THE SURVEY?**

2 A. The response rate was 33%, which is generally considered a high response  
3 rate for a market research survey. In general, response rates vary widely  
4 based on method (phone vs. mail vs. online) and by audience (random vs.  
5 current customers) and also as a function of subject matter (how interested a  
6 respondent is in the survey topic). The response rate for current phone  
7 surveys running in the field is about 17%. Online survey response rates  
8 generally fall between 5% and 15% for random studies, but can be higher  
9 with targeted customer groups. Mail surveys rarely exceed 3%. An online  
10 survey was chosen for this study because it was the easiest way to offer an  
11 incentive for completing the survey. It was also easier to secure accurate  
12 email addresses of account contacts versus direct phone numbers for a  
13 telephone survey. Most telephone surveys utilize random dialing and this  
14 survey required a specific contact.

15 **Q. WHAT WERE THE OVERALL RESULTS OF THE SURVEY?**

16 A. The detailed survey results can be found in Attachment No. JBW-2, the  
17 Market Research Report prepared by Praxi based on the survey responses.  
18 First, we noted that 75% of the customers surveyed are highly satisfied with  
19 the quality of their steam service from Public Service. There were six (6)  
20 respondents out of 23 who did not rate Xcel Energy as an 8, 9, or 10 on the  
21 10-point Satisfaction scale (top 3 box). Of those six, the ratings they provided  
22 ranged from 3-7, with three respondents being generally to moderately  
23 satisfied. Not surprisingly, predicted customer erosion generally increases as

1 steam prices increase. Pricing for steam, however, is not the only factor that  
2 customers consider in determining whether to switch to another energy  
3 source. The upfront cost of converting heating systems is also a significant  
4 factor in this decision, as well as other constraints, such as space restrictions.

5 To place the significance of pricing sensitivity in context, however, I  
6 would add that the results show that the majority of customers who  
7 participated in the survey were not even aware of price changes during the  
8 last five years, yet eight out of ten surveyed customers indicated that steam  
9 cost stability is “very important.”

10 Regarding the potential for long-term contracts to stabilize load, six out  
11 of ten customers would consider a long term contract with Public Service if  
12 they could have price stability or a discount and a vast majority of these would  
13 prefer a five to ten year contract term.

14 **Q. WERE THERE ANY DIFFERENCES BETWEEN DIFFERENT CUSTOMER**  
15 **GROUPS THAT YOU NOTED?**

16 A. Due to the sample size limitations noted above, a breakdown in results by  
17 customer groups would not be conclusive.

#### IV. LIMITATIONS OF THE SURVEY AND ITS RESULTS

1 **Q. WHAT, IF ANY, ARE THE LIMITATIONS OF THE SURVEY RESULTS?**

2 A. As stated earlier, given that there were only 69 potential respondents, it was a  
3 challenge to achieve statistically significant results. While the response rate  
4 for this study was comparatively high (33%) based on market research  
5 standards, the population only yielded a small sample (n=23) of respondents.  
6 We can draw some conclusions from the sample, but not without a high  
7 margin of error (+/-16.1%). Margin of error is purely a function of sample size,  
8 but can be adjusted slightly when working with limited universe populations.  
9 Here are some example margins of error (all at the industry standard of 95%  
10 confidence):

11	n=250	+/- 6.2 percent
12	n=500	+/- 4.4 percent
13	n=800	+/- 3.5 percent

14 As noted in Praxi's report, if the sample size is 10% or more of the total  
15 universe population, then we can adjust the margin of error by a factor of  $1 - (n /$   
16  $N)$ , where n is the sample size and N is the universe population size.

17 Further, only eight of the respondents identified themselves as decision-  
18 makers. Therefore, respondents may not have had the necessary information  
19 (estimated capital investments for switching, pros and cons of alternative energy  
20 sources, etc.) to definitively say how they would respond to pricing increases.  
21 This type of information and the effort involved in switching can impact what  
22 respondents report in a survey versus what they would actually do if they  
23 experienced rate increases or gained more information on factors relevant to



1 their energy decision. This is another limitation of this survey, and it is an  
2 inherent limitation in all surveys that ask respondents to predict future behavior  
3 and decision-making based on pricing or other variables. The reality is that  
4 surveys are only limited predictors of actual future behavior. It is general market  
5 research practice that the ability to predict actual behaviors can be limited, but it  
6 is not an automatic assumption that our abilities to do so will be limited. Surveys  
7 can be strong predictors of behavior and they can also be less than reliable,  
8 depending on a wide variety of factors both inside and outside the scope of the  
9 research survey itself. Issues include:

- 10 1. What are the statistical reliability / validity parameters of the research?
- 11 2. What exact behavior(s) are we trying to predict, and within what  
12 audience(s)?
- 13 3. What factors or potential influences exist outside of the research that  
14 could impact behavior (e.g., product awareness, existing beliefs,  
15 competitive influences, etc.)

16 The small size and diversities of the steam customer base also makes  
17 it difficult to derive any firm conclusions from the survey. This would have  
18 been the case regardless of the methodology selected.

19 I have already mentioned the frequent disconnect between espoused  
20 behavior based on survey responses, versus actual future behavior, as a  
21 limitation in our ability to rely on the survey results to accurately predict what  
22 our steam customers will do. In addition, I would note that this survey is  
23 cross-sectional, conducted at one point in time, which means that we assume  
24 that the responses over time would not vary. This may not be the case given  
25 that other factors, which are exogenous to the Company, could influence how  
26 individuals respond to the survey. Furthermore, we assume that the individual

1 surveyed can respond for the entire subset of customer accounts, or, in the  
2 case where there are multiple facilities, for all buildings that use steam. This  
3 may not be the case, but there is no practical way to ensure that the  
4 respondent's views represent the views of all decision-makers. Finally, this  
5 survey, along with all similar research designs, cannot parse out differences  
6 among facilities. As I mentioned, our population of customers is diverse; they  
7 are engaged in a variety of activities in their facilities. This means that  
8 underlying industry, firm or facility specific effects could influence steam  
9 decisions, but the survey cannot reveal these underlying differences.

**V. CONCLUSION**

1 **Q. HOW DID THE SURVEY RESULTS INFLUENCE THE DIRECTION OF**  
2 **PUBLIC SERVICE REGARDING SERVICE TO ITS STEAM CUSTOMERS?**

3 A. The results of the survey addressed the Company's objectives as outlined in  
4 Section III of this testimony. That said, due to the limitations of the survey in  
5 reaching true "decision-makers" (only eight respondents identified themselves  
6 as such) the small number of survey respondents, differentiation among  
7 steam customers (e.g., size of building, steam use, management structure,  
8 financial structure, and varying levels of decision making), and the high  
9 margin of error and inherent limitations associated with this survey, the survey  
10 results are of limited use to inform the Company's actions regarding the long-  
11 term plans for its steam system. For this reason, the Company will primarily  
12 rely on actual customer response to rate increases, and the rate design  
13 change that will become effective January 1, 2015, to assess how changes in  
14 steam rates influence customer erosion. This approach is detailed in Mr.  
15 Brockett's testimony.

16 **Q. DOES THIS CONCLUDE YOUR TESTIMONY AT THIS TIME?**

17 A. Yes.

## **ATTACHMENT A**

**Jennifer B. Wozniak**

### **Statement of Qualifications**

I have been employed by Xcel Energy for over six years and prior to serving as the Manager of Strategic Communications, I was the Director of Marketing, a Project Manager for the SmartGridCity project, and a Business Intelligence Consultant. Prior to joining Xcel Energy, I was a Marketing Manager for Corporate Express, a business-to-business office supply company now owned by Staples. Before that I was an Assistant Executive Director for United States Figure Skating, a Vice President at M&T Bank (a regional bank headquartered in Buffalo, NY), a Market Research Manager with Tops Markets (a regional grocery chain owned by Ahold, Inc.), and a Senior Market Research Analyst with M&T Bank. In total, I have worked in the fields of marketing and operations for over 18 years. I have an MBA in Marketing from the State University of New York at Buffalo. I also have a BS in English Literature from the State University of New York at Buffalo. My career focus has been in the areas of market (primary and secondary) research, customer behavior, segmentation methodology and strategy, predictive and quantitative modeling, communications and strategic planning. I have extensive marketing experience from having worked across multiple industries and in various markets with diverse sets of customers.

The Praxi Group, Inc.

PPJ14-1001



**Xcel Energy**  
**Steam Rates Research**  
**Online Interviews**  
Questionnaire v9 (03.05.14)

**INTRODUCTION**

Thank you very much for agreeing to complete this online survey regarding steam energy services. Your opinions are very important. All of your information and responses will be kept strictly confidential, will not be viewed at the individual level, and used for research purposes only.

After you complete the survey, if your company policy allows, you will receive a \$50 Amazon.com gift card as a thank you for your time and opinions.

S0. Please enter your email address for verification purposes only. Your information will not be used to identify responses collected in this survey. Thank you.

---

A progress bar is provided so that you can determine how close you are to the end of the survey at any given time.

**MAIN QUESTIONNAIRE**

Thank you again for agreeing to participate in our survey regarding steam energy systems and services.

Q.1. Besides the cost of usage, how important are the following factors in your business' decision to use Xcel Energy's District Steam heating system? Please rank these factors in order of importance where 1 is the most important and 6 is the least important.

**[RANDOM ROTATE]**

- a. Dependability / Reliability of steam exchangers (i.e., long life and low maintenance costs, etc.)
- b. Reliability of being connected to the city / district steam system (i.e., no unscheduled outages, etc.)
- c. Clean energy (i.e., no potentially hazardous gases, etc.)
- d. Use of existing infrastructure (i.e., too costly to convert to new system, facility space requirements, etc.)
- e. Little or no ongoing management costs (i.e. specialized staff required, etc.)
- f. Workplace comfort of steam energy

Q.2. Are there any other factors that are taken into consideration?

[SHOW ON SAME SCREEN]

---

Q.3. How important is it to your business to have Xcel Energy's District Steam heating system as a choice?

Not At All									Extremely
Important									Important
1	2	3	4	5	6	7	8	9	10
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q.4. If your business decided to discontinue steam use, what type of heating system would most likely be selected?

Natural Gas	<input type="radio"/> 01
Electric Heat	<input type="radio"/> 02
Other (Please specify: _____)	<input type="radio"/> 98
Don't Know / No preference	<input type="radio"/> 99

Q.5. Is there a constraint that would prevent your business from converting to a different heating system?

Yes	<input type="radio"/> 01
No	<input type="radio"/> 02

Don't Know	<input type="radio"/> 99
------------	--------------------------

(ASK IF CODE 1 AT Q.4)

Q.5a. Please describe the nature of the constraint that prevents your business from discontinuing steam use from Xcel Energy?

---

Q.6. Taking all factors into consideration, what is your best estimate as to the **initial investment** involved in switching your business away from the current steam heating system?

Less than \$10,000	<input type="radio"/> 1
\$10,000 - \$50,000	<input type="radio"/> 2
\$51,000 - \$100,000	<input type="radio"/> 3
\$101,000 - \$500,000	<input type="radio"/> 4
\$501,000 - \$1,000,000	<input type="radio"/> 5
More than \$1,000,000	<input type="radio"/> 6
Don't Know	<input type="radio"/> 99

Q.7. When considering the return on your business' investment to switch to a different heating system, other than steam, what payback period would you **typically target**?

1 year or less	<input type="radio"/> 1
2 years	<input type="radio"/> 2
3 years	<input type="radio"/> 3
4 years	<input type="radio"/> 4
5 years	<input type="radio"/> 5
6 years	<input type="radio"/> 6
7 years	<input type="radio"/> 7
More than 7 years	<input type="radio"/> 8
No preference	<input type="radio"/> 99

Q.8. Again thinking about the return on investment for switching to a different heating system, what is the **maximum** payback period that your business would consider?

1 year	<input type="radio"/> 1
2 years	<input type="radio"/> 2
3 years	<input type="radio"/> 3
4 years	<input type="radio"/> 4
5 years	<input type="radio"/> 5
6 years	<input type="radio"/> 6
7 years	<input type="radio"/> 7
8 years	<input type="radio"/> 8
9 years	<input type="radio"/> 9

10 years	<input type="radio"/> 10
More than 10 years	<input type="radio"/> 11
No preference	<input type="radio"/> 99

Q.9. And again, thinking about switching away from steam service, what is your best estimate as to the **ongoing operating & maintenance** costs of a new heating system?

Less than \$10,000 per year	<input type="radio"/> 1
\$10,001 - \$25,000 per year	<input type="radio"/> 2
\$25,001 - \$50,000 per year	<input type="radio"/> 3
More than \$50,000 per year	<input type="radio"/> 4
Don't Know	<input type="radio"/> 99

Q.10. How likely are you to continue using your business' existing steam system from Xcel Energy at today's cost?

Not At All										Extremely
Likely										Likely
1	2	3	4	5	6	7	8	9	10	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q.11. If the cost of steam offered by Xcel Energy increased by 20%, how likely are you to switch away from your existing steam heating system?

Not At All										Extremely
Likely										Likely
1	2	3	4	5	6	7	8	9	10	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(ASK Q.12 IF "5" OR LOWER AT Q.11.)

Q.12. If the cost of steam offered by Xcel Energy increased by 30%, how likely are you to switch away from your existing steam heating system?

Not At All										Extremely
Likely										Likely
1	2	3	4	5	6	7	8	9	10	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(ASK Q.13 IF "6" OR HIGHER AT Q.11.)

Q.13. If the cost of steam offered by Xcel Energy increased by 10%, how likely are you to switch away from your existing steam heating system?

Not At All										Extremely
Likely										Likely
1	2	3	4	5	6	7	8	9	10	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Q.14. How important is steam cost stability to your business?

Not At All										Extremely
Important										Important
1	2	3	4	5	6	7	8	9	10	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q.15. Would you consider a long term contract with Xcel Energy if offered a price guarantee with your steam system?

