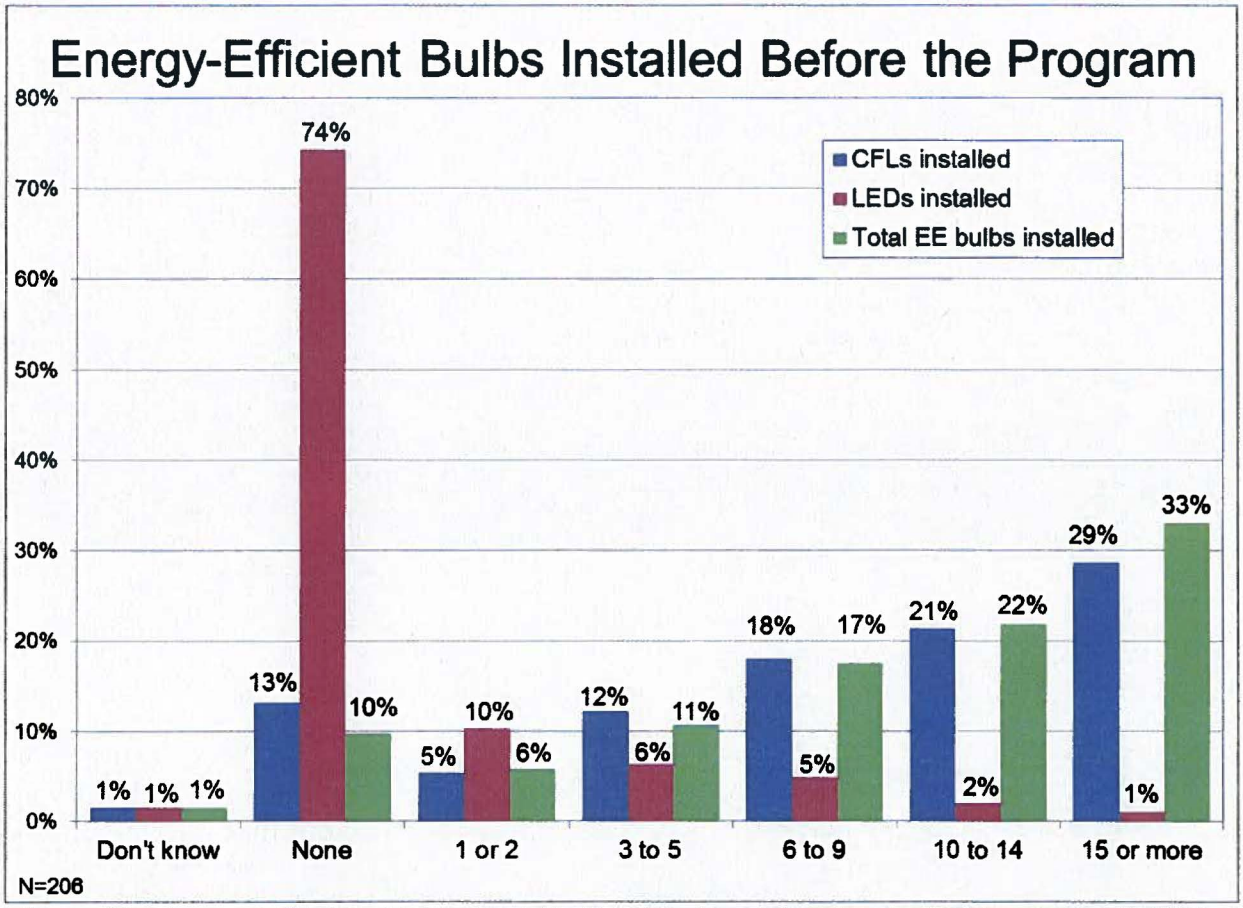

Figure 20. Energy-Efficient Bulbs Installed before Participating in the Program (N=206)
When calculating total EE bulbs installed, customers who did not know if they had any LEDs installed are assumed to have zero LEDs installed. Customers who reported having CFLs or LEDs installed but who were not able to answer "how many?" are reported as "don't know".

Incandescent and Halogen Light Bulbs Installed in Participant Households

Surveyed participants were asked how many incandescent or halogen lights they have installed in their homes, how many of these are "standard encapsulated bulbs" (i.e., "A series" bulbs), and how many of these standard capsule bulbs are used for more than two hours per day. Table 65 indicates that these customers' homes still have a decent number of incandescent and halogen light bulbs installed: 92.7% of surveyed households have at least one old bulb installed, and the overall average is 15.2 incandescent and halogen bulbs installed per household. However, half of these incandescent and halogen bulbs are non-standard bulb types; only 50.7% (1,575.5 out of 3,107) of the non-efficient bulbs installed in these customers' homes are the regular capsule-style (type "A") bulbs.

Furthermore, not very many of the regular capsule-style bulbs installed in these homes are being used much; just 27.1% (427.5 out of 1,575.5) of the capsule-style incandescent and halogen bulbs in these households are being used more than two hours per day. Overall, only 37.4% of Savings Store customers surveyed have at least one standard capsule bulb that is in use more

than two hours per day, and the average across all participants is only 2.1 of these bulbs installed per household. Only about one out of every seven incandescent or halogen bulbs installed in these customers' homes (13.8% or 427.5 out of 3,107) is a traditional capsule-style bulb that is used more than two hours per day.

Table 65. Use of Capsule-Style Incandescent and Halogen Bulbs in the Home (N=206)

	Midwest (count)	Midwest (percent)
What is your best estimate of the total number of light bulbs currently installed in your home that are incandescent or halogen bulbs?		
None	14	6.8%
1 to 2	12	5.8%
3 to 5	31	15.0%
6 to 9	31	15.0%
10 to 14	41	19.9%
15 or more	76	36.9%
Don't know	1	0.5%
Total number of incandescent and halogen bulbs installed	3,107.0	
Average per household (base N=205 valid responses)	**15.2**	
How many of these incandescent or halogen bulbs are standard capsule bulbs? (By standard capsule bulbs, I mean the most common type of light bulb shape.)		
None	56	27.2%
1 to 2	22	10.7%
3 to 5	33	16.0%
6 to 9	28	13.6%
10 to 14	29	14.1%
15 or more	36	17.5%
Don't know	2	1.0%
Total number of incandescent and halogen capsule-style bulbs installed	1,575.5	
Average per household (base N=204 valid responses)	**7.7**	
How many of these incandescent or halogen standard capsule bulbs are installed in sockets that are typically used for more than two hours a day?		
None	126	61.2%
1 to 2	22	10.7%
3 to 5	29	14.1%
6 to 9	13	6.3%
10 to 14	8	3.9%
15 or more	5	2.4%
Don't know	3	1.5%
Total number of incandescent and halogen capsule-style bulbs installed which are used more than two hours per day	427.5	
Average per household (base N=203 valid responses)	**2.1**	

Specialty Bulbs in Participant Households

Survey participants were asked a series of questions to determine how many specialty bulbs are currently in use in their homes, and what kind of bulbs are in those sockets. This can be used to determine opportunities to install further efficient bulbs in these households. Table 66 shows how many participants have bulbs of each type in their homes, and the numbers of bulbs in participant households. The most common type of specialty bulbs are candelabras, present in 80.6% of surveyed participant households; this category also represents the largest number of installed specialty bulbs, which account for 20.2% of the specialty bulbs installed in participant households. The average number of specialty bulbs installed per household by type ranges from 3.4 for three-way bulbs to 11.2 for indoor reflectors (including only the households that have a given type of bulb installed).

Table 66. Specialty Bulbs Installed in Participant Households[26]

	Participant count (N=206)	Participants (percent)	Total bulb count (N=8,192)	Bulbs (percent)	Bulbs per household with this type of bulb
Dimmable bulbs	143	69.4%	1,406	17.2%	9.8
Three-way bulbs	120	58.3%	411	5.0%	3.4
Indoor reflector bulbs	140	68.0%	1,570	19.2%	11.2
Outdoor reflector bulbs	123	59.7%	486	5.9%	4.0
Globe bulbs	142	68.9%	1,232	15.0%	8.7
Candelabra bulbs	166	80.6%	1,655	20.2%	10.0
CFL or LED capsule bulbs	115	55.8%	790	9.6%	6.9
Other specialty bulbs	87	42.2%	642	7.8%	7.4

Participant percentages total to more than 100% because participants can have multiple types of bulbs installed.

Table 67 shows how many bulbs of each type are CFLs, LEDs and incandescent and halogen bulbs. The specialty bulb types where participants still have the largest number of incandescent and halogen bulbs installed are candelabras (65.4%), outdoor reflectors (57.6%) and dimmable bulbs (59.8%). The bulb types which these customers have already mostly converted to efficient bulbs are three-ways (66.2%) and indoor reflectors (57.5%); globe bulbs in participant households are about equally likely to be efficient CFLs or LEDs (48.1%) or standard incandescent or halogen (51.0%). LEDs have the largest penetration in the categories of efficient capsule bulbs (38.0% or 300 out of 790) and dimmable bulbs (12.8% or 180 out of 1,406), and account for fewer than 10% of bulbs currently installed in the other types of specialty sockets.

[26] The results presented in Table 66 reflect survey participant responses, but several caveats should be noted: some categories may overlap (for example a bulb can be both dimmable and a candelabra and thus would be counted in both rows), and "efficient capsules" is a unique category in that a standard incandescent capsule is not considered a specialty bulb (whereas for all of the other categories shown in the table incandescent bulbs of that type are considered specialty bulbs). Furthermore, inconsistent responses were corrected where possible (such as the number of bulb types not adding up to the total number of bulbs reported) and of course some respondents were unable to answer all of the questions. Thus the total bulb count and bulb percentages shown in the table should be considered approximations (some bulbs are being double-counted while others are not counted at all); this is also why there is no row presented for "total specialty bulbs". However, participant-level counts, percentages and the bulbs per household for each individual specialty bulb type are not affected by issues with overlapping categories.

Table 67. Energy-Efficient and Standard Specialty Bulbs in Participant Households

	Total bulb count	CFLs (bulb count)	LEDs (bulb count)	Incandescent or halogen (bulb count)	Total EE bulbs (percent)	Standard bulbs (percent)
Dimmable bulbs	1,406	345	180	841	37.3%	59.8%
Three-way bulbs	411	270	2	139	66.2%	33.8%
Indoor reflector bulbs	1,570	791	112	648	57.5%	41.3%
Outdoor reflector bulbs	486	131	6	280	28.2%	57.6%
Globe bulbs	1,232	591	1	628	48.1%	51.0%
Candelabra bulbs	1,655	502	36	1,083	32.5%	65.4%
CFL or LED capsule bulbs	790	490	300	NA	100.0%	NA
Other specialty bulbs[27]	642	12	42	94	8.4%	14.6%

Bulb counts by type are less than the total number of bulbs per type due to missing data (customers who could not state a number of bulbs are not shown in this table). Percentages of bulbs total to less than 100% for the same reason.

Customers were also asked if they had any spare incandescent bulbs in storage to replace specialty bulbs that burn out. As seen in Table 68, a third of the specialty incandescent bulbs these customers have in storage are for dimmable sockets (33.1% of spare incandescent bulbs) and nearly as many are candelabras (29.7%); this reinforces the finding from Table 67 that these are also the categories of bulbs that have the highest percentage of incandescent and halogen bulbs still installed in homes.[28] Candelabras are also the category of incandescent specialty bulb these customers are most likely to have in storage (33.5% of surveyed participants); participants are least likely to have spare incandescent outdoor reflectors in storage (15.5%).

Table 68. Incandescent Bulbs in Storage for Future Use in Specialty Sockets

	Have incandescents in storage count (N=206)	Have incandescents in storage (percent)	Total spare incandescent bulbs (N=1,718)	Spare incandescent bulbs (percent)	Bulbs per household with this type of bulb
Dimmable bulbs	40	19.4%	569	33.1%	14.2
Three-way bulbs	40	19.4%	129	7.5%	3.2
Indoor reflector bulbs	40	19.4%	203	11.8%	5.1
Outdoor reflector bulbs	32	15.5%	73	4.2%	2.3
Globe bulbs	42	20.4%	209	12.2%	5.0
Candelabra bulbs	69	33.5%	510	29.7%	7.4
Other specialty bulbs	7	3.4%	25	1.5%	3.6

Participant percentages total to more than 100% because participants can have multiple types of bulbs in storage.

[27] The columns shown for "other specialty bulbs" add up to much less than 100% because customers were less likely to know what types of bulbs these are ("don't know" bulbs are not shown in the table) and because many of these bulbs are neither CFLs, LEDs nor standard bulbs; about two-thirds of these "other specialty bulbs" are fluorescent tubes (65.4% or 420 out of 642).

[28] Note that "dimmable incandescent bulbs" are defined by their intended usage in dimmable sockets, not an inherent capability of the bulb (all incandescent bulbs are dimmable). Thus the dimmable category overlaps somewhat with the other specialty bulb types (i.e., a candelabra bulb may be intended for a dimmable socket and thus counted in both categories), therefore the total number of bulbs and percentages per category should be considered approximations.

Future Light Bulb Purchase Intentions

Surveyed customers were asked how many of the next ten light bulbs they purchase will be standard incandescent (or halogen), CFL and LED bulbs. As seen in Table 69, eight out of ten participants surveyed reports that they intend to buy CFLs (79.4%) and almost half intend to purchase LEDs (43.3%), but fewer than a quarter intend to buy any standard incandescent or halogen bulbs (22.7%).

The majority of bulbs these customers intend to purchase in the future will be CFLs (64.2% of intended bulb purchases), though about one bulb in four will be an LED (26.9%) and only about one bulb in ten will be standard incandescent or halogen bulbs (9.0%). These results indicate greater intent to purchase LEDs, and less intent to purchase standard incandescent and halogen bulbs, compared to other recent lighting programs evaluated in Duke Energy territories.[29]

Table 69. Purchase Intent: Next Ten Bulbs Purchased

Of the Next Ten Light Bulbs You Purchase, How Many Will Be...?	All Surveyed Participants Who Answered This Question (Valid N=194)
% of surveyed customers who intend to buy at least one incandescent and/or halogen bulb	22.7%
% of surveyed customers who intend to buy at least one CFL bulb	79.4%
% of surveyed customers who intend to buy at least one LED bulb	43.3%
	All Bulbs To Be Purchased (N=1,925)[30]
Percentage of next ten bulbs that will be incandescent and/or halogen bulbs	9.0%
Percentage of next ten bulbs that will be CFL bulbs	64.2%
Percentage of next ten bulbs that will be LED bulbs	26.9%

Percentages in the first three rows total to more than 100% because participants could give multiple responses. Percentages in the bottom three rows are mutually exclusive and add up to 100%.

Figure 21 presents the distribution of future bulb purchases in the form of an area chart as a visual aid: the Y-axis shows the distribution of bulbs intended to be purchased, and the X-axis shows all 194 valid responses sorted by the distribution of bulb types. Out of 194 customers surveyed, 40.7% say they intend to purchase exclusively CFLs for their next ten bulbs (the center green area which extends from the top to the bottom of the chart).

[29] The "next ten bulbs" series of questions was adopted by TecMarket Works in 2013; as of the time of the current evaluation has only been previously used for low-income program evaluations in Ohio. Perhaps the most comparable previous study would be the *Process and Impact Evaluation of the Residential Smart $aver Energy Efficiency Products (CFLs) Program in Kentucky*, published in May 2014 with participant surveys conducted in May and June of 2013. That evaluation of a program which distributes free spiral CFLs found the distribution of customers' next ten intended bulb purchases after the program to be 33.3% incandescent and halogen bulbs, 61.8% CFLs and just 4.8% LEDs.

[30] All 206 respondents were asked the question about the next ten bulbs they intend to purchase. Twelve respondents said they "don't know" what any of their next ten bulbs purchased will be, and across the other 194 respondents there were another 15 bulbs that were designated "don't know" (i.e., the customer knew what some of their next ten bulbs purchased would be, but did not know all ten). When calculating the percentage of incandescent/halogen, CFL and LED bulbs purchased, "don't know" bulbs are not included in the analysis. Thus the base number of intended bulb purchases is 1,925 bulbs (10 bulbs times 194 respondents minus 15 "don't know" bulbs).

The chart also shows significant intentions to purchase LEDs (the blue area on the right of the chart), including 13.9% (27 out of 194) of customers who intend to purchase LEDs exclusively the next time they need light bulbs (the right end where the blue area extends from the top to the bottom of the chart). Another 44 customers (22.7%) intend to purchase a mixture of LEDs and CFLs but not any incandescent or halogen bulbs (the blue "stairs" on the right of the chart which do not have red "spikes" on them).

