

National Grid Smart Energy Solutions Post-Event Survey

[INSERTS FOR CONTACT_NAME, PSEUDO ID NUMBER WILL COME FROM NATIONAL GRID-SUPPLIED SAMPLE]

Basic Customer Data: (To be provided by National Grid)

- Name (Adult Customer of Record or Spouse)
- Date Survey Completed (To be completed by Bellomy Research)
- Property Address
- Phone number
- Pseudo ID Number

Sample Variables:

- *IHDflag: 1 = Respondent has in-home picture frame display provided through pilot, 0 = no IHD*
- *TSTAT 1= Respondent has thermostat, 0=no thermostat*
- *DLCflag: 1 = Respondent is on Direct Load Control pilot, 0 = non-DLC*
- *Plug control: 1 = Respondent has a load control plug, 0= no plug*
- *Account: 1 = Respondent has My National Grid account, 0 = no account*
- *Rate Type: 1 = Respondent is on Smart Rewards Pricing.*
- *Rate Type: 2 = Respondent is on Conservation Day Rate*
- *DATE = Date of Conservation Day Peak Event - Programmed by Bellomy each event*
- *HOURS OF EVENT = START AND END TIME (e.g. 2PM-5pm) - Programmed by Bellomy each event*
-

INTRO WHEN SURVEY TAKEN ONLINE

Thank you for responding to Bellomy Research's email invitation on behalf of National Grid's Smart Energy Solutions Program to provide feedback on your experience with the recent Conservation Day on DATE. This online survey will take about 10-12 minutes of your time. Your feedback will help us make this program the best possible experience for you and other participating customers. We appreciate your time and insights.

INTRO FOR TELEPHONE SURVEY: Hello, this is (SURVEYOR NAME) from Bellomy Research calling on behalf of National Grid’s Smart Energy Solutions program. This is not a sales call or a call about a bill. We are calling participants in National Grid’s Smart Energy Solutions program following the most recent Conservation Day on [DATE]. These questions will take just a few minutes of your time. Your responses will be treated as confidential. We will share grouped responses of the people taking this survey but we will not identify any individual responses. We appreciate your time and insights.

(ANY CUSTOMER ASKING ANY DETAILED QUESTIONS ABOUT THE SURVEY SHOULD BE REFERRED TO THE NATIONAL GRID CALL CENTER AT _____.)

May I speak with [CONTACT_NAME] or another adult in your household who is knowledgeable about your household’s participation in the Smart Energy Solutions Program, National Grid’s smart grid pilot program in Worcester, MA that provides customers with greater control and convenience in managing their energy use? (IF NOT AVAILABLE, ARRANGE A CALL BACK OR IF SAY THEY ARE NOT PARTICIPATING OR NOT INTERESTED IN THE SURVEY, THANK AND TERMINATE)

(IF ANOTHER PERSON COMES TO THE PHONE, REPEAT INTRO TO HIM/HER)

1a. CONFIRMATION (THIS QUESTION TO BE ASKED OF ALL RESPONDENTS – EMAIL AND PHONE)

Would you please confirm that you are the person in your household who is most knowledgeable about National Grid’s Smart Energy Solutions program? (IF NEEDED ADD – “You may also know the Smart Energy Solutions program as National Grid’s “Smart Grid pilot program.” (IF STILL DON’T KNOW WHAT THE PROGRAM IS SAY, “This program recently installed advanced electric meters in your area that provide customers with more information and control of their energy usage”

1. I am the most knowledgeable
2. Another person is most knowledgeable but I can answer questions about the event
3. Another person is most knowledgeable (ASK FOR NAME AND CONTACT INFO (REQUEST EMAIL ADDRESS IF ONLINE RESPONSE) _____)
98. Don’t know (THANK AND GOTO Q41)
99. Refused

Conservation Day Awareness (ASK ALL RESPONDENTS)

1. (IF RATE TYPE = 1, SAY) According to our records, you are participating in the Smart Energy Solutions Program on the Smart Rewards Pricing Plan. Is that correct? (IF NEEDED:

“With Smart Rewards Pricing, you pay less than the basic service rate for your electricity usage during the day time, and even lower rates during weekday nights, weekends, and holidays. During Peak Event hours on Conservation Days-your rates will increase, but you can minimize this increase by saving electricity during the specified Peak Event hours. “