Yes	<input type="radio"/> 1
No	<input type="radio"/> 2
Don't Know	<input type="radio"/> 99

(ASK IF CODE 1 AT Q.15)

Q.15a. How long of a contract would you consider?

[SHOW ON SAME SCREEN AS Q.15]

5-10 years	<input type="radio"/> 1
11-15 years	<input type="radio"/> 2
16-20 years	<input type="radio"/> 3
More than 20 years	<input type="radio"/> 4
Other (Please specify: _____)	<input type="radio"/> 98

Q.16. Would you prefer to run a steam heating system independently, or rely on Xcel Energy to run the system for your business?

Run the system ourselves, independently	<input type="radio"/> 1
Use the system provided by Xcel Energy	<input type="radio"/> 2
Don't Know	<input type="radio"/> 99

Q.17. Please rank the following factors in order of influence on your business' decision to switch or not to switch to a different heating system. Please rank these factors in order of importance where 1 is the most important and 4 is the least important.

[RANDOM ROTATE ORDER. ENTER NUMERIC 1-4. FORCE ENTRY]

- Upfront capital costs
- Already installed so easier to keep it
- Yearly operating costs
- Total owning costs

Q.18. Have you been contacted by a third party to transition away from the district steam service provided by Xcel Energy?"

Yes	<input type="radio"/> 1
No	<input type="radio"/> 2
Don't Know	<input type="radio"/> 99

Q.19. In the past 5 years, how many times has Xcel Energy's steam price increased?

0	1	2	3	4	5	6	7	8	9	Don't Know
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q.20. In the past 5 years, how many times has Xcel Energy's steam price decreased?

0	1	2	3	4	5	6	7	8	9	Don't Know
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q.21. How satisfied are you with the overall quality of steam service from Xcel Energy?

Extremely Dissatisfied									Extremely Satisfied
1	2	3	4	5	6	7	8	9	10
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q.22. How would you rate the overall VALUE of the Xcel Energy steam system?

Extremely Poor Value									Extremely Good Value
1	2	3	4	5	6	7	8	9	10
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q.24. Do you have any suggestions or comments that you would like to make regarding Xcel Energy's district steam service?

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Q.23. How satisfied are you with the overall package of products and services you currently purchase from Xcel Energy?

Extremely Dissatisfied									Extremely Satisfied
1	2	3	4	5	6	7	8	9	10
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Thank you! We're almost finished. The following questions are for classification purposes only.**

D1. What is your general industry or area of business?

Government	<input type="radio"/> 01
Large Commercial	<input type="radio"/> 02
Hotel	<input type="radio"/> 03
Performing Arts / Museum	<input type="radio"/> 04
Homeowners Association (HOA)	<input type="radio"/> 05
Store Front	<input type="radio"/> 06
Other (Please specify: _____)	<input type="radio"/> 98
Prefer not to answer	<input type="radio"/> 99

D2. What is the approximately square footage of the facility / facilities for which you use the Xcel Energy steam system?

Less than 50,000	<input type="radio"/> 01
50,000 – 100,000	<input type="radio"/> 02
100,001 – 250,000	<input type="radio"/> 03
250,001 – 500,000	<input type="radio"/> 04
More than 500,000	<input type="radio"/> 05
Don't Know / Prefer not to answer	<input type="radio"/> 99

D4. Please select the option below that best describes your job role or title.

Accounting/Bookkeeping/Controller	<input type="radio"/> 01
Administrative/Clerical	<input type="radio"/> 02
Administrator/Principal	<input type="radio"/> 03
County/City/Town Manager/Director	<input type="radio"/> 04
Engineering Chief/Manager/Director	<input type="radio"/> 05
Facilities Manager/Director	<input type="radio"/> 06
Maintenance Manager/Director	<input type="radio"/> 07
Operations Manager/Director	<input type="radio"/> 08
Other (Please specify: _____)	<input type="radio"/> 98

**THANK YOU! CAN YOU ACCEPT A \$50 AMAZON.COM CASH GIFT CARD FOR PARTICIPATION IN TODAY'S SURVEY?**

Yes	<input type="radio"/> 1
No, please donate to local Heat Share Program administered by the Salvation Army	<input type="radio"/> 2

**XCEL ENERGY THANKS YOU VERY MUCH FOR YOUR TIME AND OPINIONS.**

(DISPLAY IF ABLE TO RECEIVE GIFT)

**A CODE TO RETRIEVE YOUR ELECTRONIC AMAZON.COM GIFT CARD WILL BE SENT TO YOUR EMAIL WITHIN THE NEXT 2 DAYS. IF YOU WOULD PREFER TO HAVE IT SENT TO AN ALTERNATIVE EMAIL ADDRESS, PLEASE ENTER HERE.**

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## MARKET RESEARCH REPORT

**PROJECT:** Xcel Energy Steam Customer Research

PREPARED FOR:



DATE:

June 2, 2014 (FINAL)

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## PROJECT TEAM

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## EXECUTIVE SUMMARY



## Strategic Overview

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Customers were presented with several potential price increase levels for the cost of steam from Xcel Energy and asked how likely they would be to consider switching away from steam at each price level. In general, as the cost of steam offered by Xcel Energy increases, more customers are likely to switch away from their existing steam heating system. A 30% increase in price could lead to churn for more than half of the businesses surveyed.

Customers were also asked how likely they are to remain with Xcel Energy steam services at today's prices. Overall, nearly 1 in 5 are not "very likely" to remain with Xcel steam based on today's cost and are therefore may churn regardless of an increase in prices. This suggests that cost may not be the only factor affecting customers' decisions regarding whether to remain with Xcel Energy steam services.

Customers likely to churn regardless of price represent a greater share of sales and peak hours than those likely to churn in response to a 10% price increase. The 1 in 5 customers who are considering leaving Xcel at today's prices represent 30 percent of total sales and 28 percent of peak hours. Price-driven churn rates result in sales and peak hour losses that are proportionately similar to customer loss. However, the 55% of customers likely to leave at a 30% price increase account for 65% of peak hour usage.

When asked about the importance of cost stability in their decision to use steam energy from Xcel, 4 in 5 customers indicate cost stability is very important. At the same time, awareness of price fluctuations over time is extremely low; on average, three in four customers are unable to say how many times Xcel Energy's steam prices have changed over the past five years. This may suggest a lack of knowledge on the part of the customers, or could also be a function of job tenure.

If presented with the option of a long-term contract as a means of stabilizing steam prices over time, 6 in 10 customers would consider a long-term contract with Xcel, and 4 in 5 of these customers would prefer a commitment of 5-10 years.

6 in 10 customers state that there is a constraint that would prevent their business from switching to a different heating system. The nature of the constraint for all but one business is the cost of converting the existing infrastructure. The upfront costs of conversion is the most important factor considered (more important than operating / owning costs and ease of keeping the currently installed system). The second most important factor in the decision to switch or not to switch is Yearly Operating Costs followed in third place by Total Owning Costs.

Respondents estimate that a switch would cost them an average of \$503,000 upfront and they would typically target a return on this investment in 4.3 years. Customers also estimate the yearly ongoing operation and maintenance costs of a new heating system to be \$30,000.

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## Strategic Overview

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Satisfaction with both Xcel Energy overall and the steam service specifically are at high levels overall (78% and 74%, respectively).

While only half of respondents rate the VALUE of the Company's steam system as extremely good, 6 in 10 say that it is very important to have Xcel's system as a *choice* for their business. The reliability of being connected to this system is ranked as the second most important factor involved in decisions to use Xcel.

Nearly half of all customers prefer to have Xcel run their system (versus running it independently).

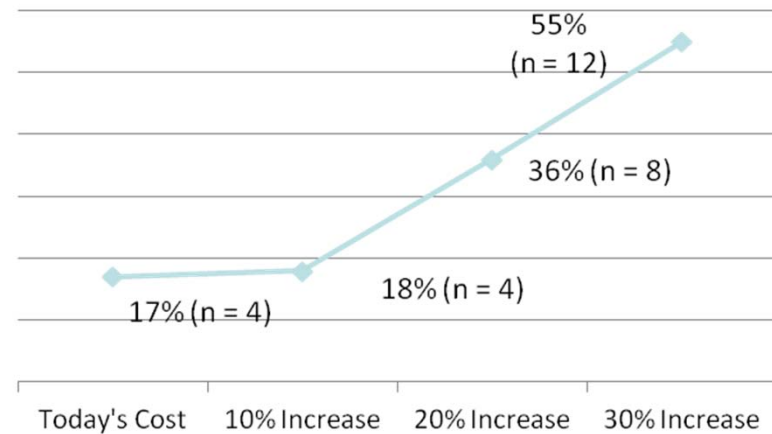


**Predicted customer defection increases based on increasing costs for steam; however, price fluctuations on their own may not be the sole motivator for churn.**

- As the cost of steam offered by Xcel Energy increases, more customers are likely to switch away from their existing steam heating system. A 30% increase in price could lead to churn for more than half of the businesses surveyed.
- Nearly 1 in 5, however, are not “very likely” to remain with Xcel steam based on today’s cost and are therefore **may churn regardless of an increase in prices**.
- Customers likely to churn regardless of price represent a greater share of sales and peak hours than those likely to churn in response to a 10% price increase.
- Price-driven churn rates result in sales and peak hour losses that are proportionately similar to customer loss. However, the 55% of customers likely to leave at a 30% price increase account for 65% of peak hour usage.

Price Change	Percent Defection	Percent of Sales
None	17 percent	30 percent
10%	18 percent	13 percent
20%	36 percent	32 percent
30%	55 percent	58 percent

**Likelihood to Convert Based on Price**  
Total Respondents (n=23)\*Small Base Size

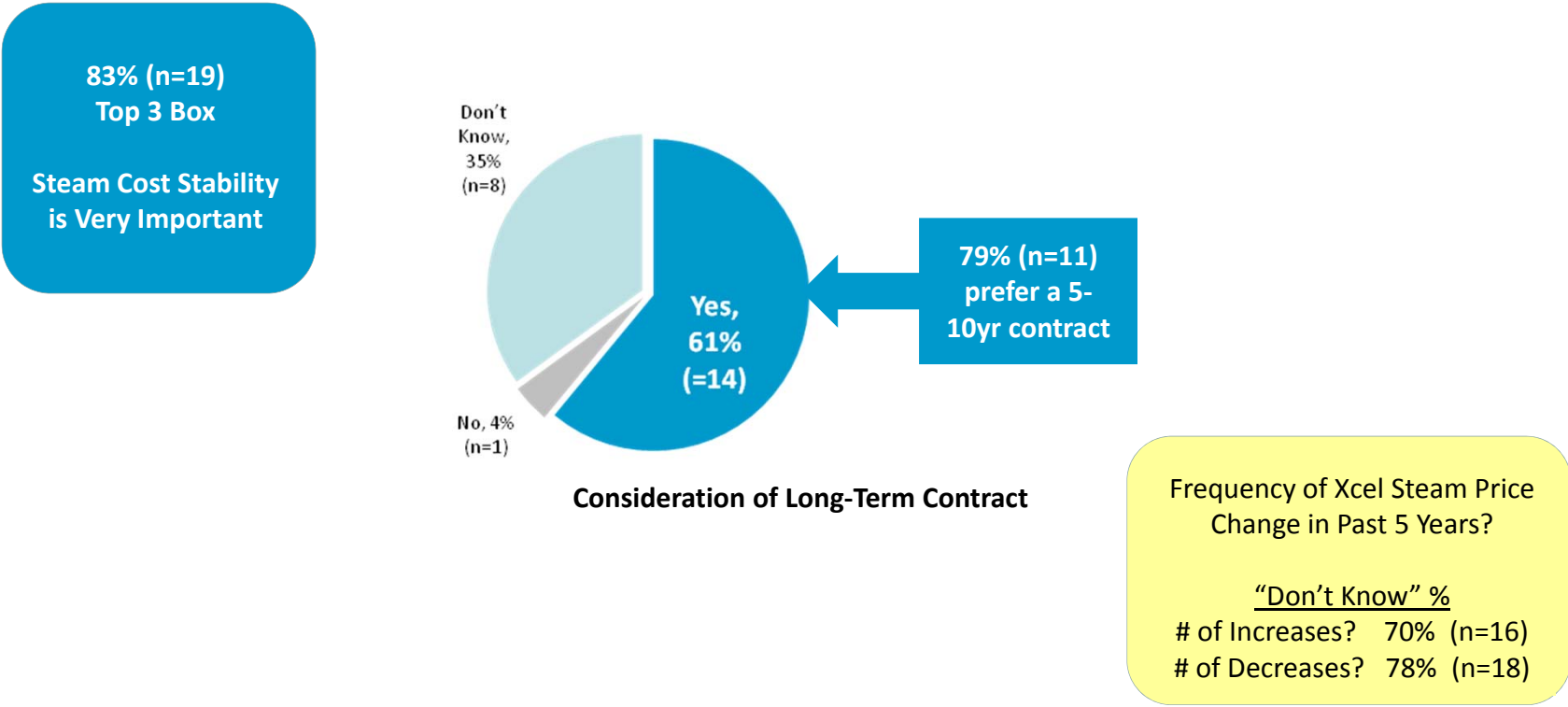


NOTE: Calculations based on Top 3 Box responses on a 10-Point Scale; 10 = Extremely Likely, 1 = Not At All Likely. One respondent did not participate in pricing tasks (n = 22).

Price Change	Percent Defection	Percent of Peak Hours
None	17 percent	28 percent
10%	18 percent	23 percent
20%	36 percent	32 percent
30%	55 percent	65 percent

**Predicted customer defection increases based on increasing costs for steam; however, price fluctuations on their own may not be the sole motivator for churn.**


- While cost stability is stated as very important to business decision-makers (83% in the Top 3 Box), **awareness of price fluctuations over time is extremely low.**
- Six in ten customers would consider a long-term contract with Xcel and prefer a commitment of 5-10 years. On average, these customers place a higher value on steam and are more satisfied with Xcel Energy.