Intentions to purchase incandescent and halogen bulbs among these customers is limited (red areas of the chart): only six customers surveyed (3.1%) intend to purchase exclusively incandescent and halogen bulbs (red top-to-bottom area on the left), and only fourteen customers (7.2%) intend to purchase even half incandescent and halogen bulbs out of the next ten bulbs purchased.

There are also a handful of customers (3.1%) who still intend to purchase the old bulbs in addition to both LEDs and CFLs (the "red spikes on the blue stairs" on the right side of the chart), and a few more customers (3.6%) who intend to purchase only LEDs and incandescent bulbs but not CFLs (areas on the right of the chart which go from blue to red without any green); this may indicate that these groups of customers have some specialized or old fixtures that they believe will not work with the more-efficient bulbs. It could also mean that some of these customers are "jumping ahead of the adoption curve" by installing LEDs before they have replaced all of their old incandescent and halogen bulbs (rather than replacing all of their old bulbs with CFLs first); another possibility is that these are customers who want energy-efficiency lighting but have problems using efficient bulbs for some specific purposes (due to issues with light color and brightness, warm-up time, etc.).

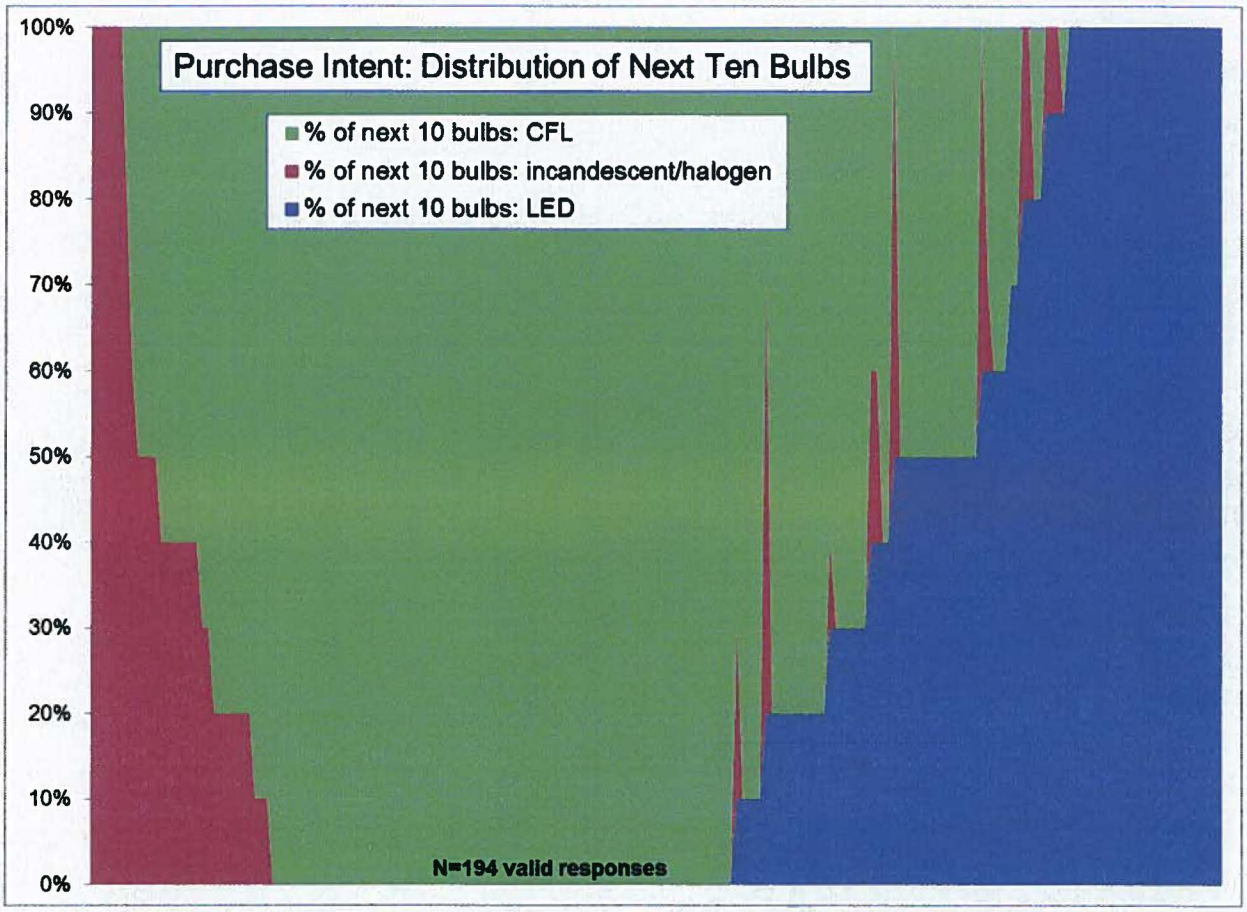

Figure 21. Area Chart of Intentions for Next Ten Bulbs Purchased (N=194)
Twelve survey participants (5.8% of 206) "don't know" what kind of bulbs they will buy in the future, and are not included in this chart.

Additional CFLs and LEDs Purchased Since Shopping at the Savings Store

Table 70 indicates that about one customer in six (16.5%) has purchased additional energy-efficient light bulbs through another source since shopping at the Savings Store; the percentage purchasing additional CFLs is 11.7% while 6.8% purchased additional LEDs (only four customers, or 1.9%, purchased both additional CFLs and LEDs). The 34 customers who purchased additional bulbs of either type purchased an average of 5.6 efficient bulbs apiece.

Overall, two-thirds of additional efficient bulbs purchased after the program are CFLs (66.2%) and a third are LEDs (33.8%). Half of these additional bulbs purchased are standard spiral CFLs (48.5%), while only 17.7% are specialty CFLs. Standard or capsule-style[31] LEDs account for

[31] A "standard LED" is generally in the shape of a capsule (i.e., the classic A-type bulb shape), while a "standard CFL" has a spiral shape. Thus "capsule CFLs" are considered a type of specialty bulb for this analysis, while "capsule LEDs" are not. There is no LED equivalent to a "spiral CFL" (the spiral shape is unique to compact fluorescent lighting technology).

21.1% of additional bulbs purchased, while specialty LEDs account for the remaining 12.7% of additional bulbs purchased.

Table 70. Efficient Bulbs Purchased since Participating in the Program

	Participants (Total N=206)	Participants (percent)	Bulbs purchased (Total N=189.5)	Bulbs purchased (percent)
Standard spiral CFLs	13	6.3%	92	48.5%
Capsule CFLs	3	1.5%	4	2.1%
Standard or capsule LEDs	7	3.4%	40	21.1%
Outdoor reflector CFLs	2	1.0%	3	1.6%
Outdoor reflector LEDs	1	0.5%	1	0.5%
Indoor reflector CFLs	2	1.0%	4	2.1%
Indoor reflector LEDs	4	1.9%	8	4.2%
Globe CFLs	2	1.0%	14	7.4%
Globe LEDs	0	0.0%	0	0.0%
Candelabra CFLs	1	0.5%	7.5	4.0%
Candelabra LEDs	1	0.5%	3	1.6%
Three-way CFLs	0	0.0%	0	0.0%
Three-way LEDs	0	0.0%	0	0.0%
Dimmable CFLs	0	0.0%	0	0.0%
Other type of CFL: not specified	1	0.5%	1	0.5%
Other type of LED: "*light strip*"	1	0.5%	1	0.5%
Other type of LED: "*corn bulbs*"	1	0.5%	2	1.1%
Other type of LED: "*slim bulbs*"	1	0.5%	4	2.1%
Other type of LED: "*desk lamp*"	1	0.5%	1	0.5%
Other type of LED: not specified	1	0.5%	4	2.1%
Did not purchase additional bulbs	172	83.5%	NA	NA
Don't know / can't recall	0	0.0%	NA	NA
Total CFLs	**24**	**11.7%**	**125.5**	**66.2%**
Total LEDs	**14**	**6.8%**	**64**	**33.8%**

Customers who purchased additional efficient bulbs after participating in the program were also asked how many of these bulbs are currently installed; as seen in Table 71, the overall installation rate is 69.1% (131 bulbs installed out of 189.5 purchased). LEDs are more likely to be installed (92.2%) compared to CFLs (57.4%), though this discrepancy is mostly due to the low rate of installing standard spiral CFLs (47.8%); specialty CFLs are installed at almost the same rate (83.6%) as LED bulbs purchased after the program (92.2%). Thus, although LEDs accounted for only 33.8% of additional efficient bulbs *purchased* after the program, they account for 45.0% of additional bulbs *installed* after the program.

Table 71. Installation of Additional Bulbs Purchased since Participating in the Program

	Bulbs purchased (Total N=189.5)	Bulbs installed (Total N=131)	Distribution of bulbs installed	Installation rate (installed / purchased)
Standard spiral CFLs	92	44	33.6%	47.8%
Specialty CFLs	33.5	28	21.4%	83.6%
Total additional CFLs	**125.5**	**72**	**55.0%**	**57.4%**
Standard or capsule LEDs	40	35	26.7%	87.5%
Specialty LEDs	24	24	18.3%	100.0%
Total additional LEDs	**64**	**59**	**45.0%**	**92.2%**
Total all additional bulbs	**189.5**	**131**	**100.0%**	**69.1%**

The 34 customers who purchased additional efficient bulbs were asked where they purchased them; these responses are listed below. About half of these customers got their bulbs at Lowe's or Home Depot (combined at least 17 out of 34), and only three (8.8% of 34) specified that they purchased these bulbs from online stores (though it is possible that some of the big box store customers may have used those retailers' websites to order their bulbs).

- Home Depot (n=10)
- Lowe's (n=4)
- Lowe's or Home Depot (n=3)
- Menards (n=3)
- Walmart (n=2)
- Target (n=2)
- Local hardware stores (n=2)
- *"A website in China"* (n=2)
- Sam's Club
- Ebay.com
- Kroger's
- Meier's
- Lowe's or Kroger's
- Lowe's or Menards

Nearly half (44.1%) of the participants who purchased additional efficient bulbs after the program report that these additional bulbs could have purchased them from the Savings Store (Table 72). The 15 customers who could have purchased bulbs at the Savings Store but did not were asked why not; these responses are categorized in the table below. One of these customers (0.5% of 206 surveyed) had a negative experience shopping at the Savings Store, and three (1.6%) cited the incentive limits as a reason for buying bulbs somewhere other than the Savings Store.

Table 72. Purchasing Additional Bulbs Elsewhere Instead of the Savings Store (N=34)

Base: 34 customers who purchases additional efficient bulbs after participating in the program	**Midwest (count)**	**Midwest (percent)**
Additional bulbs purchased are of a type that is not available at the Savings Store	10	29.4%
Not sure if additional bulbs purchased are available at the Savings Store	9	26.5%
Additional bulbs purchased are of a type that could have been purchased from the Savings Store	15	44.1%
Reasons for not purchasing additional bulbs at the Savings Store	***N=15 customers who could have purchased their bulbs at Savings Store but did not***	
Found low(er) prices elsewhere (without reaching incentive limit)	4	26.7%
Only needed one bulb, Savings Store is for bulk purchases	3	20.0%
Needed light bulbs right away, delivery takes too long	3	20.0%
Reached incentive limit at Savings Store, did not know I could buy more than the limit	2	13.3%
Convenience of finding bulbs when shopping at a store / impulse buy	1	6.7%
Negative experience shopping at the Savings Store	1	6.7%
Reached incentive limit at Savings Store, bulbs are cheaper elsewhere without incentive	1	6.7%
Forgot about the Savings Store site	1	6.7%

Percentages of reasons for not purchasing bulbs total to more than 100% because respondents can give multiple reasons.

The customer who did not purchase their additional bulbs from the Store due to a negative experience explained: "*I was disappointed that not all the bulbs I had purchased from Duke worked.*"

Customers who purchased additional bulbs after participating in the program were also asked to rate the influence of their Savings Store experience on their decision to purchase additional efficient light bulbs on a ten-point scale, where "10" means most influential and "1" means not at all influential. The average influence rating among the 27 customers who gave ratings is 4.19 and the median is 1.0, indicating low influence for most participants. Customers were also asked to give explanations for their influence ratings scores, which are listed below.

Customers who gave "10 out of 10" (highest possible) ratings for the influence of the Savings Store on additional bulb purchases (n=5)

- *The bulbs I purchased were unavailable through the Savings Store, so I had to buy them elsewhere.* [This customer purchased twelve additional 11-watt encapsulated LEDs; the Store offers an 11-watt A-line LED, but it is not clear if this participant was not aware that the Store carried this item or if they were seeking a particular brand or bulb color that was different from the only type of 11-watt capsule LED that is available at the Store.]
- *Because I was so satisfied with the Duke Store bulbs I decided to change the other bulbs as well.* [This customer purchased one additional outdoor reflector CFL and one LED capsule; these bulbs are available at the Store.]

- *The limit on the number of discounted bulbs I could purchase through the Savings Store drove me to buy them elsewhere.* [This customer purchased eight additional globe CFLs; these bulbs are available at the Store.]
- *I wanted to try the globe light out before I got more so I would know if I liked them. I would have purchased them from the website but I had reached my limit. Globe lights are the only specialty bulbs that we need; I currently have 23 installed.* [This customer purchased six additional globe CFLs; these bulbs are available at the Store.]
- *Because the Store didn't offer these bulb wattages or types.* [This customer purchased two additional 40-watt standard spiral CFLs and two LED "*corn bulbs*"; neither of these bulbs are available at the Store.]

Customers who gave "7, 8 or 9 out of 10" ratings for the influence of the Savings Store on additional bulb purchases (n=5)

- *The Savings Store was very influential because its quantity limit forced me to buy bulbs elsewhere.* [This customer purchased one additional indoor reflector CFL; these bulbs are available at the Store.]
- *I needed a low quantity of bulbs right away. I felt the Savings Store was geared more towards larger bulk orders.*
- *I utilized the Savings Store website for research but was able to find the bulbs cheaper elsewhere.*
- *It's a good resource but did not offer the best price on LEDs. After the purchase from Duke I found out that the electric company in Columbus was selling LEDs at the Home Depot with a $5 instant rebate coupon for each bulb.*
- *I couldn't remember the password I set up to get back into the Duke site.*

Customers who gave "2, 3, 4, 5 or 6 out of 10" ratings for the influence of the Savings Store on additional bulb purchases (n=2)

- *The Duke store didn't have the ones that I bought.* [This customer purchased three additional capsule LEDs and four "*slim*" LEDs; the capsule LEDs available at the Store may be equivalent to the LEDs they purchased, but the Store does not sell "*slim*" LEDs.]
- *I was shopping at the hardware store and saw LED indoor reflectors. I had a coupon to purchase the bulbs.*

Customers who gave "1 out of 10" (lowest possible) ratings for the influence of the Savings Store on additional bulb purchases (n=15)

- *The Savings Store was not at all influential in my decision; they didn't offer the higher wattage CFLs that I was looking for.*
- *They didn't have that product there.* [This customer purchased one additional LED "*strip*"; these bulbs are not available at the Store.]
- *The Savings Store was not influential because I needed these bulbs right away.*

- *I needed them right away and I can walk to the hardware store, which is very convenient, even more than online. However, the price is not very good at the hardware store.*
- *The Savings Store was not influential because it was an in-store impulse buy.*
- *The Savings Store was not influential because my wife simply made an impulse buy when she was out shopping at Menards one day.*
- *I'll totally use the Savings Store again; it's just that I was already at Target at the time when I remembered I needed some more bulbs.*
- *I really bought these as backups just in case the other ones didn't work.*
- *I need a desk lamp for the home office and I liked the way this one looked.*
- *I needed just one bulb. The Savings Store is more appropriate for larger quantity orders.*
- *The bulbs were on sale. I got them at a real good price.*
- *I had a coupon so I picked up a bulb.*
- *We are only using CFLs for the last year or so. I had forgotten about the website.*
- *It didn't entice me to go someplace else.*
- *It did not have any influence on me.*

Additional Actions to Save Energy in the Home

Nearly half of surveyed program participants (47.1%) report that they have taken additional steps to save energy since purchasing light bulbs at the Duke Energy Savings Store. These actions are categorized in Table 73; the most common category of action is adding insulation, done by 12.1% of participants surveyed.