1. No (THANK AND TERMINATE)
 2. Yes (Skip to Q3)
 98. Unsure/Don't Know (Skip to Q41)
 99. Refused (THANK AND TERMINATE)
-
2. (IF RATE TYPE=2, SAY) According to our records, you are participating in the Smart Energy Solutions Program with the Conservation Day Rebate plan. (IF NEEDED: "On the Conservation Day Rebate plan you pay the basic service electric rate, but if you reduce energy use during Peak Event hours on a Conservation Day, you will receive a credit on your electric bill in the month after Conservation Day").
 1. No (THANK AND TERMINATE)
 2. Yes (CONTINUE)
 98. Unsure/Don't Know (Skip to Q41)
 99. Refused (THANK AND TERMINATE)
-
3. As part of National Grid's Smart Grid Smart Energy Solutions program, National Grid will call Conservation Days. Were you aware that a Conservation Day occurred on [DATE], with specific Peak Event hours between [HOURS OF EVENT]?
 1. Yes [(CONTINUE)]
 2. No (THANK AND SKIP TO Q41)
 98. Unsure/Don't Know (THANK AND SKIP TO Q41)
 99. Refused (THANK AND TERMINATE)
-
4. How did you become aware that a Conservation Day was going to occur? [Do not read list, check all that apply]
 1. Automated Phone Message
 2. E-Mail
 3. SMS Text Message
 4. CEIVA Digital Picture Frame
 5. Smart Thermostat
 6. Homeview app on Smartphone
 7. Was not notified
 8. Other _____(Specify)
 98. Unsure/Don't Know

99. Refused
5. Did the notification give you sufficient notice and information about the Conservation Day that was set to occur?
1. Yes
 2. No
98. Unsure/Don't know
99. Refused
6. On Conservation Day [DATE] the Peak Event hours occurred between [HOURS OF EVENT]. Were you or another family member home during the Peak Event hours that occurred on [DATE]?
[Do not read list, check one]
1. Yes (**Skip** to Q9)
 2. Yes, but only for part of the time (Skip to Q9)
 3. No (CONTINUE)
 4. No, but I was remotely monitoring my smart thermostat, National Grid App, or smart plug (CONTINUE)
98. Unsure/Don't know (SKIP TO CLOSING)
99. Refused (SKIP TO CLOSING)

7. (IF Q6=3 or 4, ASK) Even though you were not home during the Peak Event hours, did you take any actions to decrease your electricity usage during the Peak Event hours?

1. Yes (CONTINUE)
2. No (THANK AND SKIP TO q41)
98. Unsure/Don't Know (THANK ANDSKIP TO Q41)
99. Refused (THANK AND TERMINATE)

(ASK Q8, THEN SKIP TO Q34)

8. What Actions did you take?

1. Adjusted smart thermostat for higher temperatures before or during the event
2. Adjusted thermostat remotely using the NGrid app
3. Adjusted smart thermostat for lower temperatures after the event
4. Shut off or unplugged appliances
5. Closed curtains or drapes
6. Other _____ (Specify)
7. None
98. Unsure/Don't Know
99. Refused

9. What actions—if any—did you take to reduce your electricity use on [DATE], when a Conservation Day occurred? [Do not read list, check all that are mentioned]

1. Discussed energy conservation strategies with my family (Skip to Q12)
2. Pre-cooled my home during morning off-peak hours (Skip to Q12)
3. Changed the temperature setting on my central air conditioning system to a warmer setting during peak hours. (Skip to Q11)
4. Sought activities outside of the home (Skip to Q11)
5. Avoided use of certain appliances or electricity intensive devices during critical peak hours (Continue)
6. None (Skip to Q14)
7. Other _____ (open ended) (Skip to Q14)
98. Unsure/Don't know (Skip to Q14)
99. Refused (Skip to Q14)