Total Respondents (n=23) \*Small Base Size


**The primary barrier to switching away from steam is the upfront cost of converting existing heating systems. This factor will play a stronger role in the decision to convert than steam rate increases on their own.**

- The cost of a change in system infrastructure is the most motivating factor for businesses to remain with their existing steam heating solution. The upfront costs for conversion are cited by the majority of respondents as a constraint that prevents a switch and is the most important factor considered (more important than operating / owning costs and ease of keeping the currently installed system).
- Respondents estimate that a **switch would cost them an average of \$503,000** upfront and they would typically target a return on this investment in 4.3 years. Smaller facilities and lower use customers tend to prefer shorter pay back periods.

<p><b>Why use Xcel Energy's District Steam?</b></p>		<p>61% (n=14) of respondents state that there is a constraint that would prevent their business from switching to a different heating system.</p> <p>The nature of the constraint for all but one business is the cost of converting the existing infrastructure.</p>
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**USE OF EXISTING INFRASTRUCTURE**  
(i.e., too costly to convert to new system, facility space requirements, etc.)



<p><b>Why Decide to Switch or Not to Switch to a Different Heating System?</b></p>		<p>Decision-makers estimate that the initial investment involved in switching away is:</p> <p><b>\$503,000</b></p> <p><i>ROI payback period is typically targeted at an average of 4 years with a maximum period of 7 years, on average.</i></p>
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The least important factor in this decision is “already installed so easier to keep it” suggesting that **Dollars are more motivating than Convenience.**

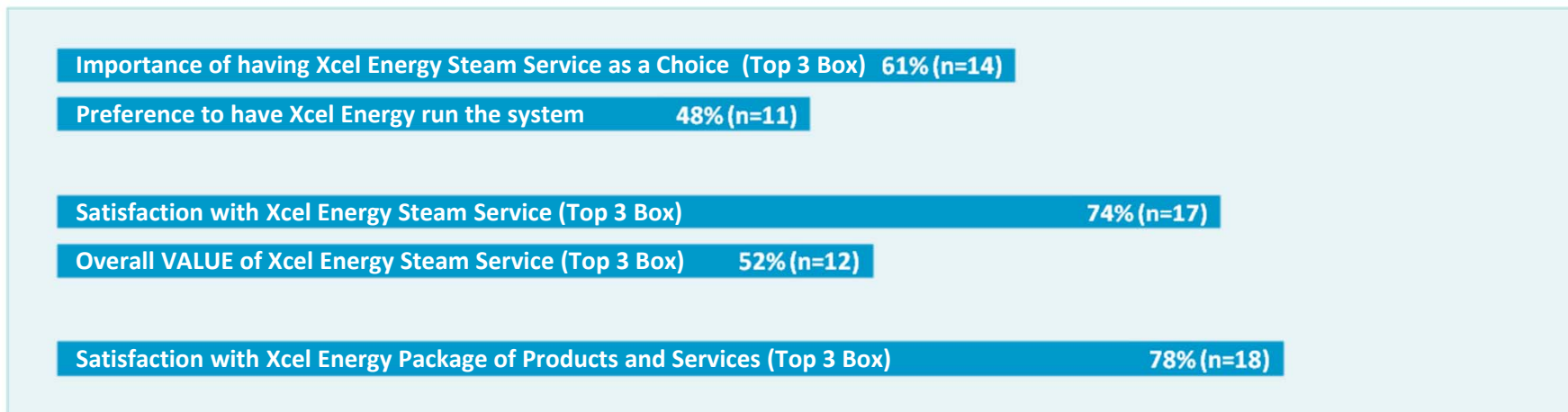
*The second most important factor in the decision to switch or not to switch is Yearly Operating Costs followed in third place by Total Owning Costs. Respondents estimate the yearly ongoing operation and maintenance costs of a new heating system to be \$30,000.*

Total Respondents (n=23) \*Small Base Size

**Customers are highly satisfied with Xcel’s steam service and place a high importance on the reliability of the system.**

- Satisfaction with both Xcel Energy overall and the steam service is strong (78% and 74%, respectively).
- While only half of respondents rate the VALUE of the Company’s steam system as extremely good, 61% say that it is very important to have Xcel’s system as a **choice** for their business. The **reliability** of being connected to this system is ranked as the second most important factor involved in decisions to use Xcel.
- Nearly half prefer to have Xcel run their system (versus running it independently). Those preferring to run independent tend to have higher peak hours and larger facilities.

Importance of Factors Involved in the Decision to use <u>Xcel Energy’s District Steam Heating System</u>	Mean Ranking (1-6; 6 = Most Important)
Use of existing infrastructure (i.e., too costly to convert to new system, facility space requirements, etc.)	4.9
Reliability of being connected to the city / district steam system (i.e., no unscheduled outages)	4.0
Dependability / Reliability of steam exchangers (i.e., long life and low maintenance costs, etc.)	4.0
Clean energy (i.e., no potentially hazardous gases, etc.)	3.2
Little or no ongoing management costs (i.e., specialized staff required, etc.)	3.0
Workplace comfort of steam energy	2.0



Total Respondents (n=23) \*Small Base Size

## BACKGROUND

## PROJECT HISTORY AND OBJECTIVES

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In early 2013, Public Service submitted an application to the Colorado Public Utilities Commission seeking authorization to replace Xcel Energy's oldest steam generating station with a new one. Last December, the Commission denied the request to build this new district steam plant without prejudice to the Company re-applying for such authorization in the future. The Commission cited as major factors in its decision the significant cost of the new facility (\$26 million) and the prospect that existing steam customers might leave the district steam system due to the impact on the Company's future rates for steam service. In its decision, the Commission asked Xcel Energy to explore additional alternatives as sources of steam. They also requested that Xcel conduct a survey of existing steam customers in order to better understand the customers' needs and preferences, potential interest in long-term service agreements, and the value of Xcel's district steam system to their specific needs.

In response to these directives, The Praxi Group conducted primary quantitative research in order to help Xcel Energy to improve understanding of these key issues. The Praxi Group is pleased to present this report which captures key findings and takeaways from this primary research study.

The primary objectives of this research were (not exhaustive):

- Develop additional insight into the actions that Steam customers might take as the result of rising steam rates;
- Assess the threshold rate at which a customer would migrate away from the Steam service;
- Understand the correlation between steam rates and the likelihood of conversion; and
- To the extent possible, understand the causal relationship between an increase in steam rates and the likelihood of conversion.



## METHODOLOGY

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Current Steam Service customers were contacted and recruited for the online interviews using a list of target respondents provided by Xcel Energy. In order to maximize response rates among the small population of Steam customers, the email invitation included a link to the live survey along with a cover letter signed by Jerome Davis. The invitation was sent by Xcel Energy Market Research to a de-duped list of BCC email addresses. This is standard protocol for large commercial and industrial customer research.

Responses yielded **23 completes overall** out of a total contact list of 74 customers. As such, findings included in this report are detailed by both frequencies and percentages. The questionnaire was 11 minutes in length and included 3 open-ended questions.

## **DETAILED FINDINGS**

- **STEAM SYSTEM: CURRENT ATTITUDES AND PREFERENCES**
- **STEAM RATES: AWARENESS, PREFERENCES, AND PRICING EFFECTS**
- **OVERALL CUSTOMER SATISFACTION AND FEEDBACK**

## **STEAM SYSTEM: CURRENT ATTITUDES AND PREFERENCES**

## SECTION SUMMARY: STEAM SYSTEM – CURRENT ATTITUDES AND PREFERENCES

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### Important Factors in a Business' Decision to Use a Steam Heating System

- Current steam customers rank a) the use of existing infrastructure and b) the reliability of being connected to the city / district steam system as top factors in their business' decision to use Xcel Energy's District Steam heating system. These are closely followed in importance by the dependability of steam exchangers, the safety of clean energy, and little or no management costs.
- Additionally, when deciding whether or not to switch to a different heating system, business' cite upfront capital costs as the most important influence on their decision. Other factors that influence the decision include yearly operating cost , total ownership costs, and the ease of continuing with an already installed system.
- Six in ten current customers (61% or n=14) feel that it is very important to have Xcel Energy's District Steam heating system as a choice, while four in ten (39% or n=9) are neutral on the matter.
  - Half of business decision-makers would prefer to rely on Xcel Energy to run the system (48% or n=11) versus just under a fifth that prefer to run it independently (17% or n=4).

### Conversion Preferences and Constraints

- The majority of Xcel Energy Steam business customers would switch to Natural Gas if they decided to discontinue steam use (65% or n=15), though a quarter are unsure what type of heating system they would convert to.
  - Seven in ten respondents say they have *not* been contacted by a third party to transition away from the Xcel Energy District Steam service.
- For 61% (n=14) of steam customers, there is a constraint that would prevent their business from converting to a different heating system. The costs of conversion is noted most often as the nature of this constraint but others include the building layout, the age of the building, ventilation issues, and the availability of natural gas.

## Importance of Decision Factors for Business' Use of Xcel Energy's District Steam Heating System

- The top factors in the decision to use the District Steam heating system are use of existing infrastructure and the reliability of being connected to the city / district steam system.

**Mean Summary Table**  
(Ranking of 1 to 6; 6 = most important factor\*\*)

	Total Respondents (n = 23*)
Use of existing infrastructure (i.e., too costly to convert to new system, facility space requirements, etc.)	4.9
Reliability of being connected to the city / district steam system (i.e., no unscheduled outages)	4.0
Dependability / Reliability of steam exchangers (i.e., long life and low maintenance costs, etc.)	4.0
Clean energy (i.e., no potentially hazardous gases, etc.)	3.2
Little or no ongoing management costs (i.e., specialized staff required, etc.)	3.0
Workplace comfort of steam energy	2.0

**Other factors considered:**

- Safety and labor for maintenance of boiler systems (n=1)
- Safety benefit of not burning fossil fuel in a residential community (n=1)

Q1: Besides the cost of usage, how important are the following factors in your business' decision to use Xcel Energy's District Steam heating system? Please rank these factors in order of importance where 1 is the most important and 6 is the least important.

Q2: Are there any other factors taken into consideration? (Open-end)

Base: Total Respondents

\* Small base size; use caution when interpreting data

\*\* Ratings inverted when calculating mean

## Most Influential Decision Factors in Switching Heating Systems

---

- Upfront capital costs are the most important influencer for business' when deciding whether or not to switch heating systems.

**Mean Summary Table**  
(Ranking of 1 to 4; 4 = most important factor\*\*)

	Total Respondents (n=23*)
Upfront capital costs	3.4
Yearly operating costs	2.6
Total owning costs	2.1
Already installed so easier to keep it	1.9

Q17: Please rank the following factors in order of influence on your business' decision to switch or not to switch to a different heating system. Please rank these factors in order of importance where 1 is the most important and 4 is the least important.