Table 73. Additional Actions to Save Energy since Participating in the Program (N=206)

	Midwest (count)	Midwest (percent)
Have not taken any additional actions	109	52.9%
Have taken additional actions	97	47.1%
Actions taken:		
Add insulation to walls, floors, ceilings, attics, ducts	25	12.1%
Turn off lights when not in use	16	7.8%
Upgrade to Energy Star appliances	15	7.3%
Caulk / tape / weather-strip doors and/or windows	14	6.8%
Use less cooling / turn down or turn off AC	11	5.3%
Upgrade windows / doors	10	4.9%
Turn off electronics / power strips / unplug	9	4.4%
Upgrade HVAC system	7	3.4%
Install programmable thermostat	5	2.4%
Joined Power Manager program	5	2.4%
Use less heat / turn down thermostat	5	2.4%
Upgrade to more efficient lighting	3	1.5%
Use fans to circulate air better	3	1.5%
Regular HVAC maintenance	3	1.5%
Closing off rooms / not using entire house	2	1.0%
Use curtains / shades to control heat / light	2	1.0%
Lights on motion detectors / automatic controls	1	0.5%
Unplug extra freezers / refrigerators	1	0.5%
Use oven / stove less	1	0.5%
Turn down water temperature	1	0.5%
Installed tankless / on-demand water heater	1	0.5%
Insulate water heater / water pipes	1	0.5%
Using device that measures kW to perform own energy analyses	1	0.5%
Installed rain collection barrel	1	0.5%
Installed home surge protector	1	0.5%
Using less energy due to fewer people in the home	1	0.5%
Upgraded fireplace to propane	1	0.5%
Make sure everything in the home is well-maintained	1	0.5%

Percentages total to more than 100% because respondents could take multiple actions.

Participation and Interest in Other Duke Energy Programs

Table 74 shows other Duke Energy programs in which surveyed customers have participated. Nearly all surveyed participants have participated in another Duke Energy program, while only 2.6% have not. A majority of these customers have participated in MyHER (78.6%), free CFL

programs (78.6%) and Online Services (70.4%); more than a third are in the Power Manager program (38.3%), and one in four has had a Home Energy House Call (26.2%).

Table 74. Participation in Other Duke Energy Programs (N=206)

	Midwest (count)	Midwest (percent)
My Home Energy Report	162	78.6%
Free CFLs	162	78.6%
Online Services	145	70.4%
Power Manager	79	38.3%
Home Energy House Call	54	26.2%
Residential Smart $aver	21	10.2%
Appliance Recycling	13	6.3%
None of the above	5	2.4%
Don't know / can't recall	0	0.0%

Percentages total to more than 100% because respondents can participate in multiple programs.

Customers were asked to rate their interest in participating in some of the Duke Energy programs that they are not currently participating in; these ratings (on a ten-point scale where "10" means most interested and "1" means not at all interested) are shown in Table 75. The handful of customers who report that they have not received free CFLs yet show a very high interest in this program (mean interest rating 8.61 out of ten); this is not surprising, considering they are already participants in the Specialty Bulbs program via their purchase of efficient light bulbs at the Savings Store. My Home Energy Report and Residential Smart $aver received interest ratings over 7.0, which are the next most popular programs among non-participants. Home Energy House Call and Appliance Recycling also received moderately high interest scores between 6.0 and 7.0, while the lowest-rated program is Power Manager with an average interest rating of 4.49.

Table 75. Interest in Other Duke Energy Programs (N=206)

	Non-participants Valid N (not including don't know)	Rating of Interest (mean)
Free CFLs	44	8.61
My Home Energy Report	43	7.21
Power Manager	121	4.49
Home Energy House Call	152	6.55
Residential Smart $aver	176	7.03
Appliance Recycling	188	6.77

Surveyed participants were also asked to rate their interest in potential programs that could be offered in the future: "*Duke Energy is interested in providing further services that might be of interest to customers. I am going to read a list of possible services that Duke Energy may consider offering. Please rate your interest in the following services on a scale of 1-to-10, with 1 indicating that you would not be interested, and 10 indicating that you would be very interested.*" The mean interest ratings are shown below in Table 76; the most popular proposal is rebates for home improvements (mean interest rating 8.18 out of ten), followed by home energy audits with inspections and recommendations (6.58) and help finding efficient equipment and appliances (6.08). The least interesting proposal is a social networking site to discuss solutions with energy experts (mean rating 3.31); the remaining proposed programs received moderate interest ratings

between 5.0 and 6.0.

Table 76. Interest in Potential Further Services from Duke Energy (N=206)

	Valid N (not including don't know)	Rating of interest (mean)
Rebates for energy-efficient home improvements	204	8.18
Home energy audits or inspections of your home with specific recommendations for improvements	205	6.58
Help in finding energy-efficient equipment and appliances	205	6.08
Inspection services of work performed by contractors	202	5.95
Financing for energy-efficient home improvements	202	5.21
Help in finding weatherization contractors to make your home more efficient	205	4.98
Social networking sites such as Facebook and Twitter to read about or discuss energy-efficient solutions with energy experts	201	3.31

Participants were also asked, "*What other services could Duke Energy provide to help improve home energy efficiency?*" Sixty surveyed participants (29.1% of 206 surveyed) offered suggestions, which are listed in *Appendix I: Participant Suggestions for Other Services.*

Program Improvements and Additional Offerings

TecMarket Works asked surveyed participants "*are there any other bulbs or energy efficiency items that you'd like to be able to order at the Savings Store?*" These suggestions are shown in Table 77 below.

The most common suggestions involve requests for additional types of light bulb (combined 38.8% or 80 out of 206), though among those who specified a bulb type there was more interest in expanding LED offerings (17.5%) than fluorescent lighting offerings (4.4%). There were also four participants (1.9%) who request that the Savings Store offer incandescent or halogen bulbs. About half of surveyed customers (51.0%) did not have any suggestions.

Table 77. Suggestions for Additional Bulbs or Items to Offer at the Savings Store (N=206)

	Midwest (count)	Midwest (percent)
Additional types of bulb (LED vs. CFL not specific), listed below	35	17.0%
Additional types of LED, listed below	36	17.5%
Additional types of fluorescent lighting (including CFLs), listed below	9	4.4%
Incandescent or halogen bulbs	4	1.9%
Other lighting-related items, listed below	7	3.4%
Other non-lighting items, listed below	18	8.7%
Don't know / nothing	105	51.0%

Percentages total to more than 100% because respondents could give multiple suggestions.

Thirty-five respondents made suggestions relating to light bulb types and options that were not specific to LEDs or CFLs which are listed below; the most frequently-requested bulb types are candelabras and globes. (The lists which follow contain more responses than the number of respondents making suggestions because multiple suggestions have been disaggregated.)

- A larger selection in general (n=2)
- More wattage choices per type / higher wattages (n=4)
- More size choices per type (no specific types mentioned)
- Bulbs for appliances / freezer, refrigerator, oven, stove (n=4)
- Night lights (n=3)
- Bug lights (n=3)
- Holiday lights / decorative, colored bulbs (n=2)
- More globes / "*vanity bulbs*" / "*small globes*" (n=5)
- Dimmable globes (n=2)
- "*Little round bulbs*"
- More candelabras (n=4)
- "*Old style chandelier bulbs*", "*small-socketed chandelier bulbs*", "*small-based bulbs similar to candelabras*" (n=3)
- "*I was not able to purchase some of the candelabra bulbs because they only offered a smaller base model.*"
- Clear glass dimmable candelabras
- More dimmable indoor reflectors (n=2)
- Dimmable outdoor lights
- Outdoor lights with motion detectors
- Smaller indoor reflectors (n=2)
- Flood lights
- Three-way bulbs
- Utility lights
- Under-counter lighting: high intensity, low heat strips
- Natural daylight color bulbs
- "*I have a lamp from IKEA that I have never been able to find bulbs for anywhere else.*"

Thirty-six respondents made suggestions relating specifically to LED bulbs which are listed below; half of these are general requests for a larger selection of LEDs, and the most frequently mentioned specific bulb types are candelabras and outdoor lighting.

- A larger LED selection in general (n=17)
- "*I would like the Savings Store to offer all the Cree brand products.*"
- More lower-priced LEDs (n=3)
- More wattage choices per type / higher wattages
- Outdoor / landscape lighting (n=6)
- Candelabra LED (n=5)
- More indoor reflector LEDs (n=3)
- Globe LED (n=2)

- LED alternatives for tube lighting (n=2)
- Three-way LED
- More capsule LEDs / "*standard bulbs*"
- LED-compatible fixtures or adaptors
- LED flashlights

Nine respondents made suggestions relating specifically to CFLs and fluorescent lighting which are listed below; most of these are requests to add fluorescent tube lighting to the Savings Store's offerings.

- Fluorescent tubes in general (n=4)
- 4' fluorescent tubes
- 18" fluorescent tubes
- Under-counter fluorescent tubes
- More globe CFLs
- "*Dimmable CFLs that don't hum.*"
- "*I would like to be able to order dimmable CFLs through my business account.*"

Seven respondents suggested other lighting-related items which are listed below.

- Lamps and fixtures (n=2)
- Motion / occupancy sensors (n=2)
- Outlet strips with timers
- Smart bulb technology (computer or phone controls)
- Dimmer switches
- UV furnace lights[32]

Eighteen respondents suggested additional items not related to lighting; these are listed below.

- Small appliances (toasters, coffee pots, blenders, etc.) (n=4)
- Large appliances (stoves, refrigerators, etc.)
- Batteries (n=3)
- "*Batteries for my motorcycle*"
- Low-flow showerheads / faucet aerators (n=3)
- Weatherproofing materials for windows and doors (n=2)
- Insulation products (n=2)
- Fans (n=2)
- Space heaters (n=2)
- HVAC filters (n=2)
- Programmable thermostats
- Outlet gasket insulators

[32] UV furnace lights are meant to reduce pathogens in the home and are not an energy efficiency measure.

Customers were also asked if there were any additional features they would like to see at the Savings Store website. Thirty-eight participants (18.4%) offered suggestions; those relevant to the program are listed below. Most of these suggestions are requests for the Store to offer more information about the light bulbs offered and their uses.

- Offer a larger / better selection of LEDs (n=3)
- *I would like no limits on the number of discounted bulbs that I can order.*
- *I would like to see an increased limit on the number of discounted bulbs that I can purchase.*
- *It would be nice to be able to see the actual savings of the bulbs which we have installed.*
- *I would like accurate energy consumption data rather than estimates.*
- *It would help to have an interactive way to see the lights, more pictures and visual examples of how the bulbs can be used. Perhaps design a fake room scenario, like, offer a 360 degree view of a room with each different bulb type installed.*
- *Tell us what lamps this fits. Compare the old and new wattages; just really simple basics for comparison to the old technology. Have a statement that says if these are your current bulbs, here are two options to consider for replacement.*
- *The Savings Store website could provide more information in the bulb descriptions about brightness, color, and include the ability to compare bulbs head-to-head.*
- *The bulb specification pages should include color rendering index (CRI) information and provide examples of typical uses and locations.*
- *The website could provide photo examples of the bulbs in their most common types of fixtures.*
- *Under bulb specifications, include time to full brightness at room temperature. Also include a color temperature gauge (when comparing brands - show picture and/or chart at brightness).*
- *Have an upfront explanation of the bulbs. When they're giving different explanations of lightness, they should have pictures of the light.*
- *I would like more information about common types of bulb uses.*
- *Provide a chart to help me decide which are the best bulbs to use in different places in the house.*
- *The site should say if they can be used outdoor as well as indoor.*
- *Have clearer descriptions for the bulbs.*
- *Have more detailed description of the products.*
- *I would like to see more comparative data about lumens and longevity.*
- *I'd like the brands identified.*
- *It'd be easier if it was grouped by LED or CFL; that would have made it easier.*
- *I would like the website to improve the search-ability of LED bulbs.*
- *They should link to customer reviews, so you can see the cost savings and customer reviews.*
- *I would like the website to include customer reviews.*
- *I would like the ability to easily click and compare several types of bulbs before making a decision.*
- *Add the prices right alongside of the bulbs showing the Saving Store prices vs retail.*

- *I would like a comparison shopper, where you click on a link and it would show what the prices are in places like Walmart or Amazon.*
- *Onscreen comparison to show what retail stores are selling the same product for.*
- *Maybe have a little more educational information.*
- *Have direct links to products.*
- *Have a link to the Store from the homepage.*
- *The ability to sign up to have a reminder sent via email every four months to see if customers need more bulbs.*
- *Provide information on estimated delivery time.*
- *You should offer discounts for veterans.*
- *Perhaps they can offer free shipping or an energy bill credit when an order is placed.*
- *Provide any suggestions to help you lower your bill on the Store's website.*

Customers were asked "w*hat do you think could be done to get more people such as yourself to buy light bulbs from the Savings Store?*" As seen in Table 78, 93.2% of surveyed participants made suggestions; the most common suggestions are to improve and increase advertising, particularly through direct mail (31.6%), though traditional media (17.5%) and web and email (18.4%) also receive a number of mentions. No other categories of suggestion were mentioned by more than 10% of customers surveyed, though the next tier of responses all have to do with monetary issues (discounts and sales 8.7%, focus on bulb prices 8.7% and focus on bill savings 8.3%).

Table 78. Suggestions for Getting More Customers to Buy Light Bulbs from the Savings Store (N=206)

	Midwest (count)	Midwest (percent)
More / better advertising in general	36	17.5%
More / better advertising by mail (bill inserts, etc.)	65	31.6%
More / better advertising online (email, social networks, etc.)	38	18.4%
More / better advertising in traditional media (not mail or web)	36	17.5%
Offer more discounts, sales, coupons / lower prices	18	8.7%
Focus on informing customers of low bulb prices	18	8.7%
Focus on informing customers of utility bill savings	17	8.3%
Send repeat offers to past customers / reminders to visit the store again	7	3.4%
Provide price comparisons with other retailers	6	2.9%
Offer free, discounted or flat-rate shipping / lower shipping rates	5	2.4%
Provide testimonials from satisfied customers	5	2.4%
Remove or raise incentive limits	5	2.4%
Provide coupons for bulbs (to use at Savings Store or other stores)	4	1.9%
Offer a way to participate without using computers / printed catalog	4	1.9%
Encourage word-of-mouth communications between customers	3	1.5%
Offer a greater selection of bulbs / more LED bulbs	3	1.6%
Promote Savings Store through other programs (MyHER)	3	1.5%
Focus on ease and convenience of ordering and delivery	3	1.5%
Improve website info / bulb descriptions	2	1.0%
Offer program to customers of other utilities besides Duke Energy	1	0.5%
Provide more information about CFL disposal	1	0.5%
Have a third party promote the Store instead of Duke Energy	1	0.5%
Provide education about EE for the young	1	0.5%
Use point-of-sale advertising in hardware and grocery stores	1	0.5%
Don't know / nothing	14	6.8%

Percentages total to more than 100% because respondents could give multiple suggestions.

Finally, customers were asked "*how else might the Savings Store be improved?*" Fifty-five surveyed participants (26.7%) offered suggestions, many of which repeat other suggestions these customers had already made. The responses containing new and/or specific suggestions are listed below.