10. [If Q9 = 5 , continue, else **skip** to Q14] What items specifically did you avoid using to save energy during the Conservation Day? [DO NOT READ LIST, CHECK ALL THAT ARE MENTIONED]
1. Lighting
 2. Oven
 3. Range/Cooktop
 4. Microwave
 5. Dishwasher
 6. Clothes washer/clothes dryer
 7. Central AC
 8. Room AC/window AC
 9. Fans
 10. Television
 11. DVD/Blu-Ray Player
 12. Cable Box
 13. Video game console
 14. Computer
 15. Humidifier / Dehumidifier
 16. Other high energy use appliances: _____ (Specify)
 98. Unsure/Don't Know
 99. Refused
11. [If Q9 = 3, 4, or 5, continue, else **skip** to Q12] During which hours did you take these actions?
1. Starting hour: _____ (response required in HH:MM format)
 2. Ending hour: _____ (response required in HH:MM format)

Thermostat Usage (TSTAT = 1)

12. [If TSTAT =1, continue, else **skip** to Q18] Did you, or the family member present during the Conservation Day's Peak Event hours, notice a change in temperature in your home on [DATE] between the Peak Event hours of [HOURS OF EVENT]? [Do not read list, check one]
1. Yes
 2. No (**Skip** to Q15)
 98. Unsure/Don't Know (**Skip** to Q15)
 99. Refused (**Skip** to Q15)
13. [If Q12 = 1, continue, else **skip** to Q15] Did you observe the actual temperature in your home during the Peak Event hours[HOURS OF EVENT]? (IF NEEDED: "You might have looked at your thermostat or an indoor thermometer.")
1. Yes
 2. No (**Skip** to Q15)
 98. Unsure/Don't Know (**Skip** to Q15)
 99. Refused (**Skip** to Q15)

14. [If Q13= 1, continue, else **skip** to Q15 Approximately how many degrees did the temperature in your home rise during the Peak Event hours? [Read list, check one]
1. 0-2 °F
 2. 2-4 °F
 3. 4-6 °F
 4. more than 6 °F
 98. Unsure/Don't Know
 99. Refused
15. During the event, how would you describe your comfort compared to a typical afternoon with similar outdoor temperatures? Would you say it was... [Read list, check one]
1. About the same
 2. Somewhat less comfortable
 3. Much less comfortable
 4. Very **un**comfortable
 98. Unsure /Don't Know
 99. Refused

Thermostat Override

16. At any point before or during the Peak Event hours, did you press the override button on your thermostat to prevent or stop the program from adjusting your thermostat remotely?
1. Yes, before the event started
 2. Yes, during the event
 3. No (**Skip** to Q19)
 98. Unsure/Don't Know (**Skip** to Q19)
 99. Refused (**Skip** to Q19)
17. (IF Q16=1 OR 2, ASK) Why did you use the override button?
1. Did not want house to get too warm/uncomfortable
 2. Someone in the home needed the temperature cooler for health reasons
 3. Someone in the home wanted the temperature cooler
 4. Was too uncomfortable during previous events
 5. Other _____ (specify)
 98. Unsure/Don't know
 99. Refused
18. Were there any other reasons for overriding the temperature settings during the Peak Event hours? (OPEN ENDED) _____
19. How satisfied were you with the performance of the Smart Thermostat during the Peak Event hours?
1. Very satisfied (Skip to Q21)
 2. Satisfied (Skip to Q21)
 3. Neutral (Skip to Q21)
 4. Unsatisfied
 5. Very unsatisfied
 98. Unsure/don't know (Skip to Q23)
 99. Refused (Skip to Q23)
20. (ASK IF Q19 = 4,5) Why weren't you satisfied with the Smart Thermostat performance during the Peak Event hours? [OPEN ENDED]
98. Unsure/don't know
 99. Refused