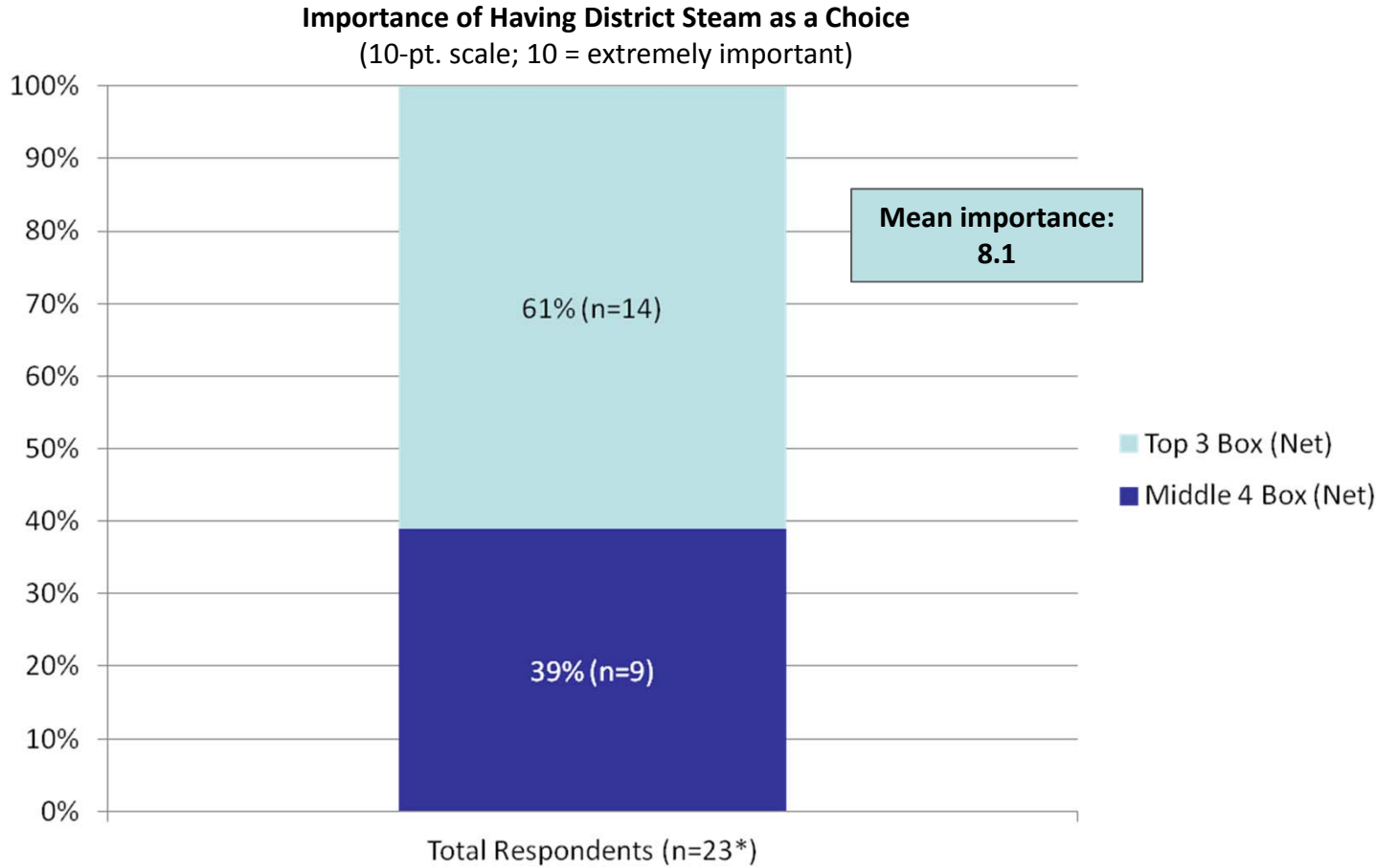
Base: Total Respondents

\* Small base; use caution when interpreting data

\*\* Ratings inverted when calculating mean

### Importance of Having District Steam Heating System As A Choice

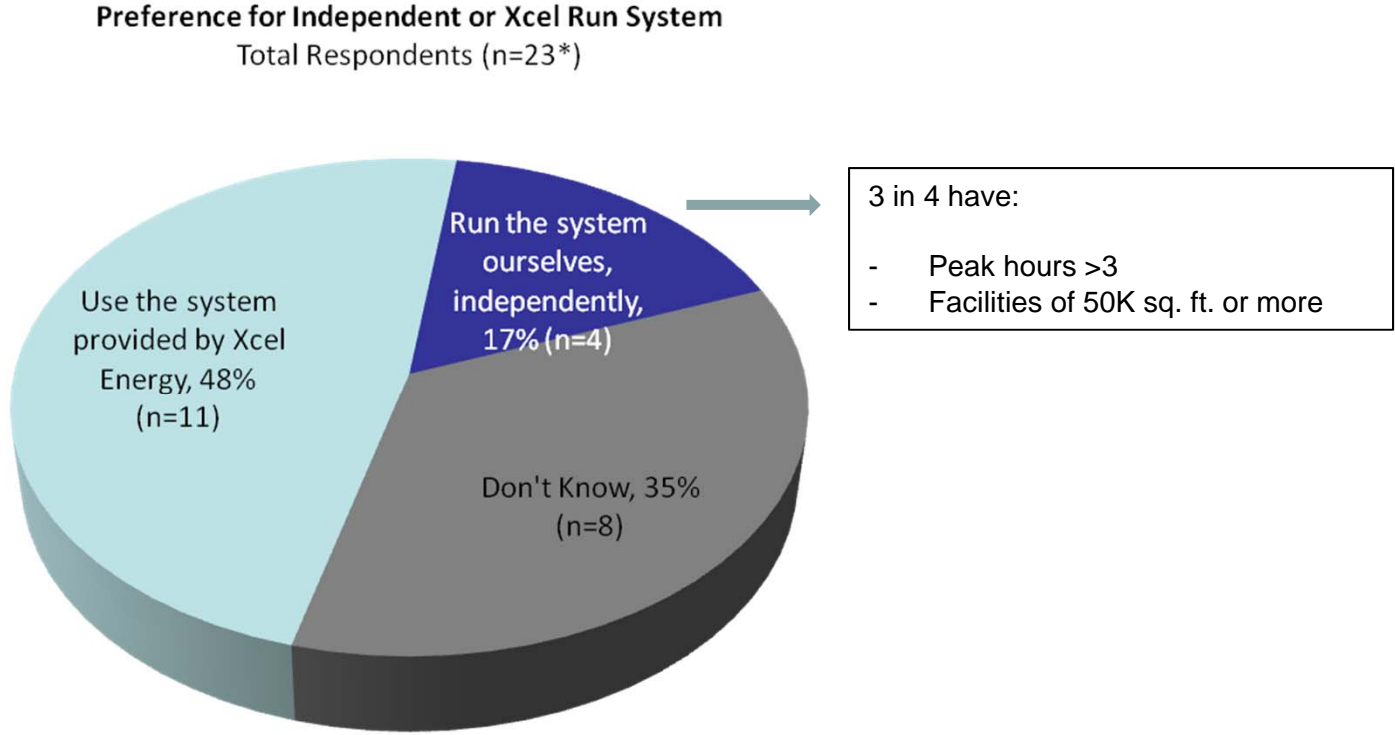
- Six in ten respondents feel it is very important to have Xcel Energy’s District Steam heating system as a choice. No respondents feel it is unimportant.



Q3: How important is it to your business to have Xcel Energy’s District Steam heating system as a choice?  
Base: Total Respondents \* Small base; use caution when interpreting data

### Independent or Xcel Run Steam Heating System

- Nearly half of respondents (48%) would prefer to use the system provided by Xcel, while 17% would prefer to run it independently.

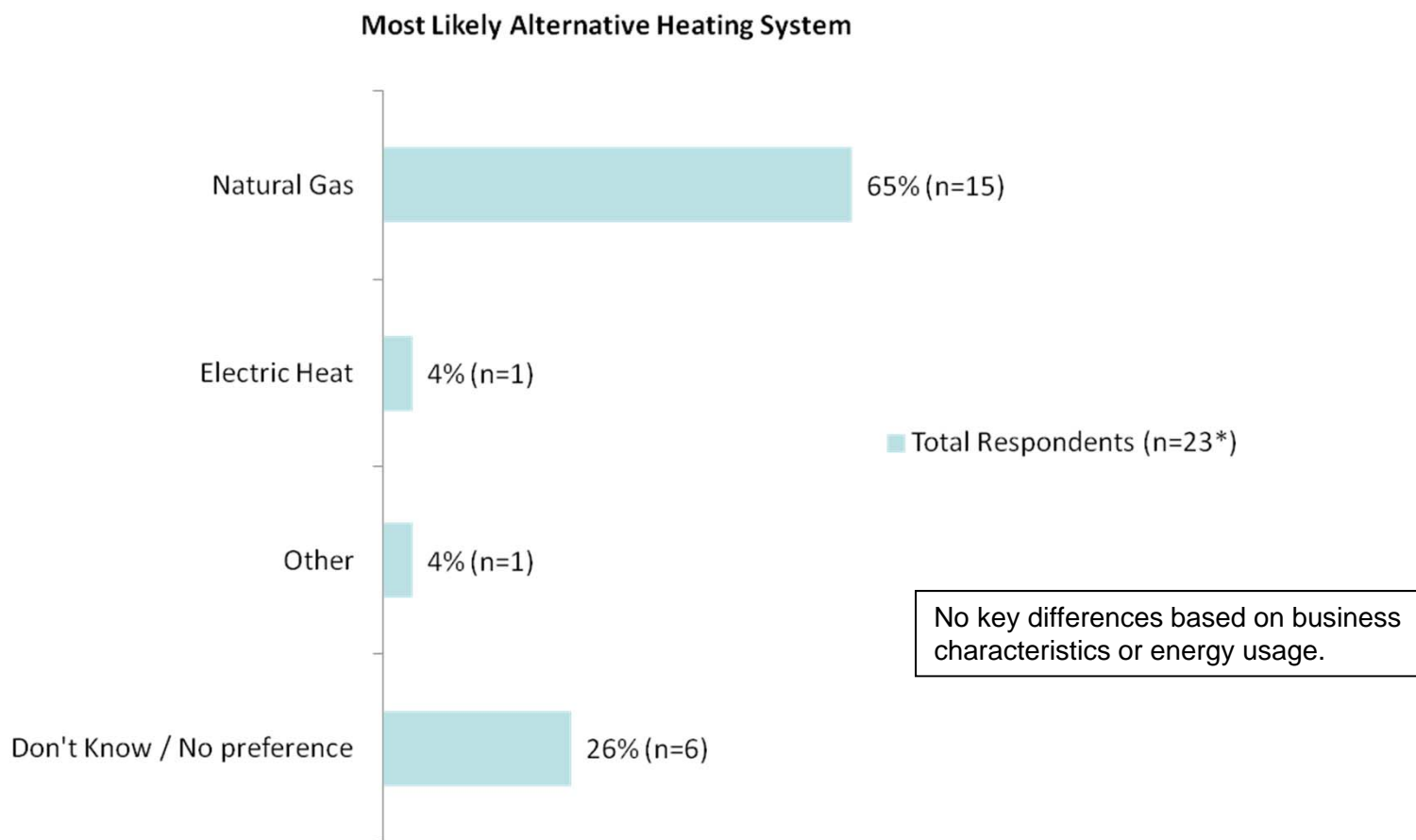


Q16: Would you prefer to run a steam heating system independently, or rely on Xcel Energy to run the system for your business?  
Base: Total Respondents \* Small base size; use caution when interpreting data



## Heating Preference Other Than Steam

- Nearly two-thirds of respondents would select a natural gas heating system if their business decided to discontinue steam use. A quarter are unsure what type of heating system they would use.



Q4: If your business decided to discontinue steam use, what type of heating system would most likely be selected?

Base: Total Respondents

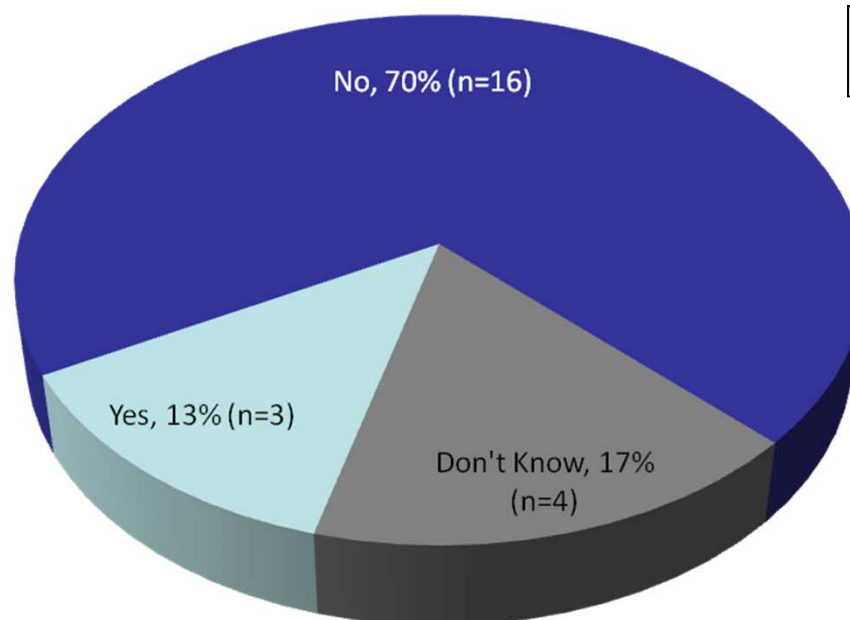
\* Small base size; use caution when interpreting data

## Third Party Contact to Transition Away from District Steam Service

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- The majority of respondents (70%) have not been contacted by a third party to transition away from Xcel's district steam service.

**Have Been Contacted by a 3<sup>rd</sup> Party to Transition Away from District Steam Service**  
Total Respondents (n=23\*)



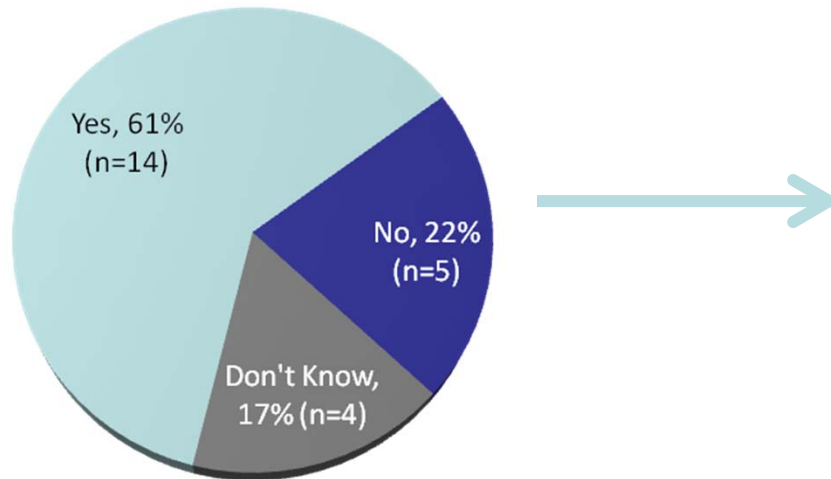
No key differences based on business characteristics or energy usage.

Q18: Have you been contacted by a third party to transition away from the district steam service provided by Xcel Energy?"  
Base: Total Respondents \* Small base size; use caution when interpreting data

## Heating System Conversion Constraints

- Over six in ten respondents say there is a constraint that would prevent their business from converting to a different heating system.

**Constraint Preventing Heating System Conversion**  
Total Respondents (n=23\*)



**Nature of Constraint**  
Those with conversion constraints (n = 14\*)

- Cost of conversion (n=13)
- Building layout (n=2)
- Age of building / building is Historic (n=2)
- Venting the natural gas from the basement (n=1)
- No natural gas available (n=1)
- Thousands of dollars being saved by using steam instead of gas (n=1)
- Cost of adding natural gas and carbon monoxide detection throughout building (n=1)

Q5: Is there a constraint that would prevent your business from converting to a different heating system?

Q5a: Please describe the nature of the constraint that prevents your business from discontinuing steam use from Xcel Energy. (Open-end)

Base: Total Respondents \* Small base; use caution when interpreting data

**STEAM RATES: AWARENESS, PREFERENCES,  
AND PRICING EFFECTS**

## SECTION SUMMARY: STEAM RATES – AWARENESS, PREFERENCES, AND PRICING EFFECTS

---

### Investment Awareness and Targets for Conversion

- Steam customers estimate an average initial *investment* of \$503,000 to switch their business away from the current steam heating system. And the ongoing *operation and maintenance costs* of a new heating system are estimated at an average of \$30,000 each year.
- On average, decision-makers would typically target a payback period of about 4.3 years when considering the ROI to switch to a different heating system. The maximum payback period that business' would consider is about 6.8 years.