- *Remove the limitations of the number of bulbs you can order at the discounted price or change the limitation so you can purchase up to so many total bulbs regardless of type; for example, a limit of 40 bulbs but they can be any types of bulbs.*
- *The Savings Store could offer more selection and apply the final discounted pricing to all specialty bulbs purchases.*
- *The Savings Store could direct people to the higher-priced section of the store when they hit their limit on the number of fully discounted bulbs they're allowed to buy.*
- *It wasn't clear how often I could order. What was clear was the discounted bulbs weren't a complete portfolio of what was offered at the store.*
- *Make it clear to customers that they can visit multiple times: that the Store is not just a once-only offer.*

- *From a marketing standpoint, have a more frequent reminder of the availability of the Savings Store. A more frequent flyer with my mail would be advantageous. I don't recall being reminded of the store.*
- *The Savings Store could provide flat rate or built-in "free" shipping costs. They could also offer quarterly promotions.*
- *The Savings Store could provide customers with return shipping labels upon request and be more understanding when customers experience a problem with the bulbs they ordered.*
- *The Savings Store could provide return shipping for free.*
- *The log-in and password procedures could be simplified.*
- *The Savings Store shopping cart could allow customers to save their selections and return later.*
- *Allow bulbs to be purchased individually instead of in multi-packs.*
- *I had to purchase too many bulbs to get the discounted prices.*
- *The Savings Store could provide more instructions on how to utilize the website's special features.*
- *Allow bulbs to be searched by use rather than bulb type. Whatever branching was there didn't work for me.*
- *Have more information regarding the kinds of light and types of bulbs. If the calculator and the videos were on there, they weren't obvious to me.*
- *Explain how the bulb will be compatible or comparable to the old bulb you will be replacing.*
- *If the Savings Store ever runs any specials from time to time, let customers sign up to be notified about those special offers.*
- *If they have e-mail addresses for customers, send messages offering promotions online.*
- *It would have been helpful if there'd been some kind of a blurb about the companies that supply the bulbs. I wanted to look up whether there were any of those cheap ones from China that are supposed to be a fire hazard.*
- *I would prefer not to have bulbs made in China.*
- *The Savings Store could offer better quality CFL bulbs.*
- *They could offer bulbs that are really light, or white, in color without that slight yellow tint.*
- *Offer more cost options for the LEDs.*
- *Because of deregulation, if you're not a Duke customer and can't shop at the store, they are turning customers away.*
- *Overall, I still don't know what the Savings Store is. They come up with these gimmicky titles and I look at it as something Duke just conjured up to move lightbulbs with these government subsidies.*

Key Findings

- Most Specialty Bulb program participants have already adopted efficient bulb usage: 88.8% (183 out of 206) already had at least one efficient bulb (CFLs and/or LEDs) installed in their homes before the program, and the average number of efficient bulbs (of

all kinds) installed before the program was 12.8 per household with a median of ten efficient bulbs per household.
    - See section titled *CFLs and LEDs Installed Before Participating in the Program* on page 118.
- Specialty Bulb program participants still have many incandescent bulbs installed in their homes, averaging 15.2 installed per household even after participating in this program. However, only 13.8% of these currently installed incandescent bulbs are standard capsule-style bulbs which are being used for more than two hours per day (an average of 2.1 per household); the vast majority of currently installed incandescent bulbs in participant households are either specialty bulbs or installed in little-used sockets.
    - See section titled *Incandescent and Halogen Light Bulbs Installed in Participant Households* on page 121.
- There is a wide array of specialty bulb types installed in program households: the most common type is candelabras (found in 80.6% of households) and the least common are CFL and LED capsule bulbs (55.8%) and three-way bulbs (58.3%). Among customers who have a particular type of specialty bulb installed in their homes, the types that are most likely to still be incandescent are candelabra bulbs (65.4% of currently installed candelabras), outdoor reflectors (57.6%) and dimmable bulbs (59.8%), while the types that are most likely to have efficient bulbs are three-way bulbs (66.2% CFL or LED) and indoor reflectors (57.5%). The most common types of incandescent specialty bulbs found in storage in participant households are bulbs for dimmable sockets (33.1% of all incandescent specialty bulbs currently in storage) and candelabras (29.7%).
    - See section titled *Specialty Bulbs in Participant Households* on page 123.
- The 206 surveyed program participants confirmed the purchase of 3,489 program bulbs, or an average of 16.9 program bulbs per household. Only 11.3% of these bulbs purchased are LEDs, with the rest being CFL bulbs. Program LEDs are more likely to have been installed in participant households (67.7%) compared to program CFLs (53.9%). Overall, more than a third of program bulbs purchased are being stored for future use (39.4% of CFLs and 28.8% of LEDs) while about one in forty program bulbs has been disposed of (2.5%, though about half of these are bulbs given to other people to use). The main reasons for storing program bulbs are "waiting for standard bulbs to burn out" (47.1%) and "already have specialty program bulbs everywhere they will fit" (25.7%).
    - See section titled *Program Bulb Installations* on page 97.
- For surveyed installations, 80.4% of the bulbs that were replaced by program bulbs were low-efficiency incandescent or halogen bulbs indicating the program is converting most sockets from low efficiency to high efficiency bulbs. Only 11.2% of program bulbs replaced other efficient CFL or LED bulbs. Participants report that lamps with program bulbs installed are currently being used an average of 4.0 hours per day.
    - See section titled *Previously Installed Light Bulbs* on page 110.
- A majority of program participants (62.1%) first became aware of the Savings Store through mailings from Duke Energy. Online solicitations from Duke Energy through the public website or Online Services (customers' "My Account" page) were the second-most common way of learning about the program (27.7%) followed by emails from Duke Energy (11.7%).
    - See section titled *Awareness and Participation in the Program* on page 61.

- When asked for the main reason they chose to participate in this program (by purchasing bulbs from the Savings Store), a majority of 59.7% said it was to save money on light bulb purchases. Including secondary reasons for participation, the reduced price of bulbs was a motivating factor for 81.1% of participants overall. The next-most mentioned reasons for participation are saving energy (overall 30.6%) and the ease and convenience of online shopping and delivery (24.8%).
    - See section titled *Factors Motivating Participation* on page 62.
- When asked to rate the influence of various factors when choosing light bulbs for their home, the most important are the purchase price of the bulb (9.31 out of ten), energy savings (9.07) and saving money on utility bills (8.90). Some factors which have much less influence would include the appearance of the bulb (6.71), ease of disposal (6.43), the ability to dim (5.72) and recommendations from utilities (6.22) and family and friends (4.57).
    - See section titled *Factors that Influence Light Bulb Purchases* on page 87.
- Four-fifths of surveyed participants (81.6%) are aware that bulb prices are reduced by program incentives, but only 59.2% are aware that there is a limit on the number of bulbs of each type that can be purchased at the fully-incented price. A minority of 41.0% of customers who are aware of the limits are also aware that more bulbs can be purchased beyond these limits, though not at the same price. Two out of five of these customers (41.0%) claim that the incentive limits kept them from ordering all of the bulbs they wanted.
    - See section titled *Effects of Pricing, Packaging and Incentive Limits on Purchase Decisions* on page 88.
- Only one in six participants (17.0%) reported that they recalled something from the program information provided at the Savings Store site which stood out for them as useful or important, while two-thirds (66.0%) could not recall any of the information resources found at the site.
    - See section titled *Savings Store Website Information and Tools* on page 64.
- Only about one in seven participants (13.6%) reported that they used the energy savings calculator tool at the Savings Store site, while more than three out of five (63.6%) did not recall this tool being available at the site. Among participants who recalled the calculator tool, about half (46.7% of 60) used this tool. Among the customers who did use this tool, a majority of 75.0% were aware that this tool is interactive and that the settings can be changed to match their own household.
    - See section titled *Savings Store Website Information and Tools* on page 64.
- Although 85.4% of participants are aware that there is a telephone number for customer support, only 6.8% called the support line. Similarly, 85.4% are aware that there is a Contact Us link on the Savings Store site, but only 1.5% of surveyed participants used this link to contact support.
    - See section titled *Customer Support* on page 71.
- A majority of 65.5% of surveyed participants say that the reduced price of bulbs at the Savings Store caused them to buy more bulbs than they otherwise would have, while 48.5% say that the availability of low-price multi-packs caused them to purchase more bulbs than they otherwise would have. When asked to quantify how many more bulbs they purchased due to multi-pack pricing, customers reported that about a quarter of

bulbs purchased (at least 24.4% of bulbs purchased) were due to the effect of multi-pack pricing.

  - See section titled *Effects of Pricing, Packaging and Incentive Limits on Purchase Decisions* on page 88.

- Participants are very satisfied with their experience purchasing light bulbs at the Savings Store, giving an average overall program satisfaction rating of 9.22 on a ten-point scale where "10" is most satisfied and "1" is not at all satisfied. Satisfaction ratings are also very high (over 9.0) for aspects of the program having to do with the online shopping experience (logging on, using the shopping cart, delivery time, etc.), though ratings are a bit lower for informational aspects of the site such as the helpfulness of bulb descriptions (8.55), energy savings estimates (8.65) and the energy savings calculator tool (7.89 among 27 participants who used the tool). On the key measure of satisfaction with the price of bulbs sold at the Savings Store, the average rating is very high at 9.41 out of ten. Most of these ratings are higher than the average rating given by program participants for their satisfaction with Duke Energy overall, which is only 8.44 out of ten. When asked for their favorite and least favorite aspects of the Savings Store, the most popular thing is the reduced price of light bulbs (63.1%) followed by the convenience of shopping online from home (30.6%), while the most common complaints are about the limit on the number of fully-incented bulbs that can be purchased (16.0%) and wanting more or better information available at the website (7.8%).
  - See section titled *Participant Satisfaction* on page 72.
- Participants were also asked to rate their satisfaction with the program bulbs they purchased: overall, installed CFLs received an average satisfaction rating of 8.89 while LEDs received an average rating of 9.62, for an overall program bulb average satisfaction rating of 8.98 on a ten-point scale. By specialty bulb category, the highest satisfaction ratings were given for program capsule LEDs (9.75) and the lowest ratings were given for candelabra CFLs (8.48) and dimmable indoor reflector CFLs (7.87 based on 15 responses).
  - See section titled *Satisfaction with Light Bulbs Purchased from the Savings Store* on page 80.
- A majority of 65.0% of participants surveyed told others about the program; the average number of recommendations among those telling others about the program is 4.6 and the median is three. Most of those informed about the program by participants are family members (34.9% of recommendations) and friends (31.6%), followed by co-workers (17.4%) and neighbors (12.4%).
  - See section titled *Recommending the Program* on page 72.
- When participants were asked what they would have done if the Savings Store had not been available, only 9.7% would have purchased the same bulbs at the same time anyway, while 17.5% would not have bought any bulbs at all. A majority of 70.9% would have either purchased fewer bulbs, delayed their purchase, or both. When asked what kind of bulb they would have installed in their program bulb sockets if the Savings Store bulbs had not been available, almost half of sockets would have had incandescent or halogen bulbs (41.6%) and only slightly more would have had CFLs or LEDs (47.5%). However, when asked what type of bulb they will install when their program bulbs need replacing, the vast majority of participants intend to install more CFLs (74.9%) or LEDs

(14.5%), and only a small handful intend to replace program bulbs with incandescent or halogen bulbs (2.0%).
    - See sections titled *Intention to Purchase Light Bulbs if the Savings Store had not Been Available* on page 92 and *Intention to Install Efficient Lighting in the Absence of the Program and in the Future* on page 113.
- When participants were asked if they intend to shop at the Savings Store again in the future, 63.1% said they "definitely will" or that "the Savings Store will be one of the first places I go for light bulbs". Only 1.5% say that they will "probably not" or "never" shop at the Savings Store again.
    - See section titled *Intention to Shop for Light Bulbs at the Savings Store in the Future* on page 94.

Recommendations

- **Consider routinely monitoring competitors' pricing on bulbs and shipping.** Most customers are aware of the price of energy-efficient light bulbs at local retailers and through other online stores, and many of them are directly comparing Savings Store prices to the competition. Price is perhaps the most important driver of Savings Store purchases, so Duke Energy should consider routinely monitoring competitors' pricing to ensure that Savings Store pricing remains competitive. This does not mean having the lowest price for every bulb (which may increase freeridership), however many customers will only pay a small premium for the convenience of online ordering if they can find equivalent bulbs available at a lower price elsewhere.
    - Shipping costs should also be noted when monitoring competitors' pricing. Most Savings Store customers are experienced online shoppers and have had their expectations for what shipping should cost set from their experience with other retailers (such as offering free shipping on orders over a certain amount).
    - Price comparisons can be an effective marketing tool. Duke Energy should consider including favorable comparisons to competitors' pricing in advertising for the Savings Store. These comparisons could also include shipping price and policy comparisons.
- **Consider the effects of multi-pack pricing.** Multi-packs of light bulbs that offer increased savings on the per-bulb price drive a significant number of customers to purchase additional bulbs so that they can get "the best deal"; this often results in the purchase of more bulbs than will be immediately installed, with the extra bulbs stored for future use. Duke Energy should consider the positive effects of multi-pack pricing (to drive additional sales), and also the effect this may have on program impacts (distributing bulbs that will not be installed immediately will dilute the savings per bulb, a corollary effect of selling additional "spare bulbs" that customers do not need immediately).
- **Explain the Savings Store limits are on price not on quantity of bulbs**. Most customers who are aware of the limit on incented light bulbs did not realize that they could purchase more bulbs of the same type beyond these limits, albeit at a higher price without the incentive and from a different section of the site. Duke Energy should also consider streamlining the order process and/or the display of bulbs on the site in a way that does not involve customers having to go to a different page to order additional non-incented bulbs.

- **More prominently display information on bulb physical dimensions and threading.** One of the more common issues reported by customers regarding the bulb information presented at the Savings Store, and related requests for more information, involves the physical dimensions of bulbs and their socket threading; this is because some customers are seeking energy-efficient bulbs for unusual and difficult-to-fit sockets in their home. This information is included on the "product specifications" tab for each bulb, but some customers who are seeking this information are not finding it; perhaps a more prominent link labeled "product dimensions" or "socket size/type" could help. In addition to including this information for all bulbs sold at the Savings Store, Duke Energy should also consider the variety of bulb dimensions and threading available when deciding on additions to or subtractions from the Savings Store's offerings.
- **Continue efforts to market the Savings Store to customers who have already shopped at the Store.** Customers who purchased bulbs from the Savings Store still have a significant number of incandescent specialty bulbs in their homes, and a large majority of them say they intend to shop the Store again in the future.

Non-Participant Surveys

This section of the report presents survey results and analysis from surveys conducted with both Duke Energy Ohio and Duke Energy Kentucky customers.

To assess barriers to, and interest in, program participation, TecMarket Works conducted phone surveys with a random sample of non-participating Duke Energy customers. The non-participant survey comprised a total of 96 survey respondents, with 16 from Kentucky and 80 from Ohio. Respondents were categorized into two subgroups: people who visited the Duke Energy Savings Store online between April 26, 2013 and June 23, 2014, yet did not make a purchase; and Duke Energy customers who received the program's targeted marketing materials yet chose not to visit the online store. All survey respondents affirmed that they were aware of the existence of the Duke Energy Savings Store in order to qualify to continue with the telephone survey, which was fielded between October 6, 2014 and November 20, 2014.

The non-participant survey was aimed at addressing the following key questions:

- Are customers aware of the program, and if yes, how did they learn of the program?
- What is their interest in participation and what are the reasons behind non-participation?
- What are some ways the program could try to increase participation?
- What is their current level of CFL and LED usage?
- What can be done to improve the Duke Energy Savings Store website to enhance the visitor experience and encourage people to make purchases?
- What other items do customers desire that might be sold through the Duke Energy Savings Store?
- What are the demographic and household characteristics of this population? How do these characteristics compare to the participant population?

Among the 96 survey participants, 57 people (59.4%) indicated that they had visited the Savings Store, while 39 people (40.6%) said they had not. One of the 57 respondents (1.8%) said they tried to visit the Store website but their log in was unsuccessful. This person was categorized as a non-visitor and received the same skip logic-driven questions as those who did not attempt to visit the Savings Store. This brought the subgroup of non-visiting non- participants to 40 people or 41.7% of the survey population, while the remaining 56 respondents (58.3%), called visiting non-participants, received the skip logic-driven questions for Store visitors. Sample sizes for individual survey questions varied and are noted throughout this analysis.

Overview

Overall the 96 non-participants we spoke to during the survey rated their satisfaction with Duke Energy at an average of 7.7 on a scale of 1 to 10 (Figure 22). Among those who actually visited the Duke Energy Savings Store, satisfaction with the website averaged 8.1, while satisfaction with the Savings Store's prices averaged 7.4. Individual facets of the customer experience while visiting the Store scored higher. Ease of log in (9.3) and ease of navigation (8.9) led the way with helpfulness of bulb description (8.6), ability to find desired items (8.3), and helpfulness of energy savings estimates (8.1) following behind. Ease of shopping cart use (9.3) and ease of checkout (7.8) also scored well, but these average scores reflected small sample sizes due to the fact that

this survey population consisted of those who did not buy anything from the Store. These scores and other findings are discussed in more detail in the sections below.