SMART PLUG

21. (IF PLUG CONTROL=1, ASK ELSE SKIP TO Q27) According to our records you received a Smart Plug that you could use to remotely control lights or other small appliances in your home. Is that correct?
1. Yes
 2. No [SKIP TO Q27]
 98. Unsure/Don't know
 99. Refused
22. During the Peak Event hours, what household item, such as a lamp or appliance, was the Smart Plug plugged into? (DON'T READ LIST)
1. Plugged into a lamp or other light fixture (ADVISE RESPONDENT THAT THAT'S NOT RECOMMENDED TO PLUG INTO A LIGHT BECAUSE THERE ARE LITTLE SAVINGS THAT WAY)
 2. Plugged into a refrigerator or freezer (ADVISE RESPONDENT THAT THAT'S NOT RECOMMENDED TO PLUG INTO A REFRIGERATOR OR FREEZER)
 3. Small appliance, electronics, tv
 4. Plugged into a room air conditioner, dehumidifier
 5. Plugged into another large appliance, like a clothes washer or dryer
 6. Other
 7. Not plugged in [SKIP TO Q27]
 98. Unsure/don't know
 99. Refused
23. [IF Q23< 7] Did you control the [HOUSEHOLD ITEM PROVIDED IN Q23] during the entire Peak Event s or only during part of the event?
1. Controlled the entire event (Skip to Q25)
 2. Controlled for part of the event (Skip to Q25)
 3. Did not control at all during the event
 98. Unsure/don't know
 99. Refused

24. (IF Q23 = 3,) Why did you not control [HOUSEHOLD ITEM PROVIDED IN Q24] during Peak Event hours?

1. Didn't work [SKIP TO Q27]
2. Forgot about it [SKIP TO Q27]
3. I needed it functioning as usual [SKIP TO Q27]
4. Other [SKIP TO Q27]
98. Unsure/don't know [SKIP TO Q27]
99. Refused [SKIP TO Q27]

25. How satisfied were you with the performance of the Smart Plug during the Peak Event hours?

1. Very satisfied (Skip to Q27)
2. Satisfied (Skip to Q27)
3. Neutral (Skip to Q27)
4. Unsatisfied
5. Very unsatisfied
98. Unsure/don't know (Skip to Q27)
99. Refused (Skip to Q27)

26. (ASK IF Q25 = 4,5) Why weren't you satisfied with the smart plug performance during the Peak Event hours? [OPEN ENDED]

98. Unsure/don't know
99. Refused

IHD Module [Ask only if IHDflag=1, else skip to Q30]

27. [If IHDFlag = 1, continue, else skip to Q30] Did you refer to your Digital Picture Frame at any point during the Peak Event hours to check your electricity consumption? [Do not read list, check one]
1. Yes
 2. No (Skip to Q30)
 98. Unsure/Don't Know (Skip to Q30)
 99. Refused (Skip to Q30)
28. How useful was the Digital Picture Frame in making decisions about how to conserve energy during the Peak Event hours? Would you say it was [Read list, check one]
1. Very useful,
 2. Somewhat useful, or
 3. Not at all useful?
 98. Unsure/Don't Know
 99. Refused
29. [If Q28 < 98] Why do you say that? [Open ended] _____

National Grid's WorcesterSmart Customer Portal [Ask only if Account = 1, else skip to Q35]

30. According to our records, you have an online account for National Grid's WorcesterSmart Customer Portal, is that correct?

1. Yes
2. No (SKIP to Q34)
98. Don't know (SKIP to Q34)
99. Refused (SKIP to Q34)

31. Did you access the WorcesterSmart Customer Portal before, during or after the Peak Event hours? (SELECT ALL THAT APPLY)

1. Yes, before the event
2. Yes, during the event
3. Yes, after the event
4. No (SKIP to Q34)
98. Don't know (SKIP to Q34)
99. Refused (SKIP to Q34)

32. How useful was your WorcesterSmart Customer Portal account in making decisions about how to conserve energy during the Peak Event hours? Would you say it was [Read list, check one]