### Importance of Steam Cost Stability

- The cost stability of a steam heating system is very important to the vast majority of respondents (83% or n= 19 Top 3 Box on a 10-pt. scale).
- Six in ten customers would consider a long term contract with Xcel Energy if offered a price guarantee with their steam system and the vast majority of these (79% or n=11) would be open to a contract length of 5-10 years but no longer. Slightly less than four in ten (35% or n=8) don't know if they would be open to a contract with a price guarantee.
  - Nearly all respondents are unsure of the number of times Xcel's steam rates have increased (70% or n=16) or decreased (78% or n=18) over the past 5 years.

### Conversion Outcomes Based on Xcel Steam Rates

- Respondents are very likely to switch away from their existing system if the cost of steam offered by Xcel Energy increased by 30% (77% or n=17). About half (52% or n=12) would convert if the price increased by 20% and less than four in ten (41% or n=9) would convert if the rates only increased by 10%.
- About one in five respondents (17% or n=4) are not likely to continue using the steam system from Xcel Energy at today's cost and therefore the actual customer churn based on a price *increase* should be considered outside of these customers.

## Predicted Initial Investment to Switch Away from Steam

- On average, respondents estimate an initial investment of \$503,000 to switch their business away from steam.

### Initial Investment Involved in Switching Business Away from Steam

	Total Respondents (n=23*)	
\$51,000 - \$100,000	17% (n=4)	<ul style="list-style-type: none"> <li>- 7 / 10 have peak hours &gt; 3</li> <li>- 9 / 10 have annual usage &gt; 4k M pounds</li> <li>- 9 / 10 have facilities larger than 50k sq. ft.</li> </ul>
\$101,000 - \$500,000	22% (n=5)	
\$501,000 - \$1,000,000	39% (n=9)	<ul style="list-style-type: none"> <li>- 7 / 10 have peak hours &gt; 3</li> <li>- 9 / 10 have annual usage &gt; 4k M pounds</li> <li>- 9 / 10 have facilities larger than 50k sq. ft.</li> </ul>
More than \$1,000,000	4% (n=1)	
Don't Know	17% (n=4)	
<i>Mean investment</i>	<i>\$503,000</i>	

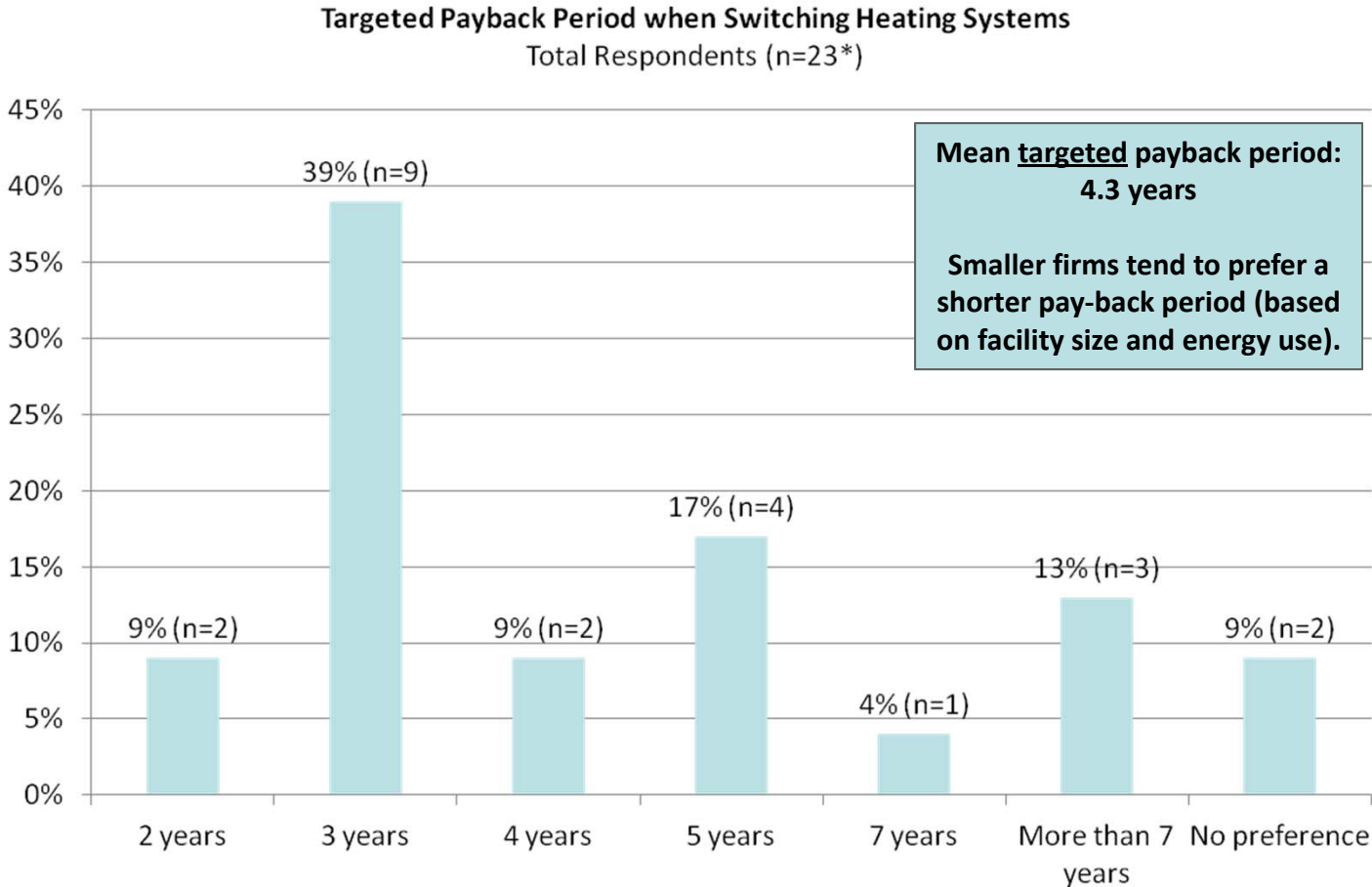
Q6: Taking all factors into consideration, what is your best estimate as to the **initial investment** involved in switching your business away from the current steam heating system?

Base: Total Respondents

\* Small base size; use caution when interpreting data

### Targeted Payback Period When Switching Heating Systems

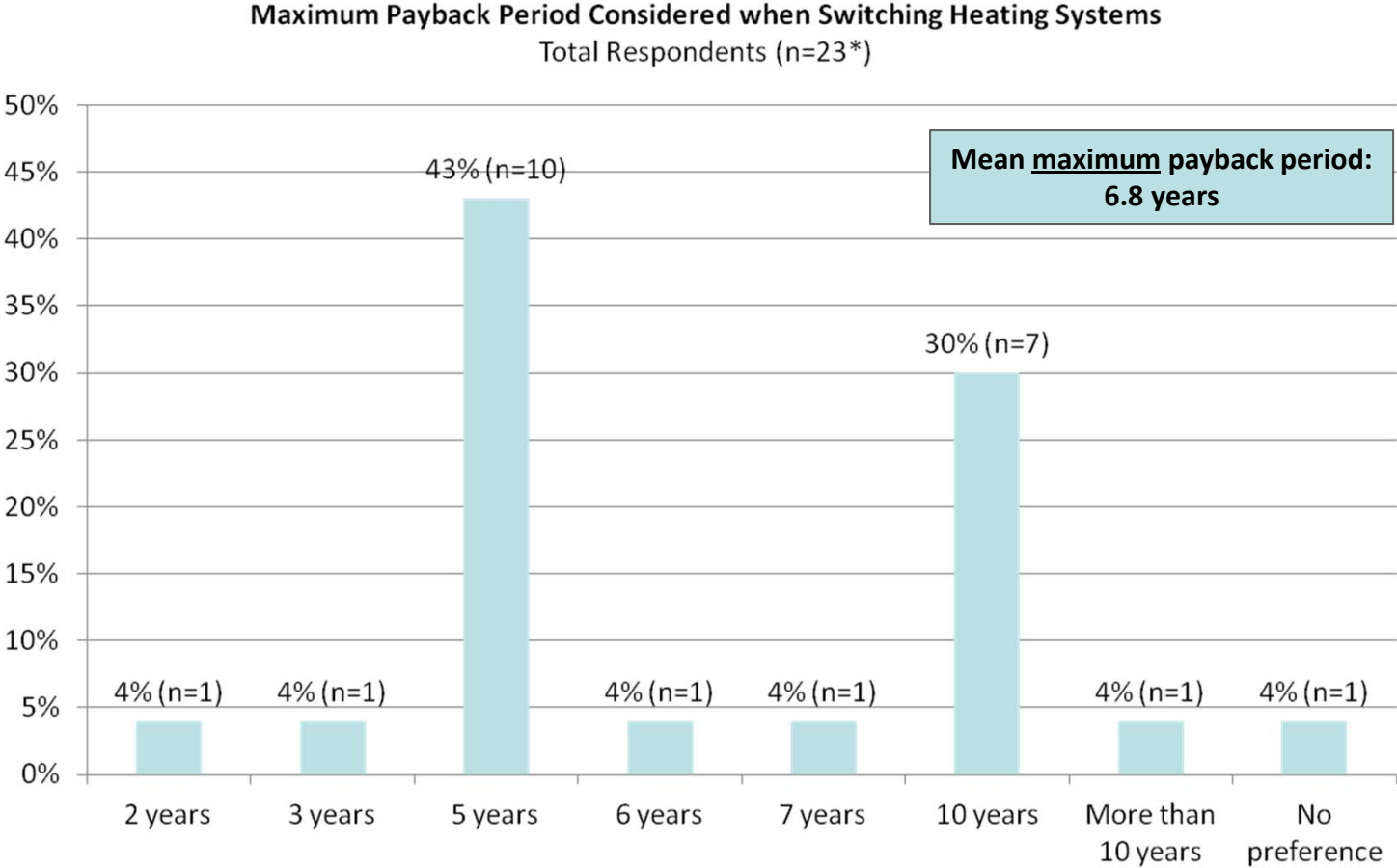
- On average, respondents would generally target a payback period of ~4.3 years when switching to a different heating system.



Q7: When considering the return on your business' investment to switch to a different heating system, other than steam, what payback period would you typically target?  
Base: Total Respondents \* Small base size; use caution when interpreting data

### Maximum Payback Period that would be Considered when Switching Heating Systems

- On average, the maximum payback period respondents would consider is ~6.8 years. 43% would consider a maximum of 5 years and 30% would consider a maximum of 10 years.



Q8: Again thinking about the return on investment for switching to a different heating system, what is the **maximum** payback period that your business would consider?  
Base: Total Respondents \* Small base size; use caution when interpreting data



## Estimated Operating and Maintenance Costs of a New Heating System

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- On average, customers estimate that ongoing operating and maintenance costs of a new heating system would be around \$30,000 per year.

**Estimated Operating and Maintenance Costs of a New Heating System**

	Total Respondents (n=23*)
Less than \$10,000 per year	13% (n=3)
\$10,001 - \$25,000 per year	26% (n=6)
\$25,001 - \$50,000 per year	17% (n=4)
More than \$50,000 per year	22% (n=5)
Don't Know	22% (n=5)
<i>Mean cost estimate</i>	<i>\$30,000</i>

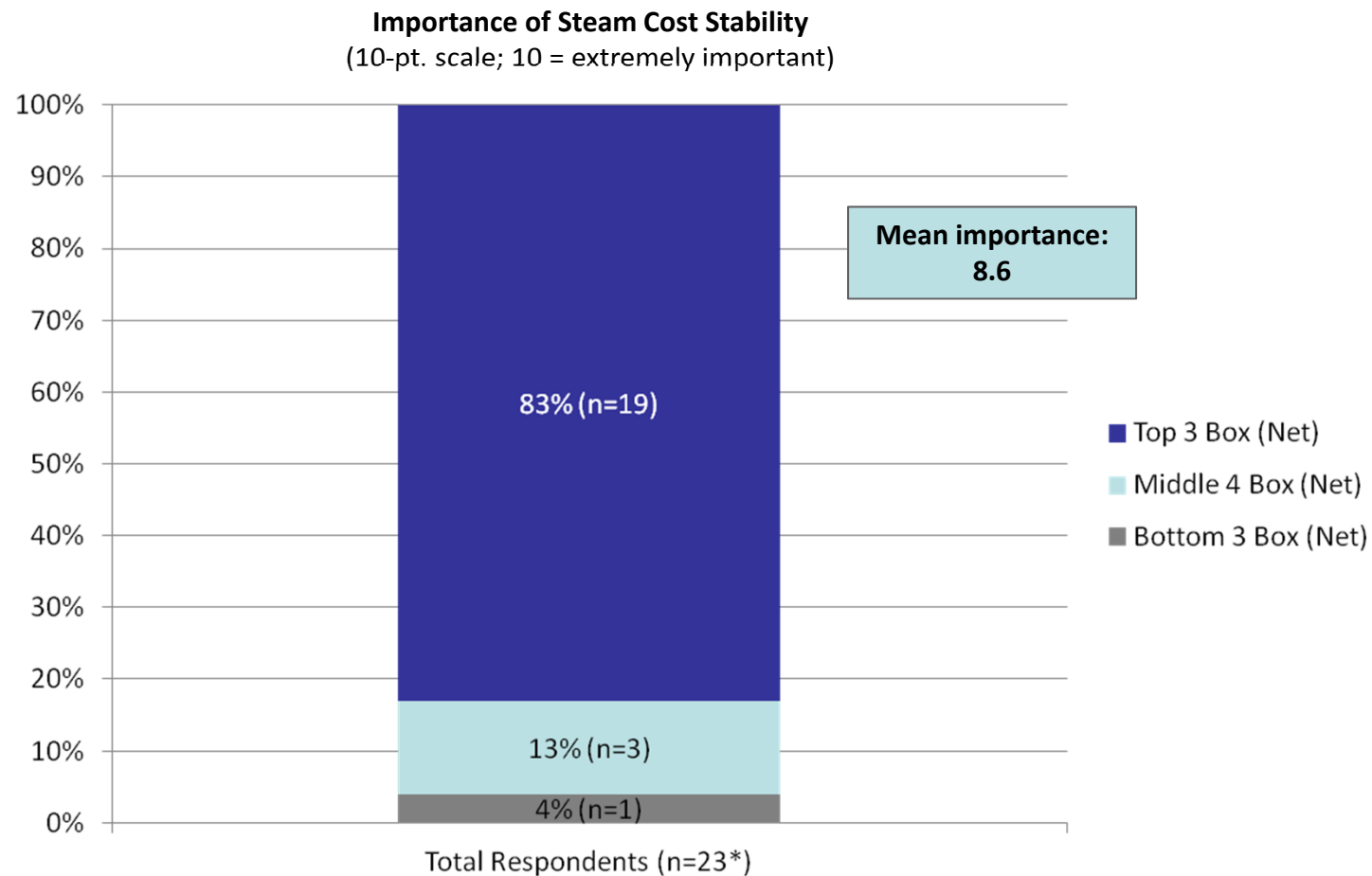
Q9: And again, thinking about switching away from steam service, what is your best estimate as to the **ongoing operating & maintenance** costs of a new heating system?