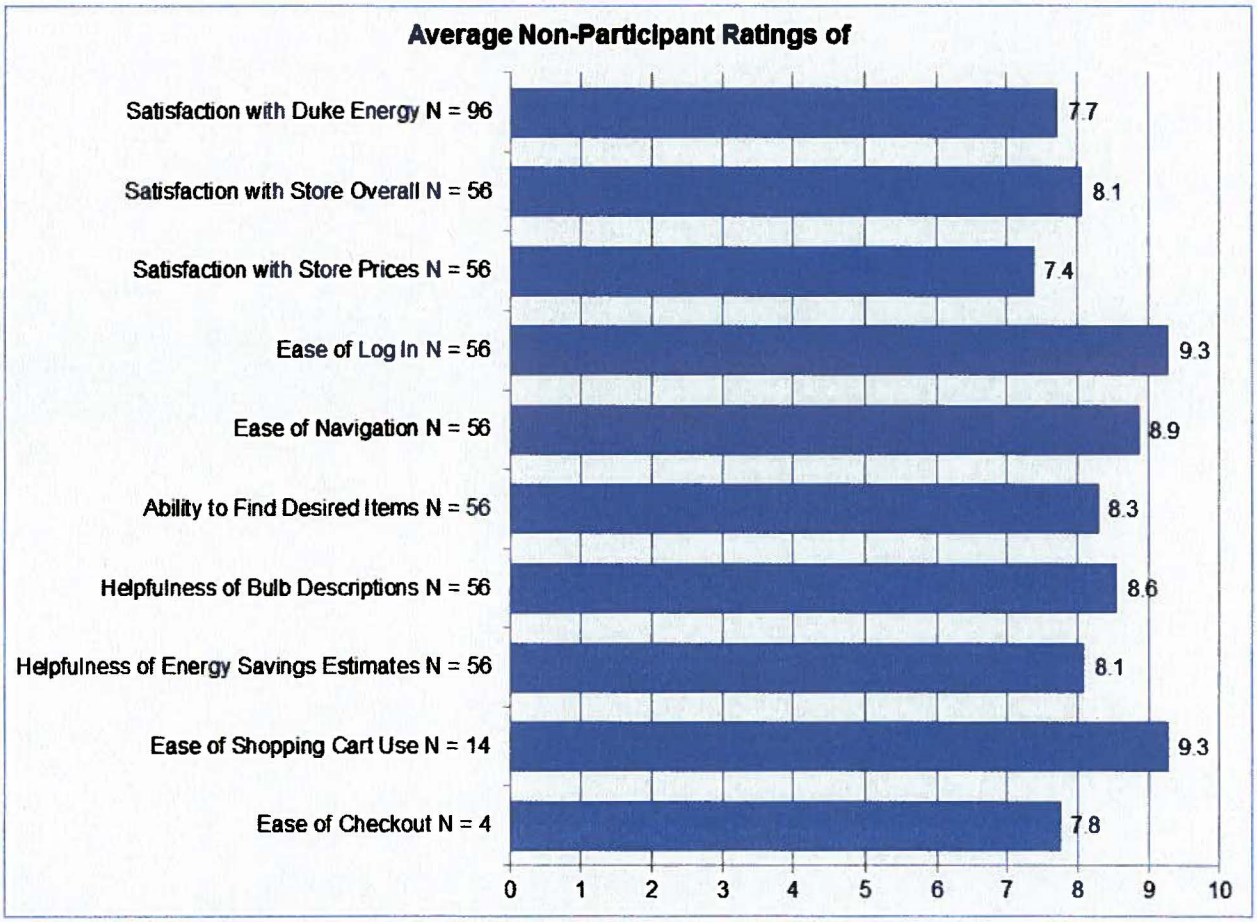

Figure 22. Average Non-Participant Ratings

Visitor Feedback

The skip logic of the survey separated non-participants into two distinct groups, those who had visited the Store and those who had not. Store visitors received a set of questions designed to capture their specific insights and experiences regarding the website, while non-visitors received more general questions about their attitudes and behaviors. The visitor-specific results are followed by separate sections that address non-visitor findings and then the results of survey questions posed to all non-participants.

Customer Awareness

In direct correspondence with the program's chosen marketing vehicles, survey respondents indicated that initial customer awareness of the Duke Energy Savings Store was primarily driven by online messaging and mailings from Duke Energy. A combined 51.8% of respondents indicated they learned of the Store either on Duke Energy's public website (12.5%) or by accessing their accounts online (39.3%). Mailings from Duke Energy were the second most frequently cited method, including 33.9% of respondents mentioning bill inserts and an additional 16.1% recalling a letter in the mail. Emails and paperless billing notifications

constituted an additional 8.9%, while the remaining 12.5% consisted of a variety of other ways including word of mouth and fliers included with shipments of free CFLS (Figure 23).

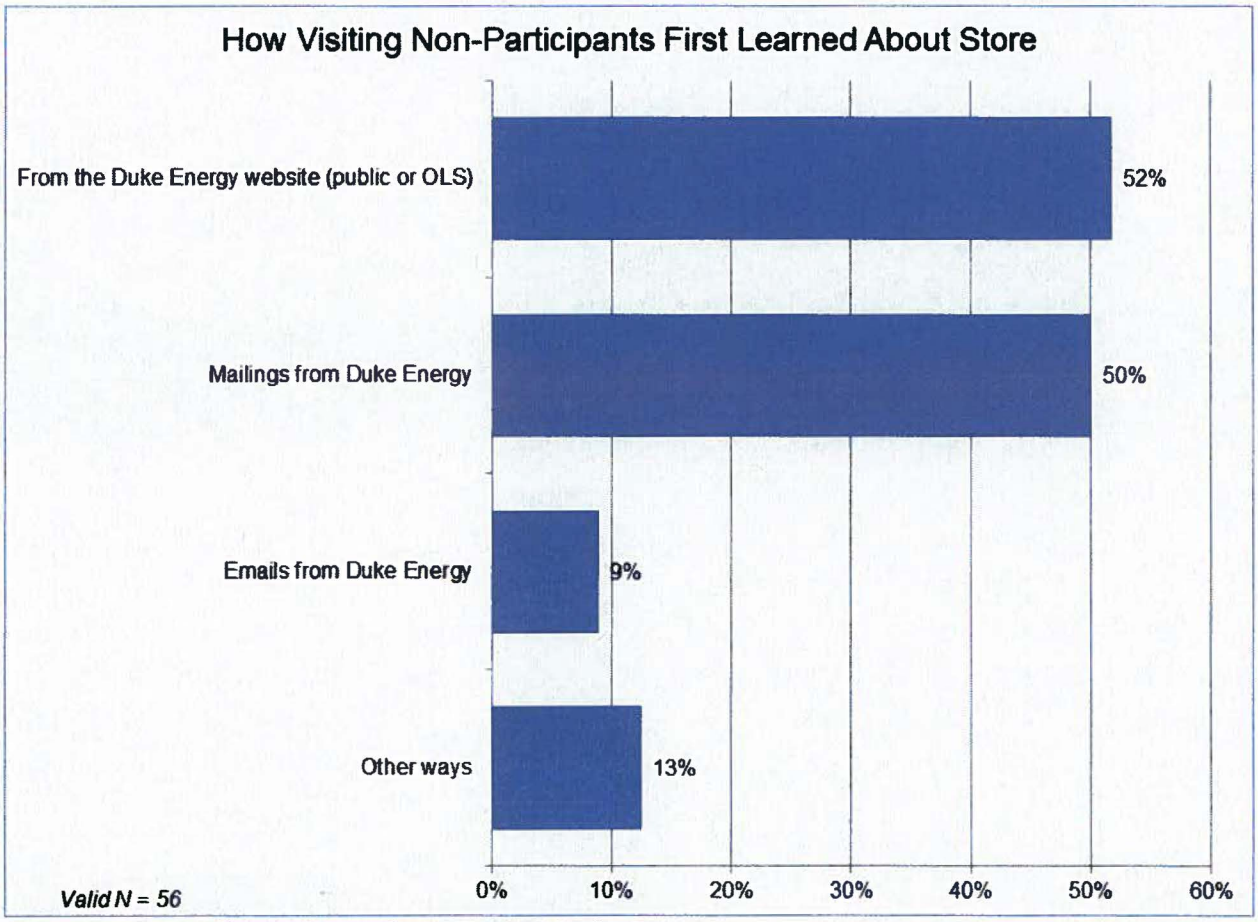

Figure 23. Non-Participant Awareness Methods

Methods of Access

Because viewing the Savings Store is only permitted after customers have successfully authenticated, all options for gaining online access converge at Duke Energy's web-based account validation system. To determine the most popular methods for arriving at the validation point, the survey asked customers how they reached the Store. A majority of respondents (50.9%) indicated that they came via a link from the "My Account" OLS system. An additional 24.6% of non-participants came via a link on Duke Energy's public website, while 8.8% each said they used a link via email or entered the URL directly into their web browser. These URLs directed customers to specific landing pages on the Duke Energy public website, bringing the combined total for those gaining access via the public website to 42.1%.[33] The remaining 7.0% could not recall how they arrived (Figure 24).

[33] None of the respondents gave more than one answer.

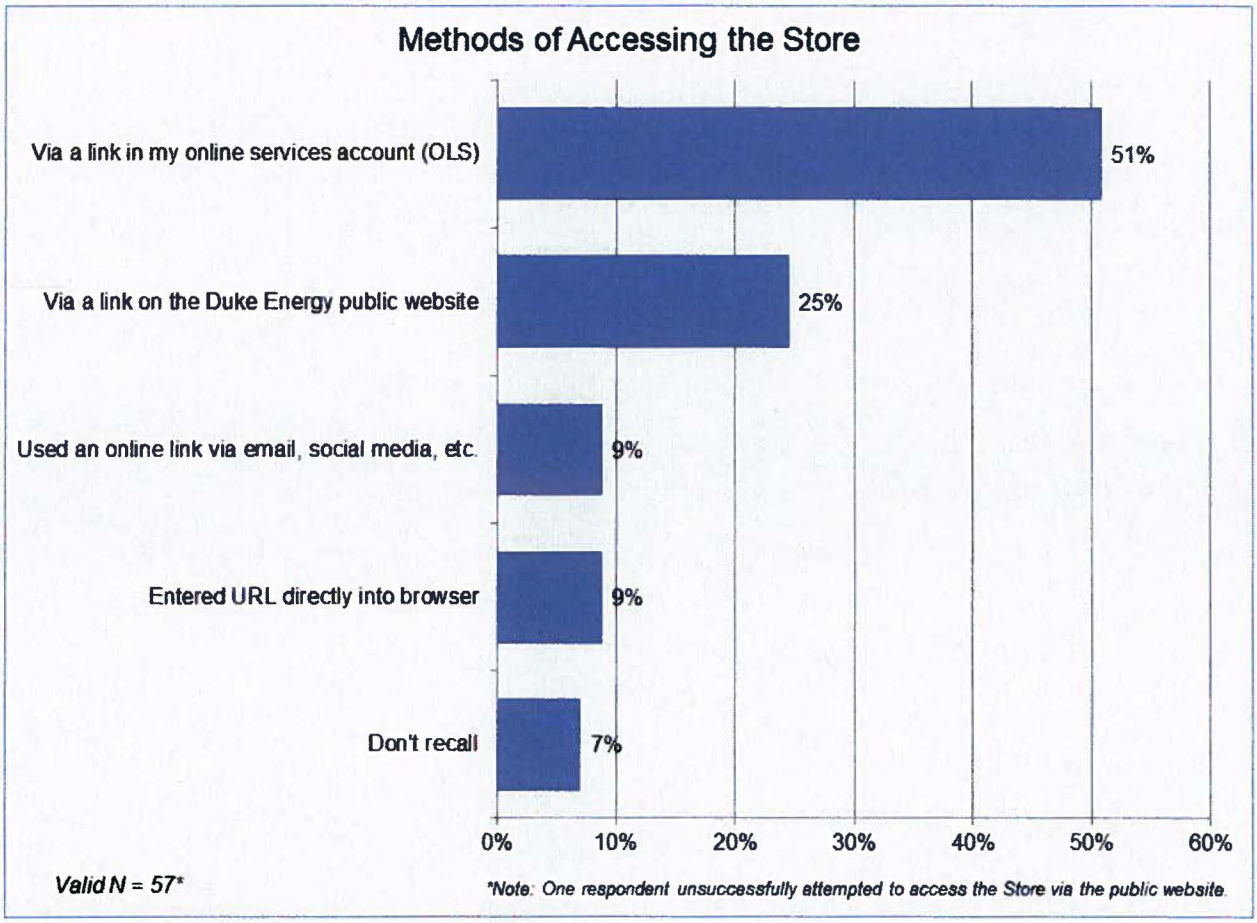

Figure 24. Methods of Accessing Store

Next, the survey responses were crosschecked with Duke Energy's online tracking data to determine how customer recall of their method of access actually correlated with web traffic records. This analysis revealed that customer recall was less than completely accurate, although this may be expected given that respondents may have visited the Savings Store up a year prior to the survey. When web traffic data was used to calculate customer arrival methods, the OLS proved to be most popular with 35 visiting non-participants (61.4%) coming that way, compared to 19 visiting non-participants (33.3%) who accessed the Store via the public website. Data was not available for three people (5.3%). The comparison between customer recall and web traffic data revealed the following results as shown in Table 79.

Table 79. Comparison of Recall and Web Traffic Data

Arrival Method According to Survey Response	# Responses	Arrival Method According to Web Traffic Data		
		OLS	Web	Data Unavailable
Via a link in "My Account" (OLS)	29	21	8	0
Via a link on the Duke Energy public website	14	11	3	0
Entered URL directly into browser	5	0	3	2
Used an online link via email, social media, etc.	4	2	2	0
Don't know	5	1	3	1
Total	57	35	19	3

Logging In

Of the 57 non-participants who reported that they had made an effort to visit the Savings Store, 98.2% indicated that they had logged in successfully, while one person (1.8%) who attempted to connect via a link on the Duke Energy public website said they had difficulty. Those who logged on successfully were asked to rate the ease of logging in on a ten-point scale where 1 is very difficult and 10 is very easy, survey respondents gave scores ranging from 5 to 10 with an average score of 9.3. Nearly three quarters (73.2%) rated the ease of log in as a 9 or 10. Only four respondents (7.1%) gave scores of 7 or lower. When asked to explain their lower scores, one person said "*I had trouble finding the website.*" While another indicated "*I always have to look up my password. I had to use a password other than my default password when creating my account.*" The third and fourth respondents did not provide reasons.

Website Visitation

Although none of the Duke Energy customers targeted for the non-participant survey made a purchase at the online Store, 58.3% (56 out of the total 96 non-participants) confirmed visiting the Store at least once. When these visiting non-participants were asked how many times they had come to the Store, the number of visits ranged from one to five per person, with one visit apiece being the most common response (Figure 25). Overall, these respondents indicated that they visited an average of 2.2 times each, equivalent to the average number of visits among program participants who made a purchase (see *Number of Visits to the Savings Store and Number of Purchases* in the Participant Survey section).

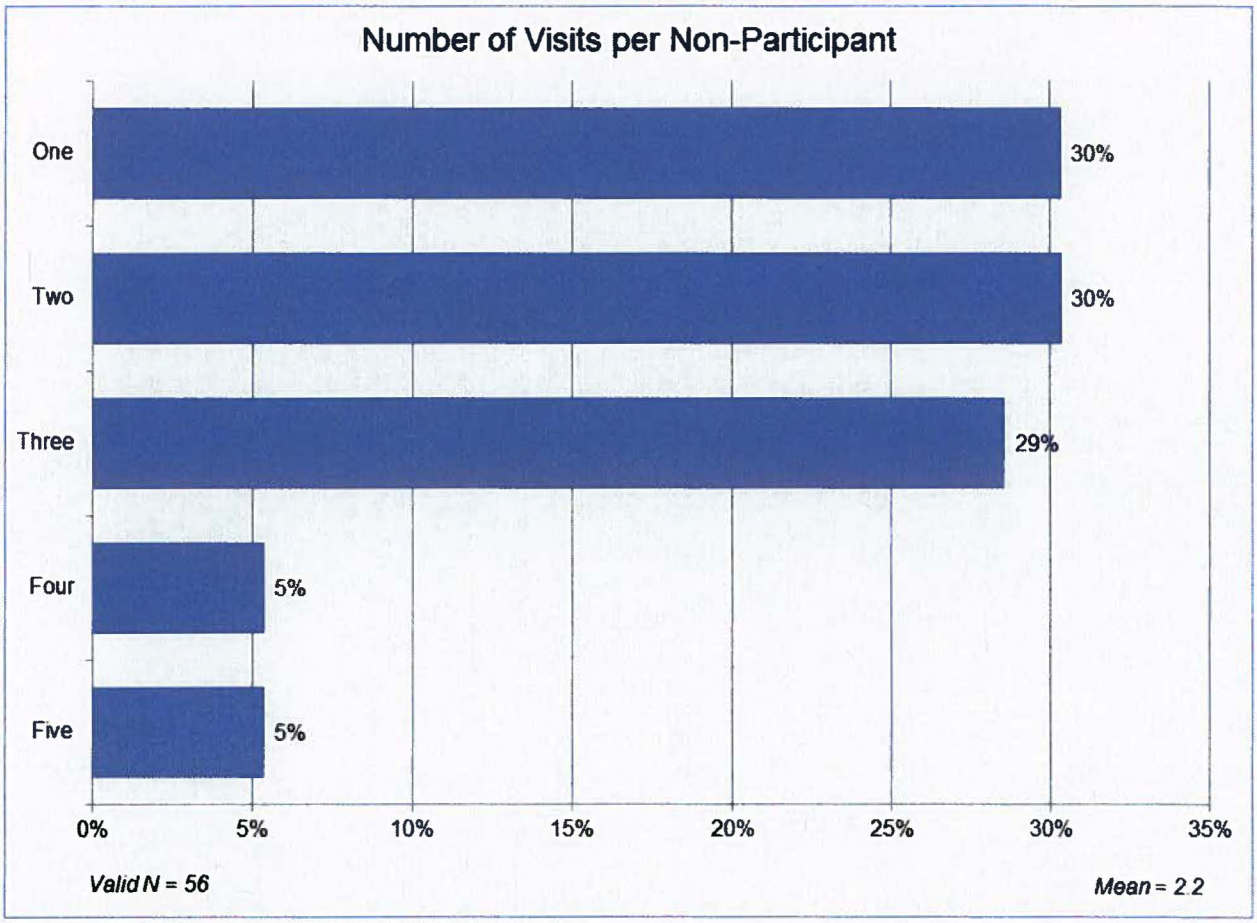

Figure 25. Number of Website Visits Apiece

When asked why they had visited the Savings Store without making a purchase, one quarter of respondents (25.0%) explained that they did not need energy efficient bulbs at that time (Figure 26). But more than twice that number (53.6% after duplicate primary and secondary responses were removed) indicated that they had visited the Savings Store out of general curiosity, while 26.8% said they'd logged on specifically to check Duke Energy's prices, and another 21.4% said they were making price comparisons with other retailers. Relatively few non-participants cited criticisms of the Store as their reasons for not making a purchase. Among those who did have issues with the Savings Store, 7.1% felt the Store's prices were not motivating enough, 12.5% said they had determined that the Store did not offer what they wanted, and 3.6% said they could not find what they needed.