1. Very useful,
2. Somewhat useful, or
3. Not at all useful?
98. Unsure/Don't Know
99. Refused

33. [If Q32 < 98] Why do you say that? [Open ended] _____

Information

34. How helpful was the information that you received from National Grid about the Conservation Day and steps you could take to reduce electricity use during the Peak Event hours? Would you say it was [Read list, check one]
1. Very helpful,
 2. Somewhat helpful,
 3. Neither helpful nor unhelpful (neutral)
 4. Somewhat unhelpful, or
 5. Not at all helpful
 98. Unsure/Don't Know
 99. Refused
35. How do you feel about the amount of information that you received from National Grid about the Conservation Day? Would you say it was [Read list, check one]
1. Too much,
 2. A little too much, or
 3. Neither too much nor too little (neutral)
 4. Not enough
 5. Not existent
 98. Unsure/Don't Know
 99. Refused
36. What additional or different information provided by National Grid would make it easier for you to save electricity as a participant in the Smart Energy Solutions program? [OPEN ENDED]
- 36a. What sources of information were most useful to you in learning about Conservation Days?
(DON'T READ – TAKE ALL)
1. Program Welcome Kit,
 2. Sustainability Hub in Worcester,
 3. National Grid call center rep,
 4. Program website
 5. National Grid-sponsored informational meeting
 6. Other _____
 98. Don't Know
 99. Refused
37. (ASK IF IHDflag, TSTAT, DLCflag or PLUG CONTROL=1) . During the Conservation Day, did you have a problem with any of the equipment National Grid installed in your home?
1. Yes (CONTINUE TO Q38)
 2. No (skip to Q39)

- 98. Unsure/Don't Know (skip to Q39)
- 99. Refused (skip to Q39)

38. Please describe the problem you had _____

39. Is there anything specific that the Smart Energy Solutions Program could be doing better or differently to improve the experience for you? [OPEN ENDED]

40. Based on your experience to date, how do you think you will respond to future Conservation Days in this program? (DON'T PROMPT)

- 1. Would do the same things
- 2. Would make some changes (ASK for SPECIFICS) _____

98. Don't know

99. Refused

41. Would you like to receive any additional information about the Smart Energy Solutions Program or Conservation Days?

- 1. Yes [(Continue)]
- 2. No (THANK AND TERMINATE)
- 98. Unsure/Don't Know (Continue)
- 99. Refused (THANK AND TERMINATE)

42. How would you like to receive this information – by phone, email, or mail? [RECORD PHONE NUMBER, EMAIL, OR CONFIRM MAILING ADDRESS]

43. We appreciate your feedback about how this program is going. Your feedback will help us refine and improve to serve you better. We would like to reach out to you through surveys, mainly online, in order to find out whether your experience with the program changes over time.. May we contact you up to two more times over the course of this year?

- 1. Yes
- 2. No

44. (ASK IF Q43= 1) Would you please provide me with the best email to contact you for future surveys? _____

IF IDNUM INDICATES DEMOGRAPHIC QUESTIONS NOT PREVIOUSLY ASKED , ASK DEMOGRAPHIC QUESTIONS

CLOSING STATEMENT FOR COMPLETION OF THE SURVEY

Thank you for participating in this survey; your feedback on National Grid's Smart Energy Solutions Program is extremely valuable. Have a wonderful day!



Smart Energy Solutions

First Post Event Survey:

Final Results

July 27, 2015



Executive Summary: Setting the Stage

- On Tuesday, June 23rd from 2:00 PM – 6:00 PM National Grid held its first “Conservation Day” event for customers enrolled in National Grid’s Smart Energy Solutions program.
- A portion of participants were surveyed about their experience in the program between 6-24-15 and 7-7-15.
- We split customers into two contact groups: “Group A” and “Group B.” Both groups were contacted for this survey in an effort to establish a baseline.
- Topics addressed in the survey include:
 - Event communications
 - Pre-event actions
 - Technology use
 - Reaction to Smart Energy Solutions
 - Demographics

Technologies represented by respondents		
	Number	Percentage
In Home Display	210	40%
Thermostat	64	12%
Smart Plug	7	1%
Total number of respondents	527	100%



Executive Summary: Key Takeaways

Most customers became aware of the conservation day from either a voicemail or email.

During the event 18% of respondents avoided using their clothes washer/dryer. A variety of end-uses including dishwashing, lighting, cooking, electronics, and air conditioning were also avoided during the event.

35% of thermostat customers experienced a 2-4 degree change in temperature and 35% of thermostat customers experienced a 4-6 degree change in temperature.

18% of thermostat respondents pressed the override button on their thermostats. Most of these respondents did so out of discomfort (during event) or wanting to avoid potential discomfort (before event).

29% of IHD respondents referred to their IHD to check electricity consumption during the event, and 94% of these customers found the IHD at be very or somewhat useful.

In questions 36a and 39b many customers wanted more advanced notice about the conservation day. These customers don't seem to understand why events are called a day ahead. Customers would benefit from additional explanation about this.