Base: Total Respondents

\* Small base size; use caution when interpreting data

## Importance of Steam Cost Stability

- Eight in ten respondents (83%) say steam cost stability is very important to their business.



Q14: How important is steam cost stability to your business?

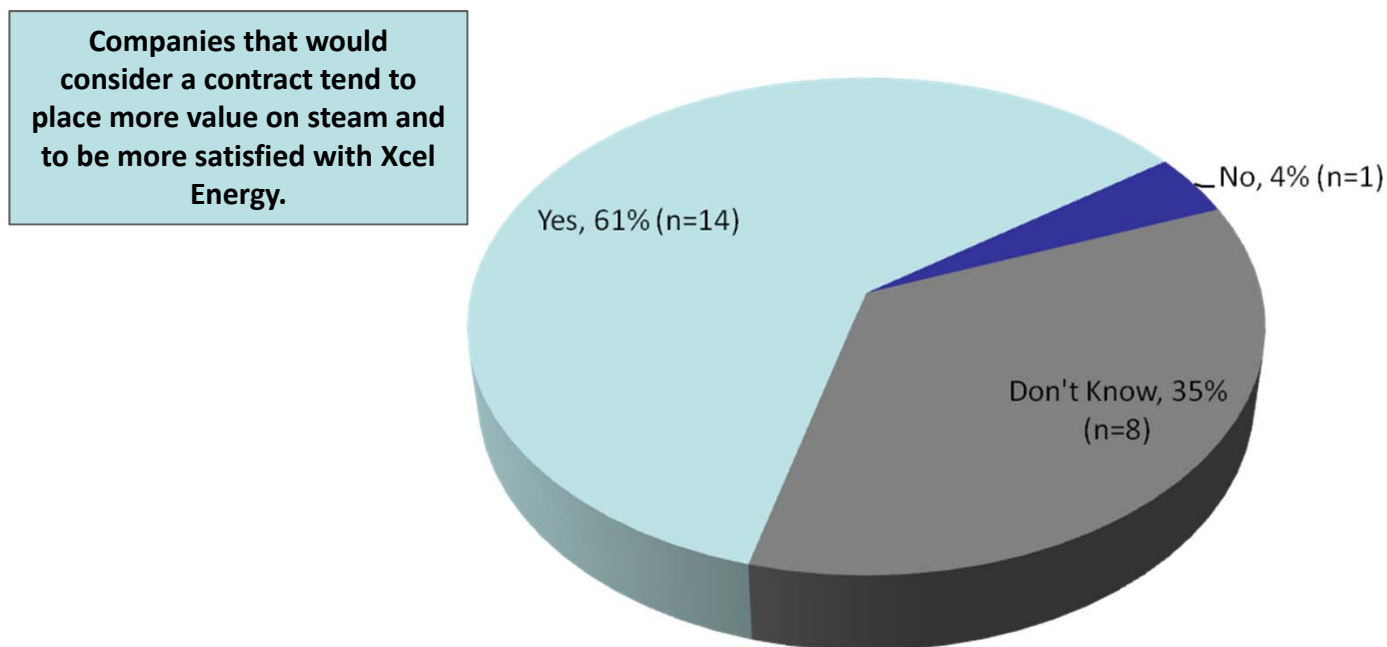
Base: Total Respondents

\* Small base size; use caution when interpreting data

## Considerations of a Long Term Contract With Xcel Energy

- Over six in ten respondents would consider a long term contract with Xcel, if there was a price guarantee with their steam system.

Would Consider a Price-Guaranteed, Long Term Contract with Xcel  
Total Respondents (n=23\*)



Q15: Would you consider a long term contract with Xcel Energy if offered a price guarantee with your steam system?

Base: Total Respondents

\* Small base size; use caution when interpreting data

### Contract Length Preference

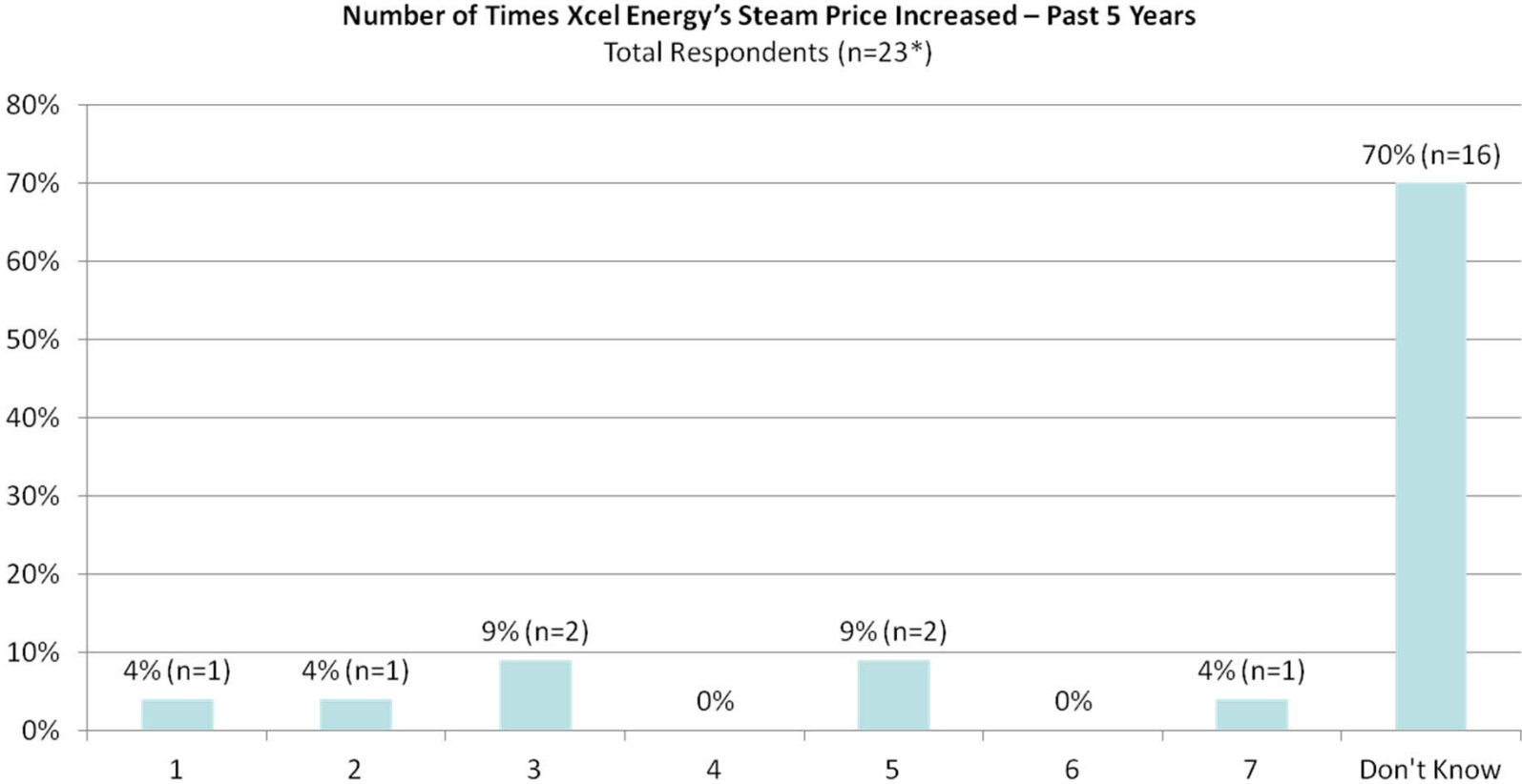
- The majority of respondents (79%) would consider a contract of 5-10 years. Few would consider contracts longer than that.



Q15a: How long of a contract would you consider?  
Base: Total Respondents \* Small base size; use caution when interpreting data

### Perceptions of Xcel Steam Rate Increases

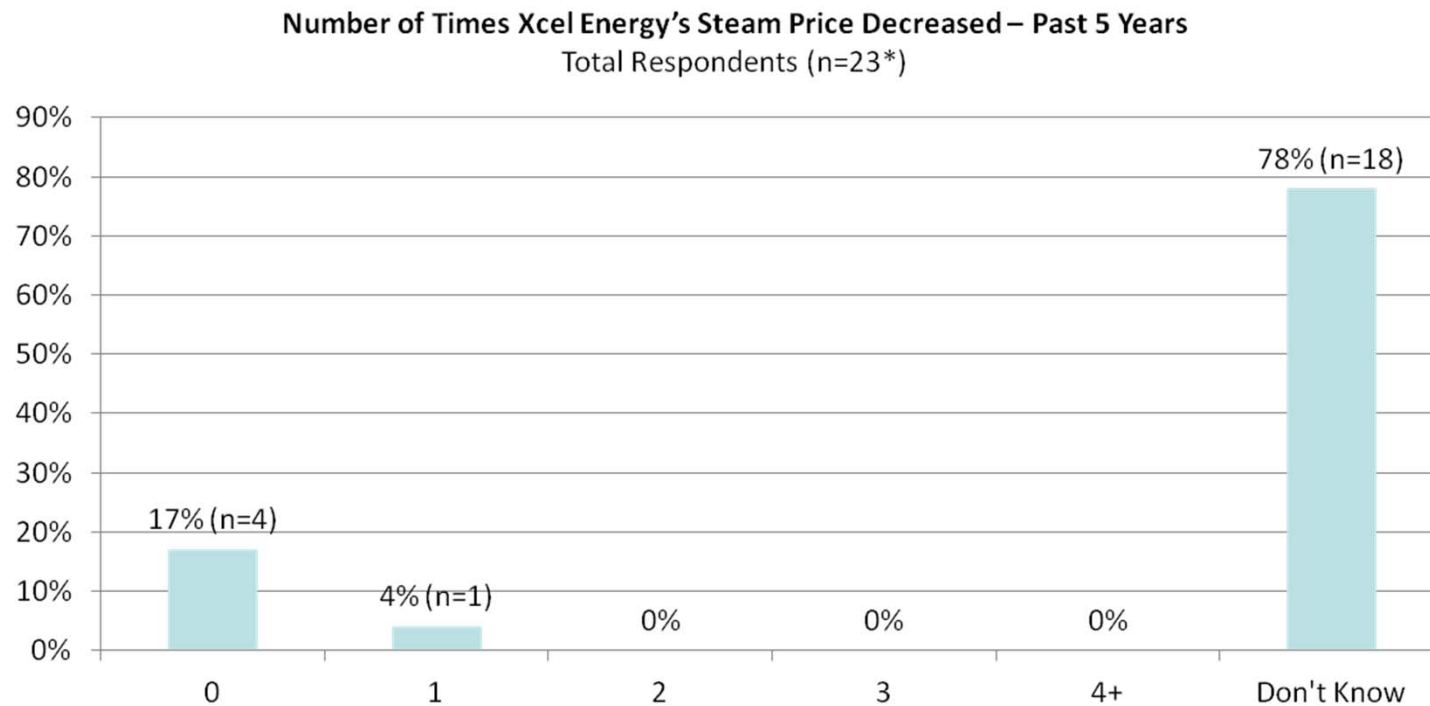
- Most respondents (70%) don't know how many times the price of steam increased in the past 5 years.



Q19: In the past 5 years, how many times has Xcel Energy's steam price increased?  
Base: Total Respondents \* Small base; use caution when interpreting data

## Perceptions of Xcel Steam Rate Decreases

- Over three quarters of respondents (78%) don't know if Xcel's steam price decreased at all over the past 5 years. Less than a fifth (17%) believe that the rates have not decreased in the past 5 years.