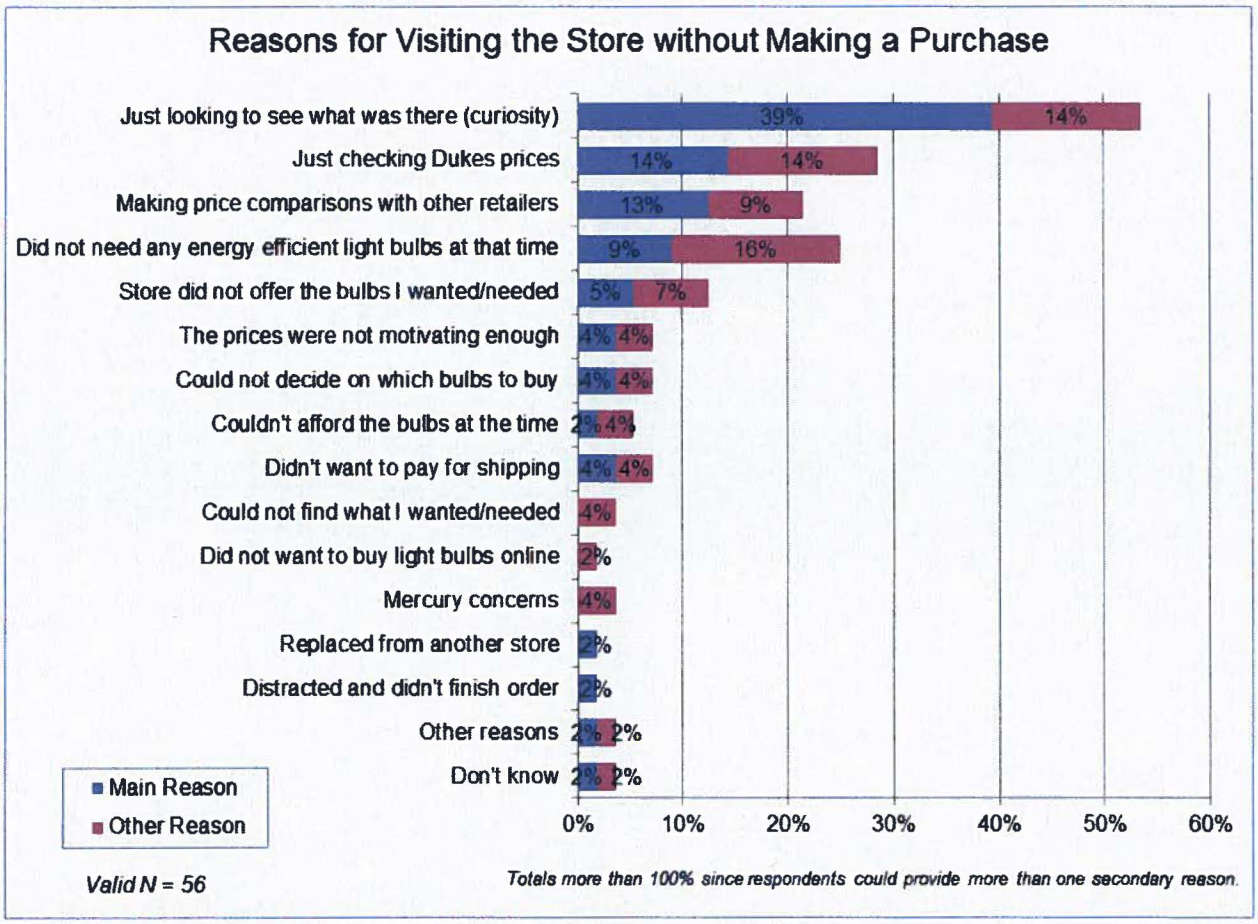

Figure 26. Reasons for Not Making a Purchase

A representative sampling of these other reasons includes the following:

- *The cost of LEDs is still too high to convert from CFLs.*
- *Something came up and distracting me before I could finish placing an order.*
- *The shipping costs were prohibitive.*
- *I was looking to see if this was a repeat of the free bulb offer. The new CFLs are not as bright. I broke a couple of bulbs and was worried about cleanup and toxicity. I also saw that Duke's give-away bulbs had frequent problems with loosening between the base and the bulb. I also heard the CFLs give off a slight amount of radiation; that you shouldn't use them on nightstands or in close use.*

Among those who indicated that the Store did not offer what they needed, several respondents explained that they wanted particular items such as GE brand bulbs and highly specialized items, including a CFL lantern bulb, a "*large outside light*," and "*natural, outdoor light three-way bulbs*," all of which are not likely to be desired by sufficiently high volumes of customers to be regularly stocked items. However, several other respondents reported that they were looking to buy LEDs with 90-100W equivalencies. The brightest LEDs stocked at the Store during the time of this evaluation were 800 lumens or less, which is generally equivalent to 60W incandescents. Since 100W and higher incandescent bulbs are quite commonly used in residential households,

TecMarket Works considers these requests to be reasonable and encourages Duke Energy to consider stocking brighter LEDs as manufacturer pricing, bulb technologies, and customer demand come into alignment.

When visiting non-participants who desired lower prices were asked what discounts would motivate them, three people wanted additional price reductions of between 20% and 75%. A fourth respondent said they wanted free shipping. TecMarket Works mentions these responses in an effort to accurately reflect the voice of Duke Energy's customers, but we also note that in many instances the Savings Store already offers discounts of at least 50% off the original retail price. We also note that Duke Energy already offers free shipping on orders of $25 or more.

Some 7.1% of customers indicated that they did not make a purchase because they could not decide what to buy. One respondent wanted help selecting the most appropriate bulbs for their needs; another was looking for a bulb for a "touch lamp" and needed help to determine if the Store's bulbs were suitable; while a third hesitated to buy because they were concerned if the stated bulb brightness would be sufficient. While it is fair to say that each of these customers could have used live sales assistance, we also note that none of the three visiting non-participants opted to phone the Store's toll free number to speak to a customer service assistant.

Respondents were also asked a follow up question to identify which retailer or retailers they were using for price comparisons. The locations they mentioned included:

- Lowe's (n=8)
- Home Depot (n=4)
- Walmart
- Costco
- Amazon.com
- E-Bay
- "*Big box stores*"

Website Navigation

Overall, visiting non-participants rated the ease of navigating the website an average of 8.9 on a ten-point scale with 58.9% of respondents rating the ease of navigation at 9 or 10 out of 10 (Figure 27). Among those who gave ratings lower than 7, two people offered specific criticisms. The first respondent wanted "*more intuitive*" navigation by having the Store feature the most frequently purchased items as images and/or links on the home page. The second respondent wanted to be able to search and sort by wattage equivalents. TecMarket Works considers this second customer suggestion to a worthy idea for a feature improvement given that many Duke Energy customers are likely to be more familiar with buying bulbs based upon wattage numbers as they have done in years past. With these two constructive criticisms in mind, we conclude that overall even though visiting non-participants did not buy anything from the Savings Store, they were nonetheless quite pleased with the ease with which the website can be navigated.

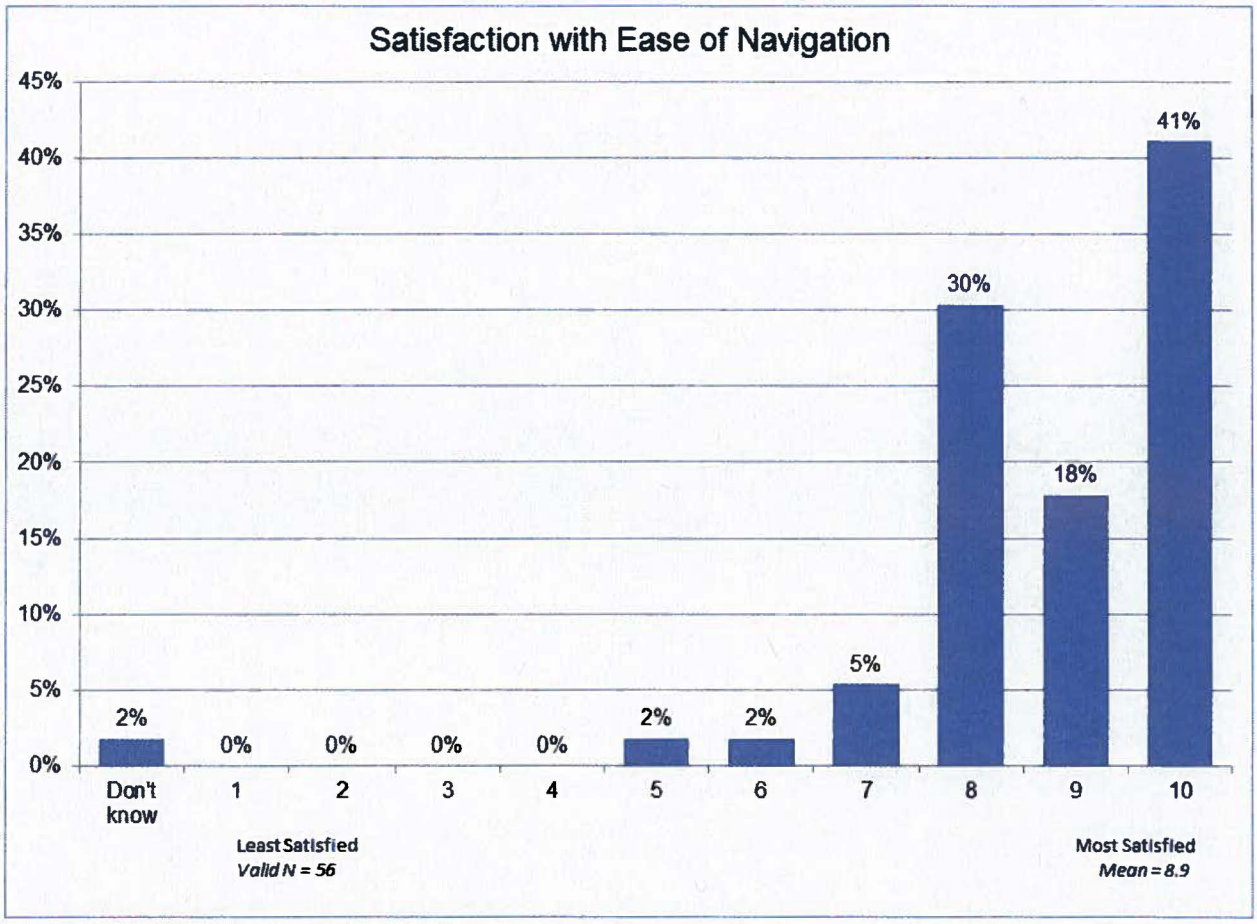

Figure 27. Satisfaction with Navigation

Store visitors were asked to rate their satisfaction with their ability to find what they were looking for at the site. Ratings ranged from "1" to "10" with a mean of 8.3. Nearly half (48.2%) of respondents gave ratings of "9" or "10." Just 16.1% gave scores of "7" or lower, although an additional 10.7% either did not know what rating to give or said the question did not apply since they were not looking for anything in particular. When those respondents who gave scores of "7" or lower were asked what could be done to improve their shopping searches, replies ranged from mild disappointment about an inability to find unusual items to general comments such as "*I had to wade through a few pages to find the bulb style I wanted.*" However, two customers provided specific advice for improving the website. The first said, "*Since there are different bases for light bulbs I needed to know to which base is which, and where those bulbs should be used. Customers want to be confident they're buying the right thing.*" While the second respondent suggested "*My issue was largely due to my unfamiliarity with bulb types. I had to look up some of the technical terms that were used as descriptions. The terminology should be made into common language or more layman's terms.*" Both of these comments echo findings discussed elsewhere in this evaluation, leading us to reiterate the suggestion that Duke Energy and EFI continue to improve their customer education features so that website visitors can more easily identify and understand how the more efficient bulbs sold at the Store can be used in particular fixtures within customer homes.

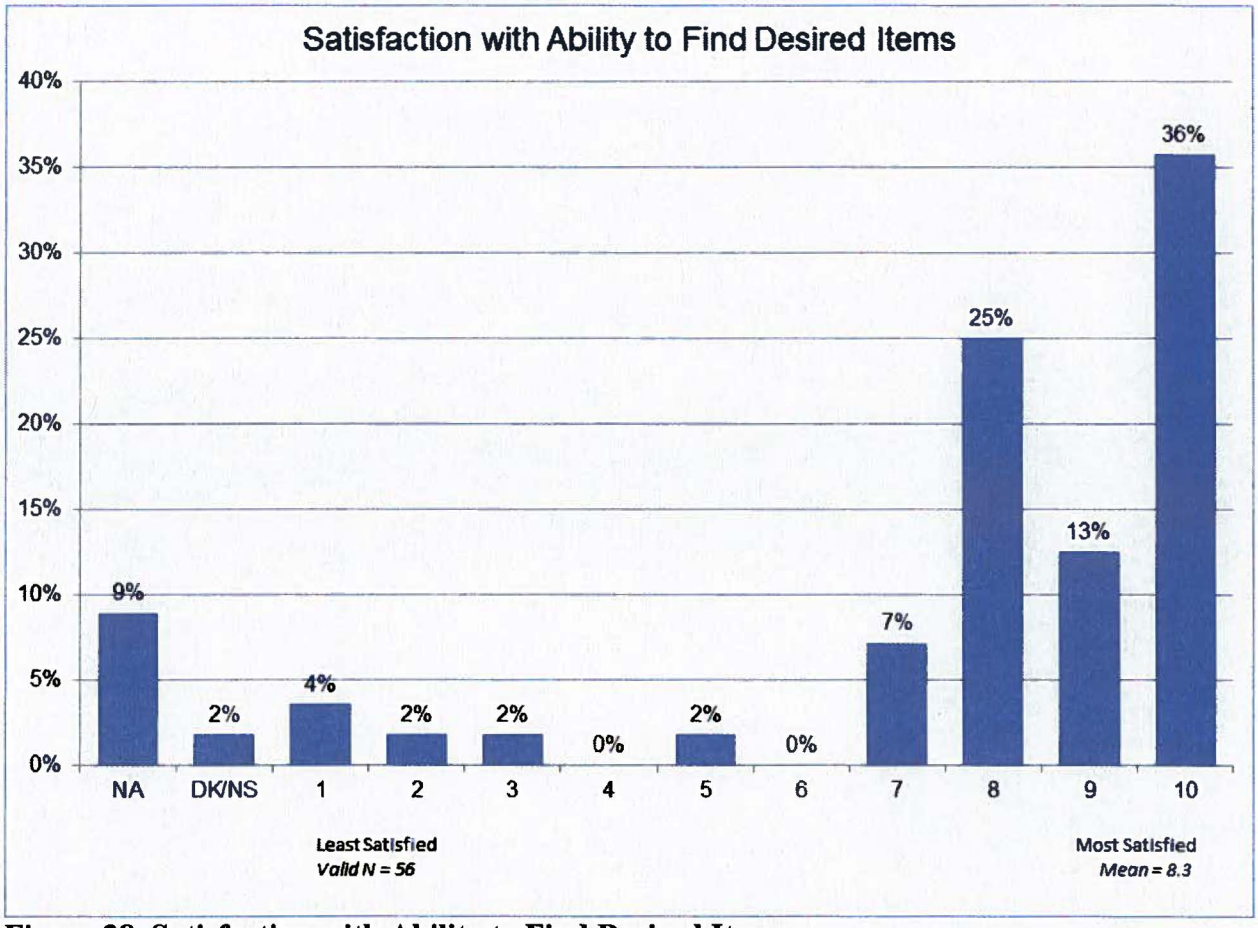

Figure 28. Satisfaction with Ability to Find Desired Items

When asked if their inability to find what they were looking for had an influence on their decision not to buy bulbs at the Store, 21.4% agreed that it did. Among these customers, 10.7% could not find the specific items they wanted and 3.6% did not find the prices they wanted; the remaining 7.1% could not find the information they wanted in order to make a purchase decision. These respondents wanted more information on bulb lifespan, light color, brightness, and wattage comparisons with incandescent bulbs. The following customer quotes provide specific examples: "*I didn't know if I was getting the right bulb for one of my lamps. I wish they would simplify the bulb uses and give a comparison to an equivalent incandescent bulb, especially in regard to watts*," and "*I wasn't sure about the color spectrum of each of the bulbs*."