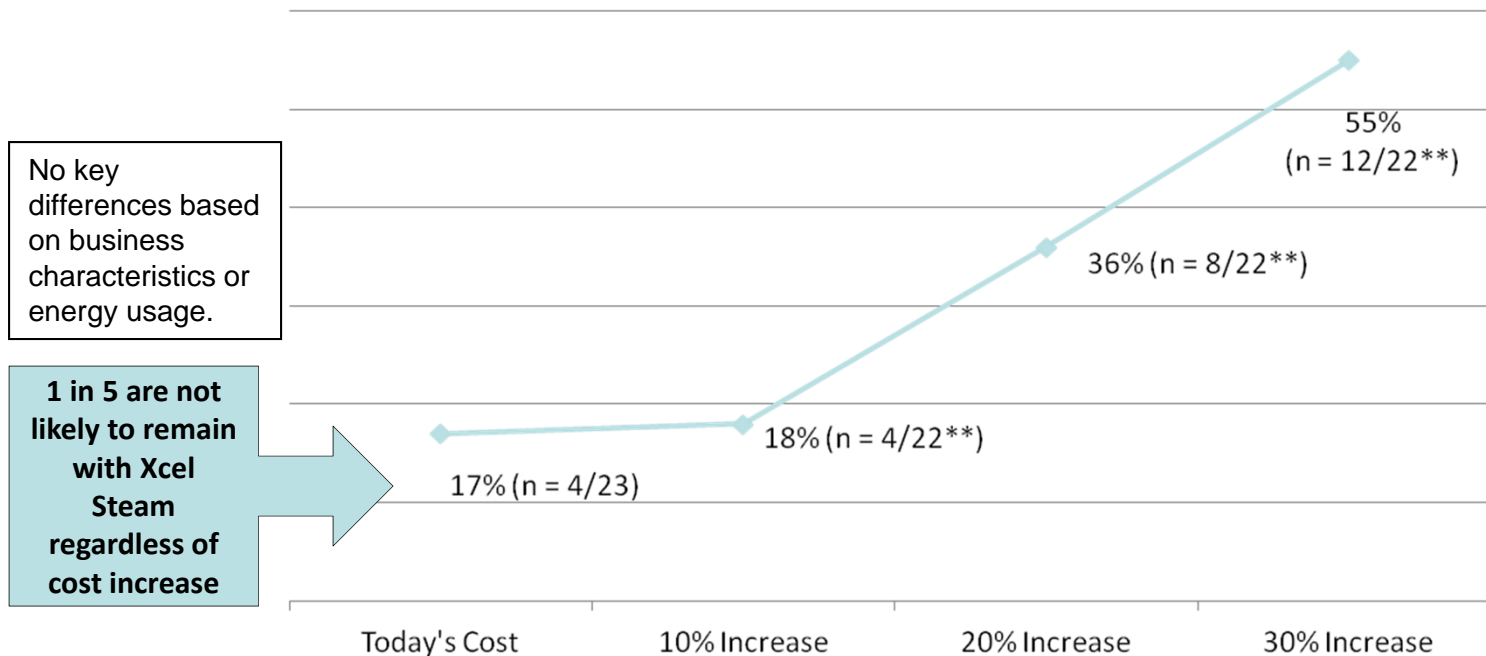


Q20: In the past 5 years, how many times has Xcel Energy's steam price decreased?  
Base: Total Respondents \*Small base; use caution when interpreting data

## Likelihood to Switch Away from Existing Heating System Based on Price

- One in five respondents (17%) are not likely to continue using the steam system from Xcel Energy at today's cost. As the price of steam from Xcel increases, customer churn likelihood significantly increases as well. Overall, 18% of customers would switch away if the price went up by 10%, 36% would switch away at a 20% increase, and more than half (55%) would switch away at a 30% increase in steam cost.

**Likelihood to Convert / Switch Away from Existing Heating System  
Based on Xcel Energy Cost of Steam  
Top 3 Box Likelihood; 10-point scale  
Total Respondents (n=23\*)**



Q10: How likely are you to continue using your business' existing steam system from Xcel Energy at today's cost?

Q11-13: If the cost of steam offered by Xcel Energy increased by 10% / 20% / 30%, how likely are you to switch away from your existing steam heating system?

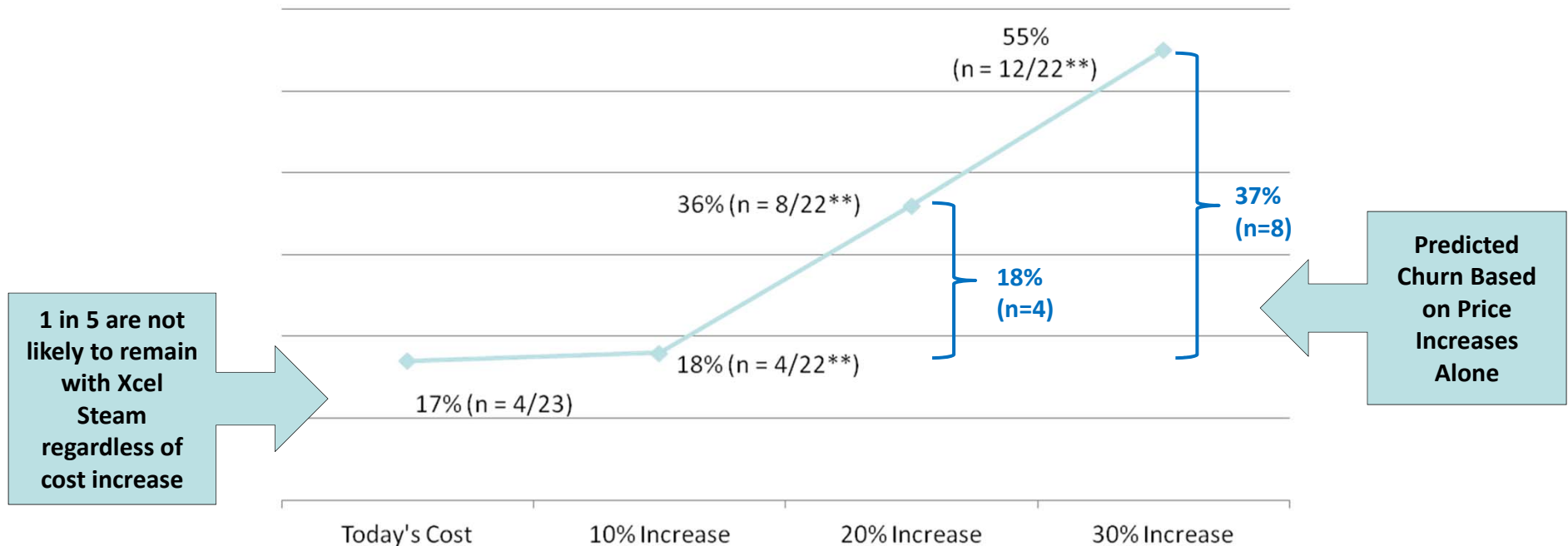
Base: Total Respondents \* Small base size; use caution when interpreting data \*\* - One respondent did not complete the pricing tasks.

NOTE: Calculations are based on Top 5 Box responses (negative) on a 10-Point Scale; 10 = Extremely Likely, 1 = Not At All Likely. One respondent was not asked the follow-up question for a 10% or 30% increase in cost and therefore base sizes on these questions are n=22.

## Likelihood to Switch Away from Existing Heating System Based on Price

- About one in five respondents (17%) are not likely to continue using the steam system from Xcel Energy at today's cost and therefore the actual customer churn based on a price *increase* must be predicted outside of these customers. A 10% increase in cost would have virtually no impact, while a 20% increase in cost would move 18% of customers. A cost increase of 30% would double the number of customers would be likely to switch away, at 37%.

**Likelihood to Convert / Switch Away from Existing Heating System  
Based on Xcel Energy Cost of Steam  
Top 3 Box Likelihood; 10-point scale  
Total Respondents (n=23\*)**



Q10: How likely are you to continue using your business' existing steam system from Xcel Energy at today's cost?

Q11-13: If the cost of steam offered by Xcel Energy increased by 10% / 20% / 30%, how likely are you to switch away from your existing steam heating system?

Base: Total Respondents \* Small base size; use caution when interpreting data \*\* - One respondent did not complete the pricing tasks.

NOTE: Calculations are based on Top 5 Box responses (negative) on a 10-Point Scale; 10 = Extremely Likely, 1 = Not At All Likely. One respondent was not asked the follow-up question for a 10% or 30% increase in cost and therefore base sizes on these questions are n=22.



## OVERALL CUSTOMER SATISFACTION AND FEEDBACK

## SECTION SUMMARY: OVERALL CUSTOMER SATISFACTION

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### Satisfaction and Value of Xcel Energy Steam Services

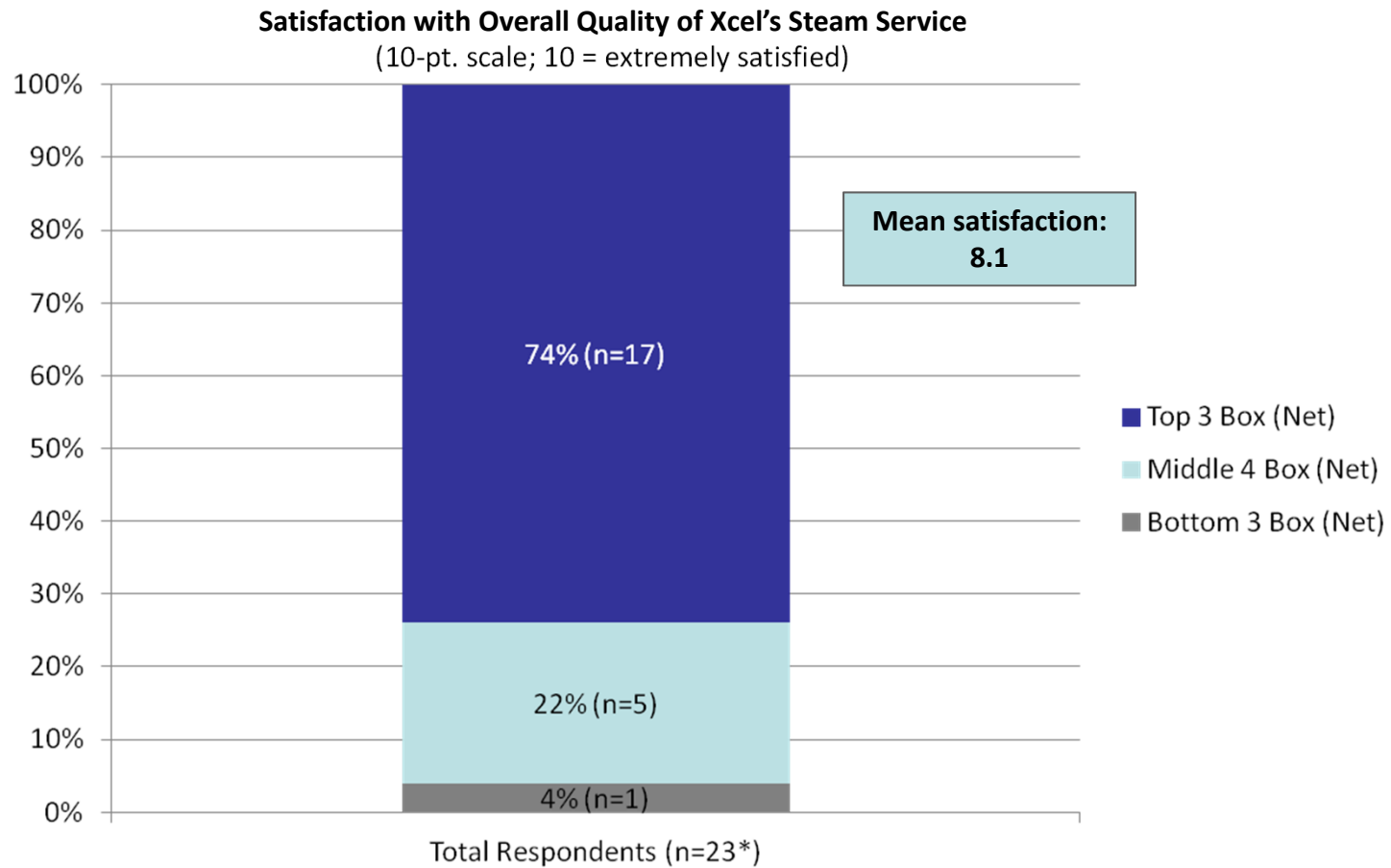
- Overall, three-quarters (74% or n=17) are *very satisfied* (Top 3 Box on a 10-pt. scale) with the overall quality of their steam service from Xcel Energy, while only 4% (n=1) are highly dissatisfied with the service.
- Over half of respondents (52% or n=12) feel that Xcel's steam system is *very valuable* (Top 3 Box on a 10-pt. scale), while nearly the same amount (44% or n=10) feel fairly neutral about the value of the system.
  - Open feedback from customers suggests that satisfaction and value could be increased by offering lower steam rates and maintenance costs, new infrastructure, and added services.

### Overall Satisfaction

- Nearly all respondents (78% or n=18) are extremely satisfied with the package of products and services they currently purchase from Xcel. About a fifth (22% or n=5) are neutral on this measure and none say they are extremely unsatisfied.

## Satisfaction with Quality of Xcel's Steam Service

- Three-quarters (74%) of respondents are highly satisfied with the overall quality of their steam service from Xcel.