Product Descriptions

Among non-participants who actually visited the Savings Store, opinions of the bulb descriptions are quite favorable with an average score of 8.6 (Figure 29). Half (50.0%) of the visiting non-participants rated the bulb descriptions at either a "9" or "10 out of 10." Just 14.3% gave ratings of "7" or lower, while 10.7% said they were unsure or that the question did not apply. In a follow-up question, just one customer (1.8%) indicated that the bulb descriptions had an influence on their decision not to purchase bulbs at the Store, saying "*In this economy I'm looking for the best ways to save money*," implying that they found other alternatives more attractive.

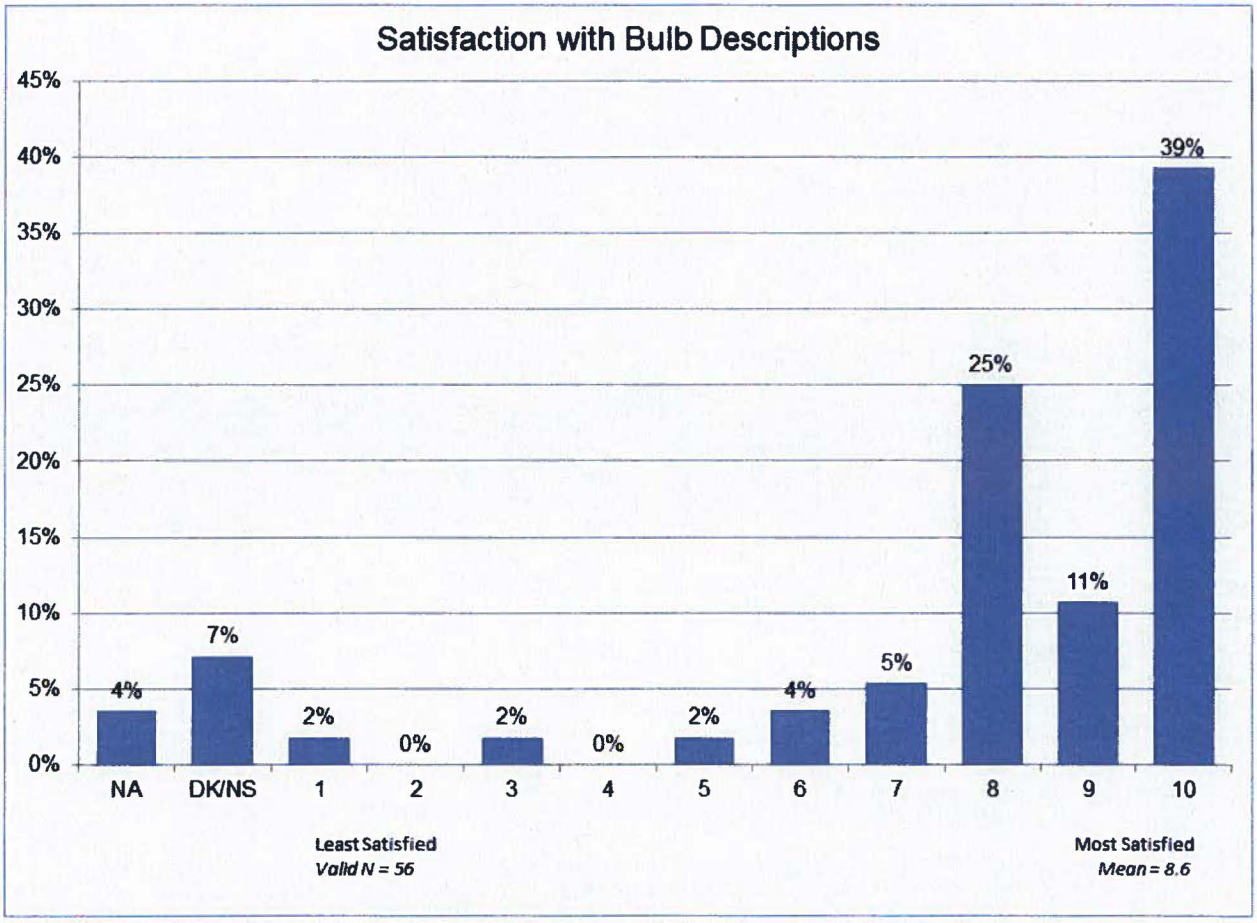

Figure 29. Satisfaction with Bulb Descriptions

When respondents who gave ratings of "7" or lower were asked how the bulb descriptions could be improved, most said that they want more information, including more consistent technical specifications, further details regarding the color spectrum, and more comprehensive explanations about lumen and wattage comparisons to better judge the brightness of the bulbs. Other respondents desired more information about bulb warranties, the advantages of CFLs over incandescent lighting, and how the various bulbs sold at the Store can be used. They gave the following very specific and helpful comments.

- *I was basically comparing the wattages and not really considering the descriptions. Perhaps an interactive graph with watt comparisons of CFLs and LEDs to incandescents. We all are more familiar with incandescent watts, so being able to compare the new lights to those would be an understandable form of measurement.*
- *I wasn't sure about the color spectrum of each bulbs. There needed to be more technical specifications.*
- *Some of the bulb descriptions seemed incomplete, as though only half of the description was entered. Some descriptions were very complete; some seemed cut off.*

- *The descriptions were not complete. Which bulbs to use for each purpose were not clarified well. Switching from incandescent to energy efficient bulb comparison examples should be shown for each bulb available at the Savings Store.*
- *I don't understand the coil-y bulbs or why I should use them.*
- *I was looking for more information about the warranty.*

Energy Savings Estimates

The Savings Store provides energy savings estimates in two places: with each bulb description and via the Energy Savings Calculator. To assess non-participant opinions on these elements of the website non-participants were asked to rate the helpfulness of the energy savings estimates on a ten-point scale where "10" is most helpful. Although responses span the range from "1" to "10", 42.9% gave ratings of "9" or "10 out of 10." The mean rating is 8.1, indicating that the energy saving estimates are considered generally helpful even among those Duke Energy customers who did not make a purchase from the website (Figure 30).

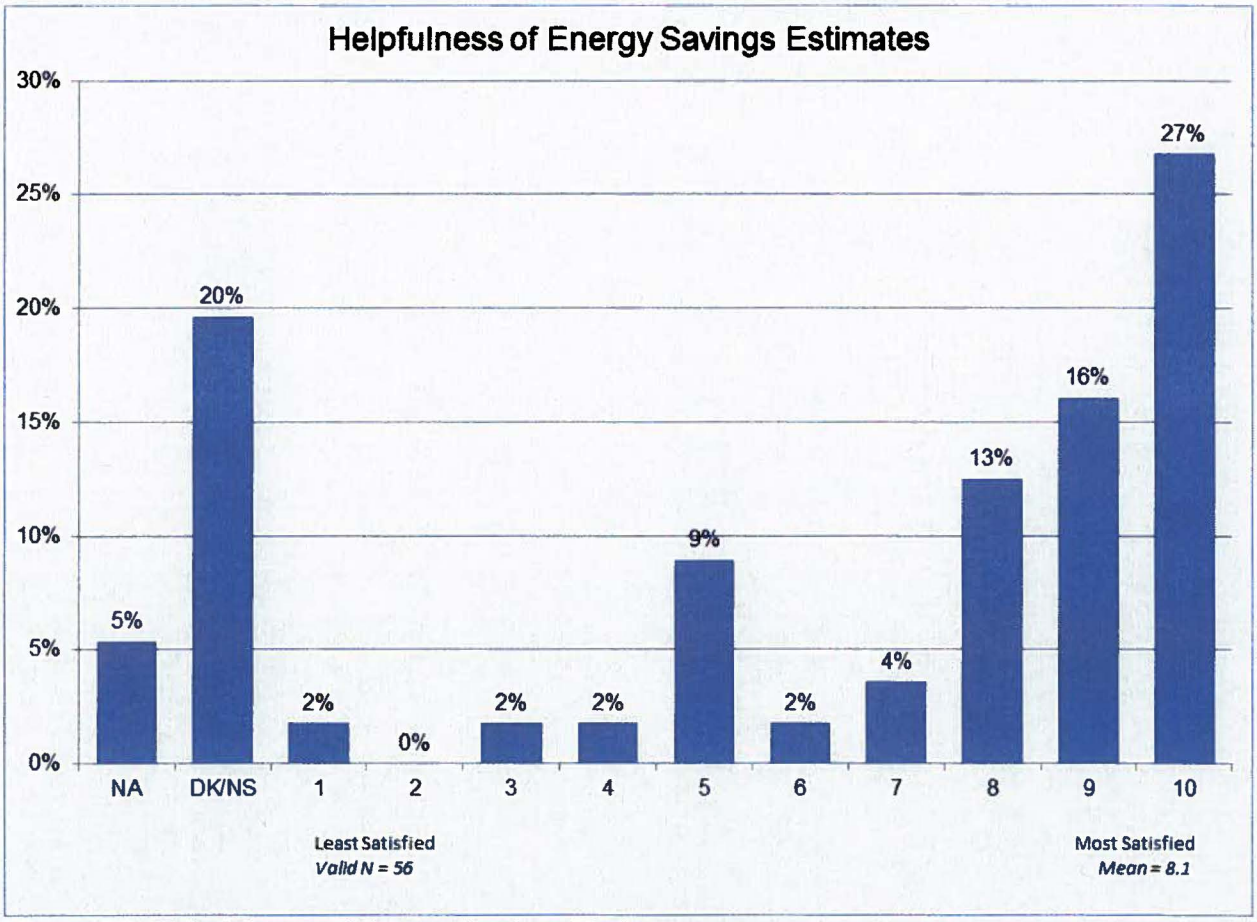

Figure 30. Helpfulness of Energy Savings Estimates

Among the 19.6% who gave ratings of "7" or lower, suggestions for improvement included providing "*realistic estimates instead of maximum bulb lifetime estimates*" and the ability to easily compare the energy savings from different bulbs, perhaps with color coding. One respondent wanted to know about the credibility of the savings estimates, explaining "*The*

percent savings doesn't help me. I didn't know what the science or representations were for those savings. I would have liked to know the credentials and sources where they are getting their energy savings from."[34] Another respondent found the savings estimates to be less than helpful as well, albeit for entirely different reasons. This person explained she felt little incentive to save energy, since: "*I am on a fixed rate so I did not pay much attention to the savings estimates because it won't have any effect on my bill.*"

When respondents were asked if the energy savings estimates had any influence on their decision not to make a purchase from the Savings Store, 91.1% said that it did not, while only 3.6% said that it did influence them and 5.4% were unsure. One respondent who was influenced by the energy savings ratings indicated that the ratio of bulb cost to energy savings was beyond their range.

In a related question, visiting non-participants were asked if the financial savings estimates given by the Store had any influence on their decision not to make a purchase. The vast majority of respondents (82.1%) said that it did not, and some 7.1% were unsure. However, among the 10.7% of respondents who indicated that the estimates did influence their decisions, the primary concern involved the initial bulb acquisition costs, including shipping. This concern was well summarized by one respondent who said "*I figured that there was not enough savings over time to do away with all of the bulbs I currently have installed. Mainly meaning that the overall initial investment of buying new bulbs surpassed the amount I could ever save in energy. I just don't see the savings.*" With this statement in mind, TecMarket Works suggests that Duke Energy may be able to address this concern on the Estimated Savings tab, which is the point on the Store website where customers are most likely to raise this objection. One possibility could be to upgrade to the existing energy savings calculator, or to design a new web application, to help customers to calculate payback periods based upon specific bulb costs, shipping fees, and estimated annual savings. Of course, TecMarket Works simply offers this as an idea since the costs of the programming required could offset its potential benefits.

Store Pricing

Among Store visitors, 55.4% of respondents indicated that they recalled seeing discounted pricing during their visit, while 26.8% had no recall and another 17.9% said they were unsure.

Non-participant satisfaction with specialty bulb pricing at the Savings Store averages 7.4 on a ten-point scale where "10" is most satisfied, with 32.1% rating their satisfaction at "9" or "10 out of 10", compared to 41.1% who gave scores of "7" or lower (Figure 31). When asked why they gave scores of "7" or lower, all of these respondents mention pricing in some regard, usually stating a desire to save even more than the discounts provided. Their reasons are summarized as follows.

- Wanted lower prices (n=8)
- Found lower prices elsewhere (n=7)

[34] Note: On the Store energy savings are explained in terms of electric demand in Watts, utilization (hours per day), and annual use (kWh), as well as annual electricity savings (kWh), annual carbon savings (pounds), annual dollar savings, and expected product life. For additional details, customers are referred to the EIA website at http://www.eia.gov/electricity/monthly/ and http://www.eia.gov/oiaf/1605/ee-factors.html.

- Store prices did not offset shipping costs (n=3)
- Wanted prices to be lower than found elsewhere (n=2)
- Never purchased CFLs before so did not know pricing
- Could not compare prices since did not have specific items in mind
- Thought prices were fair

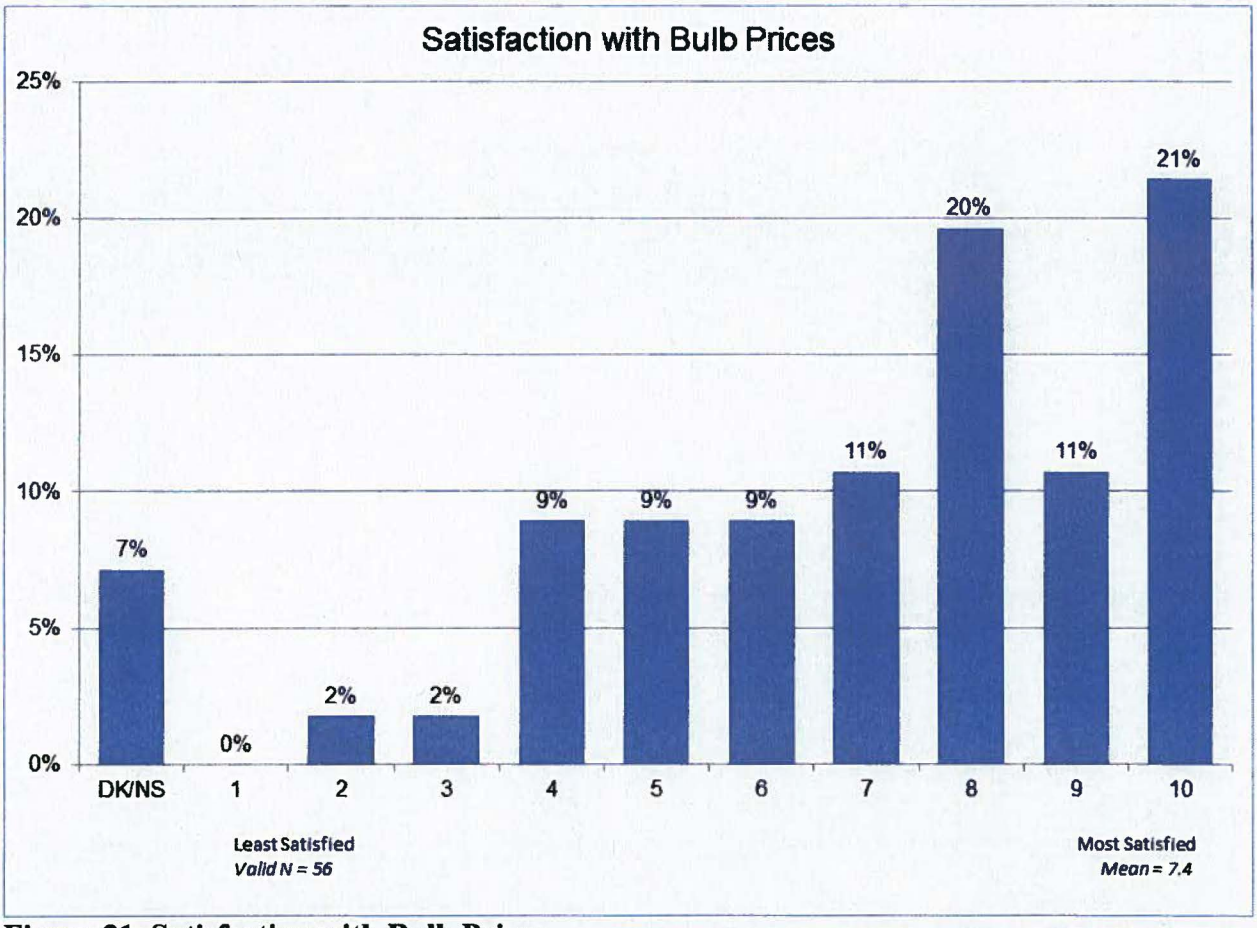

Figure 31. Satisfaction with Bulb Prices

When asked if the Savings Store's pricing had any influence on their decision not to buy bulbs, 67.9% said it did not, while 32.1% said that it did. Among those who said they were influenced, a variety of reasons were given, including concerns about shipping costs and an inability to afford any purchase at the time, though the most frequently cited reason is that the Store's prices are higher than those at local retailers and other online sources. TecMarket Works does not consider this last reason about less competitive pricing to be a negative mark against Duke Energy's pricing. On the contrary, we consider this finding to be a clear indication that these non-participants are sufficiently interested in specialty bulbs that they are making their purchase decisions based on favorable price comparisons between similar energy efficient bulbs, rather than making decisions about whether to buy energy efficient specialty bulbs or their less efficient incandescent and halogen counterparts.