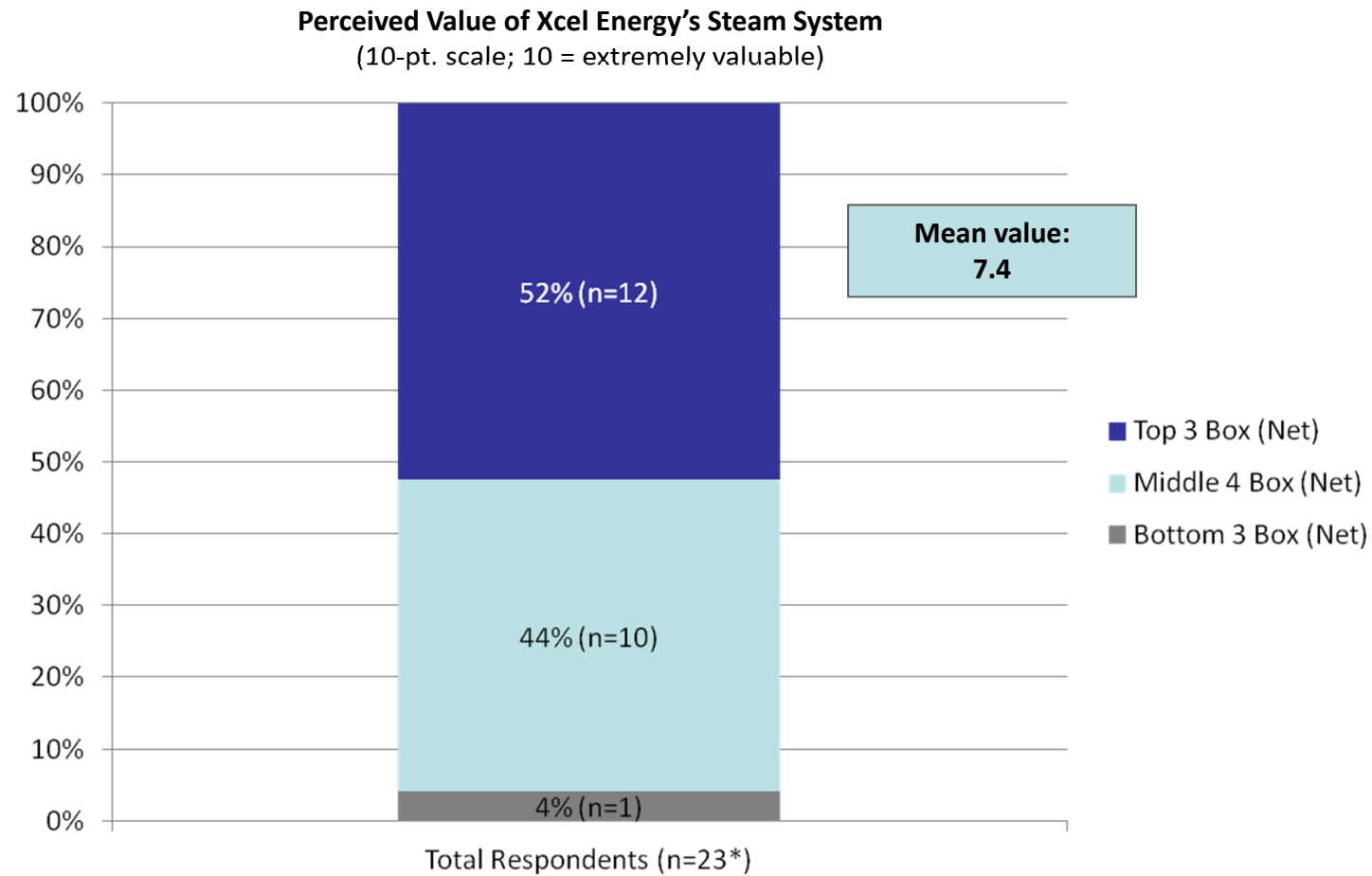
Q21: How satisfied are you with the overall quality of steam service from Xcel Energy?

Base: Total Respondents

\* Small base size; use caution when interpreting data

## Perceived Value Of Xcel Energy's Steam System

- Over half of respondents (52%) think Xcel's steam system is very valuable, while 43% are more neutral.



Q22: How would you rate the overall VALUE of the Xcel Energy steam system?

Base: Total Respondents

\* Small base size; use caution when interpreting data

## Comments on Xcel Energy's Service

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### Additional Comments on Xcel Energy's District Steam Service

We would not be considering a change if it weren't for the potentially dramatic increases in the cost of steam if all proposals were to be accepted and several other steam customers dropped out. A long term contract would have to be approved by building owners and would have to be assignable in the event of a building sale.

Build the new steam plant. Charge more for steam. Denver is growing and we need this infrastructure.

The maintenance costs of steam have been expensive compared to our other buildings with hot water boiler systems.

If Xcel could provide BTU meters on certain individual building components, it could assist in helping a building isolate its biggest consumption areas and decide whether to switch to electric heat or natural gas as efficient alternatives to steam heat exchangers.

We have received a quality service and are happy to continue our relationship.

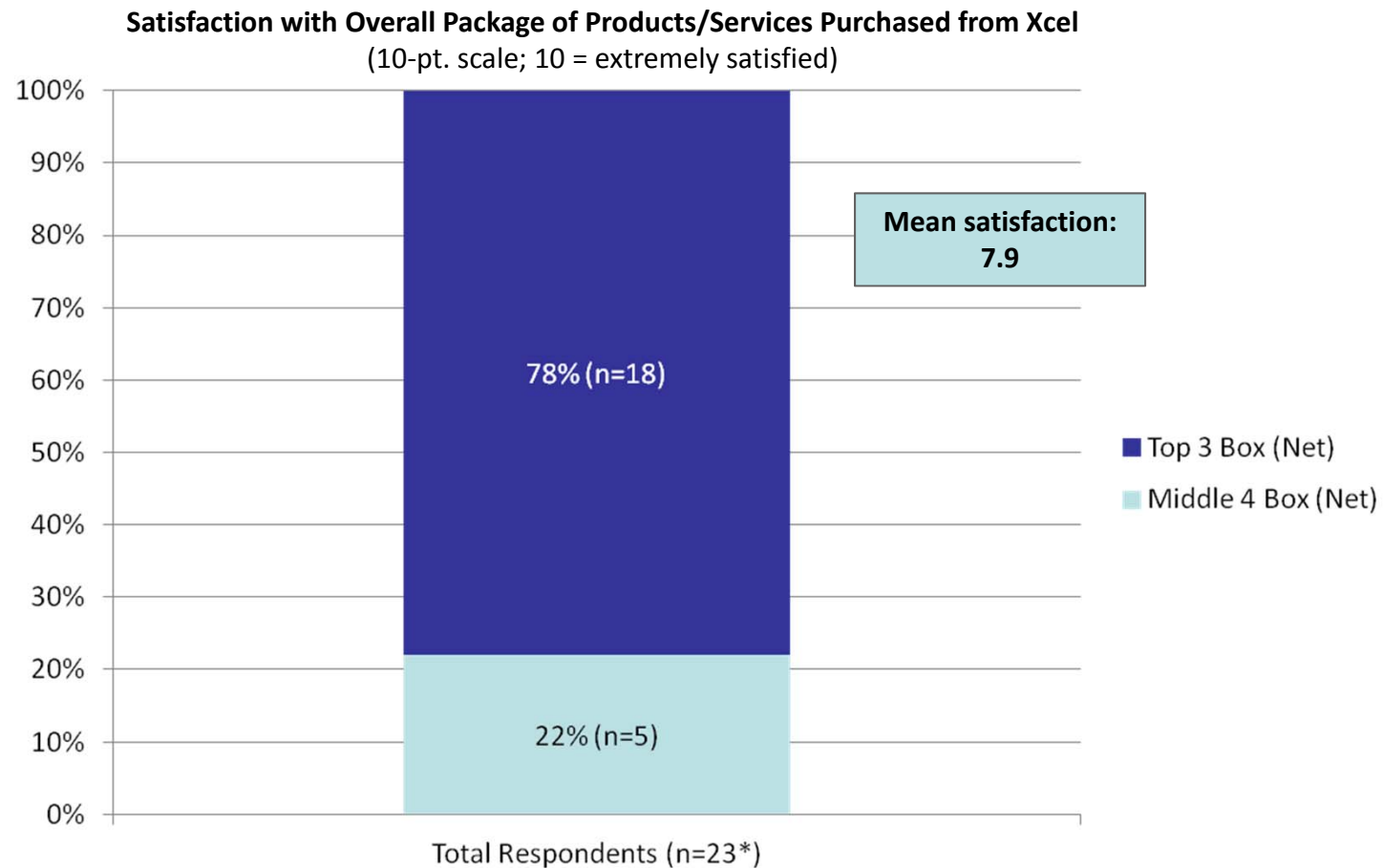
Q24: Do you have any suggestions or comments that you would like to make regarding Xcel Energy's district steam service? (Open-end)

Base: Total Respondents

\* Small base size; use caution when interpreting data

## Overall Satisfaction with Xcel Energy

- The vast majority of respondents (78%) are very satisfied with their overall Xcel Energy service. None of the respondents claim they are very dissatisfied.



Q23: How satisfied are you with the overall package of products and services you currently purchase from Xcel Energy?

Base: Total Respondents

\* Small base size; use caution when interpreting data

## Demographics

	Total Respondents (n=23*)
<b>Area of Business</b>	
Homeowners Association (HOA)	30% (n=7)
Large Commercial	26% (n=6)
Hotel	13% (n=3)
Store Front	13% (n=3)
Performing Arts / Museum	4% (n=1)
Government	4% (n=1)
Other	4% (n=1)
Prefer not to answer	4% (n=1)
<b>Square Footage of Facility / Facilities Using Xcel Steam System</b>	
Less than 50,000	9% (n=2)
50,000-100,000	9% (n=2)
100,001-250,000	26% (n=6)
250,001-500,000	17% (n=4)
More than 500,000	26% (n=6)
Don't know / prefer not to answer	13% (n=3)


	Total Respondents (n=23*)
<b>Job Title</b>	
Engineering Chief / Manager / Director	35% (n=8)
Operations Manager / Director	17% (n=4)
Owner / Asset Manager	13% (n=3)
Facilities Manager / Director	9% (n=2)
Administrator / Principal	4% (n=1)
Maintenance Manager / Director	4% (n=1)
Other	17% (n=4)

## Appendix

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- Questionnaire

The Praxair Group, Inc. PPS1A-020L

  
**Xcel Energy**  
Steam Rates Research  
Online Interviews  
Questionnaire #9 (03.05.14)

**INTRODUCTION**

Thank you very much for agreeing to complete this online survey regarding steam energy services. Your opinions are very important. All of your information and responses will be kept strictly confidential, will not be viewed at the individual level, and used for research purposes only.

After you complete the survey, if your company policy allows, you will receive a \$50 Amazon.com gift card as a thank you for your time and opinions.

SO. Please enter your email address for verification purposes only. Your information will not be used to identify responses collected in this survey. Thank you.

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A progress bar is provided so that you can determine how close you are to the end of the survey at any given time.

THE PRAXAIR GROUP, INC. 2014Q  
PPS1A-020L 1 Xcel Energy Steam Rates Research



## Appendix

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### Overview of Methodology, Sampling Frame, and Statistical Validity for Xcel Energy Steam Rates Research

Following is an overview of issues related to the methodology, sampling frame, and statistical validity of the recent Xcel Energy Steam Rates research. Please review the information when you can and then let's set a time to discuss questions and next steps.

#### Methodology

An online survey was selected for this research based on several associated advantages (none of which are possible with alternative methods such as telephone or mail surveys):

The ease with which respondents can complete the questionnaire, including starting, pausing, and re-initiating the process at their convenience.  
The ability to share complex statements and concepts for review and consideration by the respondents.  
The ability to include complex question structures, including multiple skip patterns and "if / then" scenario trees.  
An overall sense of anonymity for the respondent.

The Praxi Group has conducted a number of online surveys with both residential and business customer respondents for Xcel Energy over the past 8 years and we have experienced very positive success with this methodology for all of these past studies.

#### Response Rates

The overall response rate achieved for this study was 33% (23 returned surveys from an outgoing email invitation list of 69 potential respondents). While the relationship between response rate and the validity of survey results (i.e., the lack of biases) is a subject of ongoing debate within both professional and academic circles, the response rate achieved for this study can be considered very strong and significantly higher than is often achieved with similar methodologies and target respondent groups.

#### Margin of Error

For any survey that involves a sample of a larger, universe population, there is an associated Margin of Error (also known as Standard Error). The maximum margin of error is driven exclusively by the total sample size, based on the following calculation:

$$\sqrt{\frac{p(1-p)}{n}} \times 1.96$$

For the current study, based on a sample size of  $n = 23$ , the associated maximum margin of error is  $\pm 20.4$  percent at the 95 percent confidence interval. This means that if this study were repeated 100 times – using 100 different samples of 23 respondents – in 95 of those instances, the results would not vary by more than 20.4 percent from the results attainable by surveying the entire universe population of Xcel Steam Energy customers.

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## Appendix

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### Overview of Methodology, Sampling Frame, and Statistical Validity for Xcel Energy Steam Rates Research (continued)

It is also possible to adjust or narrow the associated maximum error range in those instances when the total sample size is greater than 10 percent of the universe population. Such an adjustment is possible with the current study, given the following figures:

Sample size = 23  
Universe population of Xcel Steam Energy customers = 109  
Sample / Universe = 21%

Using these figures, we are able to adjust the maximum error margin based on the following calculation:

Standard Error  $X (1 - (n / N)) =$   
 $20.4 X (1 - 23 / 109) =$   
 $20.4 X 0.789 =$   
16.1 percent (adjusted maximum margin of error)

### Statistical Significance Testing

In any survey research, various tests of statistical significance are applied to determine whether any differences seen between key customer groups (e.g., based on factors such region, revenue, industry, and so on) are actually indicative of the universe population or due to sampling error.

For the current study, a variety of statistical significance tests were applied, with specific tests selected based on the nature of the data being tested. These techniques included:

F-Tests (or tests of proportion):	For testing between two percentages
T-Tests:	For testing between two mean scores

The results of these tests are included in the tabulated results provided to Xcel Energy and also are noted in the final report where appropriate. It is important to note, however, that the sensitivity of these tests is directly impacted by total sample size. As a result, very few of the differences seen in the results across various customer sub-groups can be deemed “statistically significant.”

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## Appendix

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### Overview of Methodology, Sampling Frame, and Statistical Validity for Xcel Energy Steam Rates Research (continued)

#### CV Michael Hesser (President / CEO of The Praxi Group)

Michael Hesser  
President / CEO  
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#### EDUCATION:

University of Colorado at Denver – January, 1993 to December, 1993

Post-graduate studies; Industrial / Organizational Psychology

University of Nebraska at Lincoln – January 1998 to May, 1998

Post-graduate studies; Statistics

University of Nebraska at Omaha – December, 1986

Bachelor of Science, Business Administration; Major in Marketing. Minor in Psychology. Specialization in Market Research.

#### EXPERIENCE:

The Praxi Group, Inc.; Kittredge, CO

President / CEO and Founder; February, 2003 to present

ConStat, Inc.; Denver, CO

Vice-President; August, 1997 to February, 2003

U S WEST, Inc.; Denver, CO

Director of Market Research; November, 1992 to August, 1997

Savitz Research Center, Dallas, TX

Senior Market Research Project Manager; January, 1990 to October, 1991

Bloom Advertising Agency; Dallas, TX

Senior Market Research Project Manager; August, 1989 to January, 1990

National Research Center; Lincoln, NE

Senior Market Research Analyst; January, 1987 to August, 1989

#### PERSONAL DETAILS:

Age & DOB: 52 years, 09.19.1961

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