Shopping Cart and Purchase Process

Although none of the 56 visiting non-participants surveyed made purchases at the Savings Store, they were nonetheless asked if they had placed items in the shopping cart: Fourteen respondents or 25.0% indicated that they had. These respondents were asked to rate how easy it was to use the shopping cart on a ten-point scale where "10" means easiest and "1" means most difficult. Almost three quarters (71.4%) rated the shopping cart at "9" or "10 out of 10", and none gave a rating of lower than "7". The average rating is 9.3 while the median and mode are both "10 out of 10." A follow-up question asked if the shopping cart had any influence on their decision not to make a purchase, and none of these respondents indicated that this was the case. Thus, the shopping cart is considered easy to use and is not an impediment to sales.

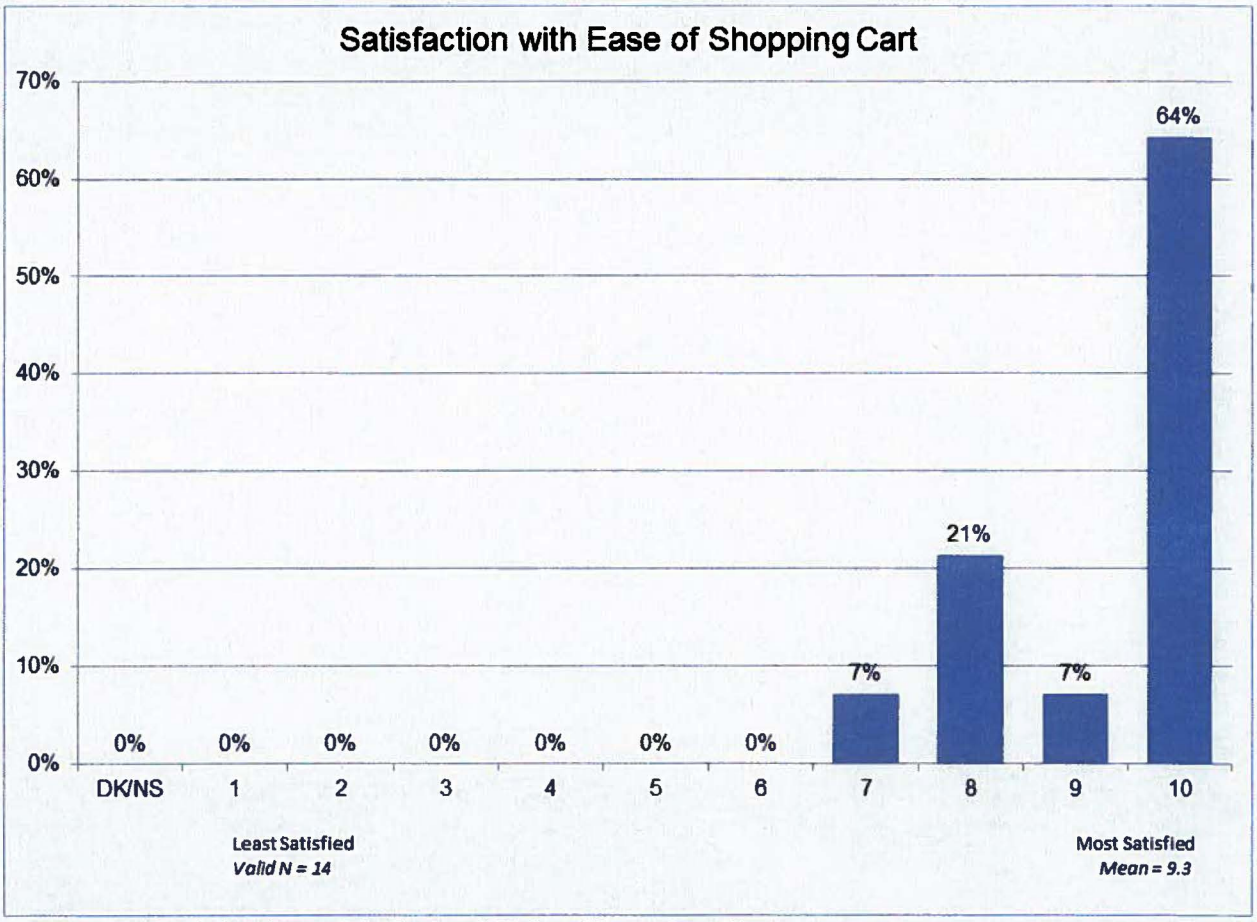

Figure 32. Satisfaction with Ease of Using Shopping Cart

The 14 respondents who placed items in their shopping carts were asked if they started the checkout process, and four indicated that they had. These customers were asked to rate the ease of checkout on the same ten-point scale; their ratings range from "5" to "10" and average 7.8. When the person giving a rating of "5" was asked how the shopping cart could be improved, they suggested "*It would be nice to have other payment options like paying on your bill.*"

When these four shopping cart users were asked if any elements of the checkout process influenced their decision not to make a purchase, two of the four customers said it had not.

Among the two said yes, one respondent explained, "*I think there was some sort of limitation on how many bulbs we could buy.*" The other did not have a credit card handy.

In a related question, all 56 Store visitors were asked what form of payment they would have preferred should they have decided to make a purchase. A large majority of 85.7% said that they prefer to pay by credit card, while 1.8% like to pay via money order, 1.8% wanted to pay on their monthly bill, and 1.8% indicated they were unsure. However, the remaining 8.9% of respondents report that they would want to be able to make their purchase using PayPal. This is not currently an option on the Store website, but Duke Energy anticipates adding that functionality after a major e-commerce platform upgrade scheduled for the first quarter of 2015.

Shipping and Delivery

Nearly three-quarters of visiting non-participants (73.2%) reported that they did not notice shipping or delivery details and another 3.6% said that they could not recall. However, among the thirteen respondents (23.2%) who did remember shipping details, recollections were mixed. Some customers recall the shipping costs, mostly in the context of how high they thought these costs were. For instance, one non-participant said "*I noticed the price of shipping. I'd rather go to a store to buy something than pay for shipping",* while another respondent said *"I noticed the rather exorbitant shipping cost for two bulbs.*"

When asked if shipping methods had any influence on their decision not to make a purchase from the Savings Store, six of the 13 respondents (46.2%) said that it did not, while a majority (53.8%) reported that shipping was a factor in their decision-making process. Among this group, five felt that shipping costs were too high, and in several cases they expected free shipping. The sixth customer was more concerned about bulbs being damaged during delivery: "*When I received my free light bulbs from Duke Energy's free CFL program some of them didn't work. Light bulbs are fragile and can break when being shipped.*"

Store visitors who recalled shipping details were asked if delivery times were a factor in their decisions not to make a purchase; only one out of these thirteen survey respondents (7.7%) indicated that they were. This customer explained, "*I don't like having to wait around for a shipment, not knowing when it's going come to my house is something I dislike.*"

Influence of Store on Decision Not to Make a Purchase

Despite the fact that visiting non-participants never made a purchase from the Duke Energy Savings Store, they collectively reported that the website design and features of the Store had little to do with their decisions not to buy energy efficient specialty bulbs (Table 80). Rather it was bulb pricing that proved to be the most decisive factor with 32.1% of respondents citing an influence. Among the Store's various website elements, visitor ability to find desired items was the most frequently mentioned factor with 21.4% of all visiting non-participants citing it. However, in several cases these survey responses referred to the fact that the Store did not stock a specifically desired specialty bulb rather than that the website was difficult to navigate. Shipping costs ranked as the third most influential Store element with 10.7% of respondents making mention of it, yet for the remaining non-participants shipping was either no influence (12.5%) or not applicable (76.8%) because it was not a consideration. Product descriptions and energy savings estimates tied for the least influential of all website elements, each with 91.1%

saying they had no effect, compared to just 3.6% who claimed an influence and 5.4% who were unsure.

Table 80. Influence on Decision Not to Buy From Store (N=56)

Website Element	% Claiming Influence	% Claiming No Influence	% Not Sure of Influence	% Not Applicable
Bulb pricing	32.1%	67.9%	0.0%	0.0%
Ability to find desired items	21.4%	75.0%	3.6%	0.0%
Shipping methods/costs	10.7%	12.5%	0.0%	76.8%
Financial savings estimates	10.7%	82.1%	7.1%	0.0%
Payment options	3.6%	3.6%	0.0%	92.9%
Energy savings estimates	3.6%	91.1%	5.4%	0.0%
Product descriptions	3.6%	91.1%	5.4%	0.0%
Delivery times	1.8%	21.4%	0.0%	76.8%
Shopping cart	0.0%	25.0%	0.0%	75.0%

Satisfaction with and Impressions of the Savings Store

Satisfaction is relatively high among visiting non-participants who visited the Savings Store despite the fact that they did not make a purchase. Among the 56 visiting non-participants surveyed, the average satisfaction rating for the Duke Energy Savings Store is 8.1 on a ten-point scale where "10" is best. In all, 41.1% of respondents rated their satisfaction at "9" or "10 out of 10," although an almost similar number (37.5%) rated their satisfaction at "7" or lower (Figure 33).

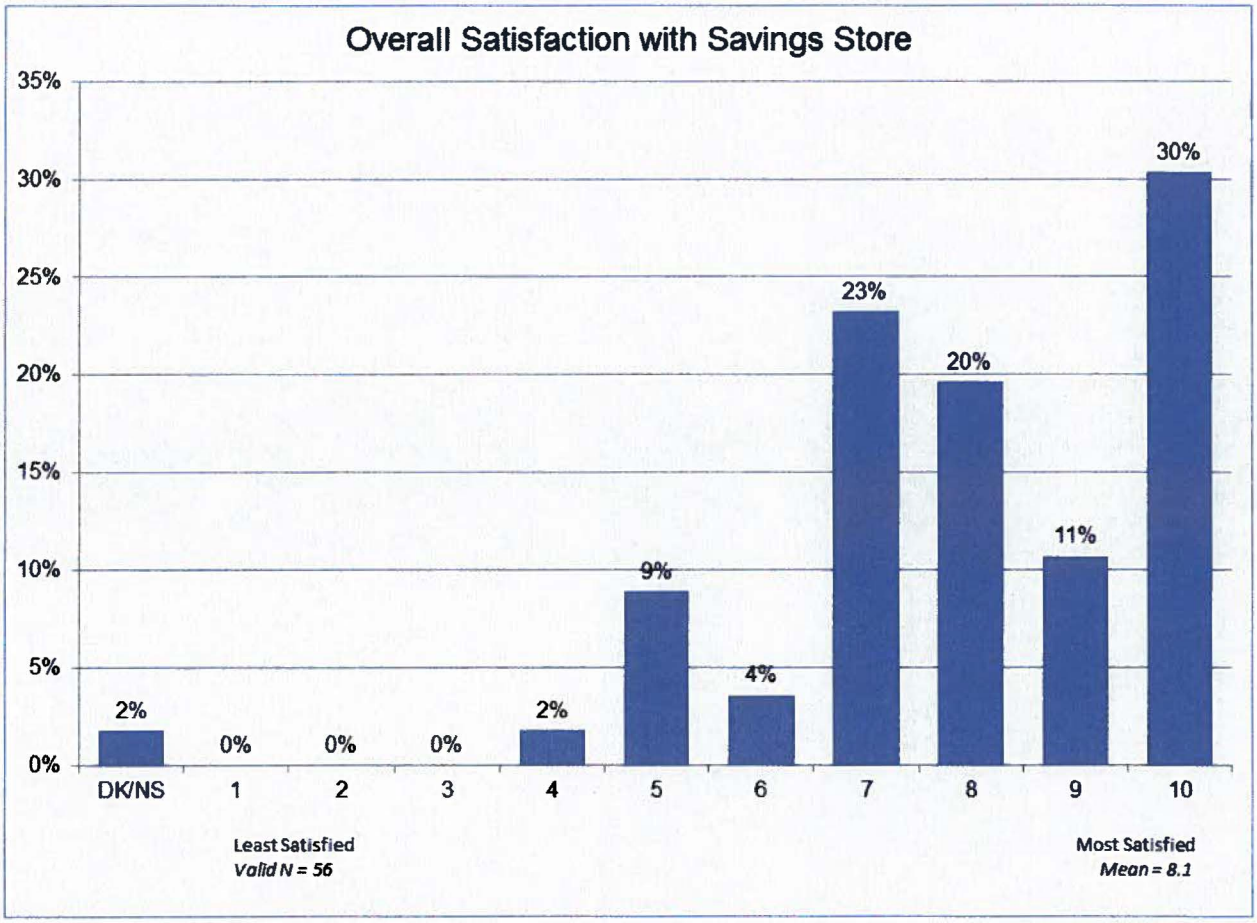

Figure 33. Satisfaction with Savings Store

Twenty one respondents gave scores of "7" or less; these customers were asked what could be done to improve their satisfaction, and 18 provided suggestions. These suggestions are listed below; lower bulb prices and less expensive shipping are mentioned most frequently.

- Lower bulb prices (n=5)
- Free or less expensive shipping (n=5)
- Better bulb selection/more selection (n=2)
- Better bulb comparisons (n=2)
- Hand delivery by Duke Energy employees
- Better bulb descriptions
- Better email messages
- Allow smaller purchases
- Sell products made in America

What Non-Participants Liked Most About the Savings Store

When non-participant visitors were asked what they liked most about the Savings Store, bulb prices was the most frequently cited attribute with nearly one third of visitors (32.1%) mentioning them. The ease and convenience of online shopping ranked close behind (28.6%), while ease of website navigation (16.1%) and the large bulb selection (10.7%) also fared well.

Other reasons were given by fewer than one in ten survey respondents. A summary of reasons is shown in Table 81.

Table 81. What Is Liked Most About the Savings Store

Response	Count	Percent (N=56)
Bulb prices	18	32.1%
Online shopping	16	28.6%
Easy to navigate and find items	9	16.1%
Large bulb selection	6	10.7%
Bulb descriptions	3	5.4%
Ordering via mail	2	3.6%
Helps save energy/lower bills	2	3.6%
Easy to access the Store	2	3.6%
Bulb comparisons	1	1.8%
Don't know / not specified	8	14.3%

Note: Multiple responses were allowed per participant.

What Non-Participants Liked Least about the Savings Store

When asked what they liked least about the Savings Store, half (48.2%) of visiting non-participants could not name anything. Among those who did offer criticism, bulb prices (16.1%) again topped the list, revealing that the same program attributes will naturally appeal to some of Duke Energy's customers and not to others. The full list of customer criticisms about the Store is show in Table 82.

Table 82. What is Liked Least about the Savings Store

Response	Count	Percent (N=56)
Bulb prices	9	16.1%
Shipping costs	4	7.1%
Limited bulb selection	4	7.1%
Online shopping	3	5.4%
Difficult to access the Store	3	5.4%
Better bulb descriptions	2	3.6%
Could not find desired items	2	3.6%
Shipping methods	1	1.8%
Being required to buy more than needed	1	1.8%
Wanted different bulb brands	1	1.8%
Lack of incandescent comparisons	1	1.8%
Large bulb selection	1	1.8%
Difficult to navigate and find items	3	5.4%
Nothing	27	48.2%

Note: Multiple responses were allowed per participant.