Disposition Report

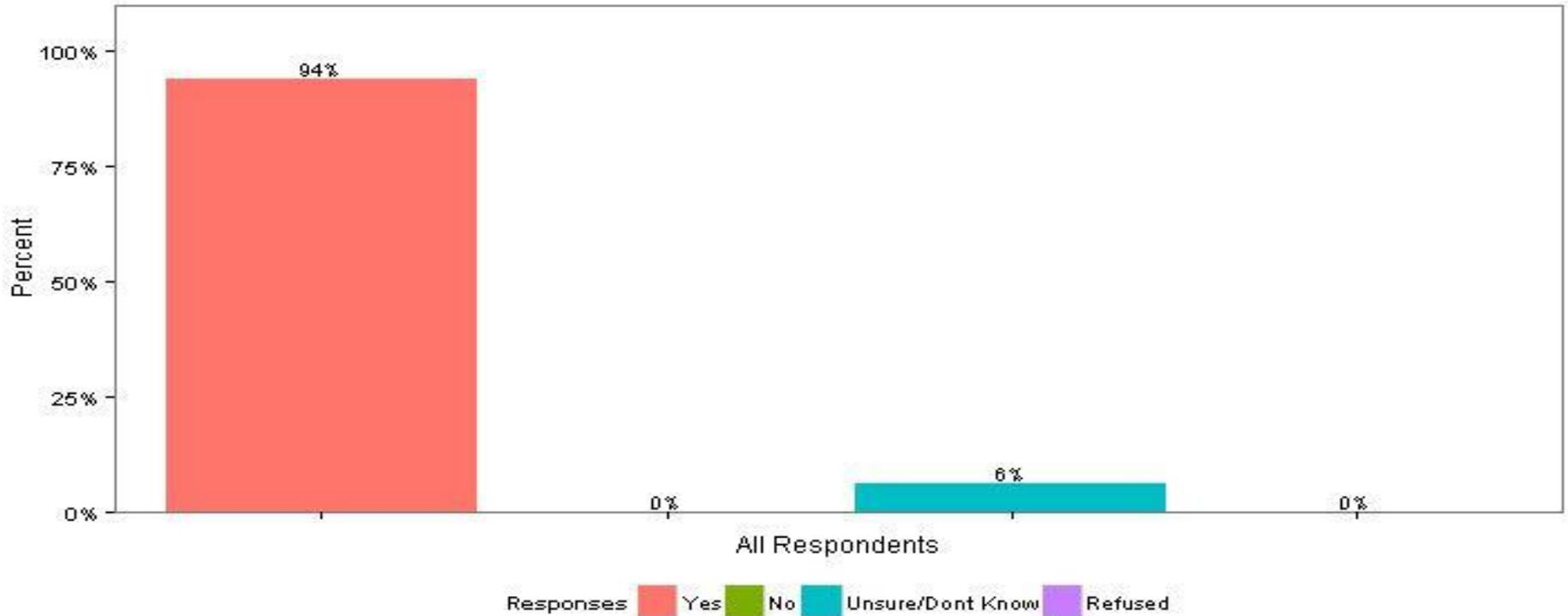
Call Disposition			
	TOTAL	GROUP-A	GROUP-B
Answering machine	2460	1721	739
Blocked number	8	6	2
Business/Government	66	51	15
Busy	27	20	7
Call Back	167	127	40
Changed number	1	1	0
Deaf	2	2	0
Disconnect	614	440	174
Disqualified	57	43	14
Language Barrier	59	40	19
No answer	1139	914	225
None (Due to Overquota Status)	2827	32	2795
Opted out	65	40	25
Over quota	87	86	1
Refused to talk	1367	923	444
Saved - Planned callback	22	17	5
Wrong number	70	44	26
Completed survey	527	333	194
Total	9565	4840	4725

Starting Population			
	TOTAL	GROUP-A	GROUP-B
Original Sample Received	10562	5281	5281
Sample killed when loaded:			
Phone number is globally opted out	354	178	176
Unknown phone number prefix	179	87	92
Duplicate	464	176	288
Total Killed Sample	997	441	556
Beginning available sample	9565	4840	4725

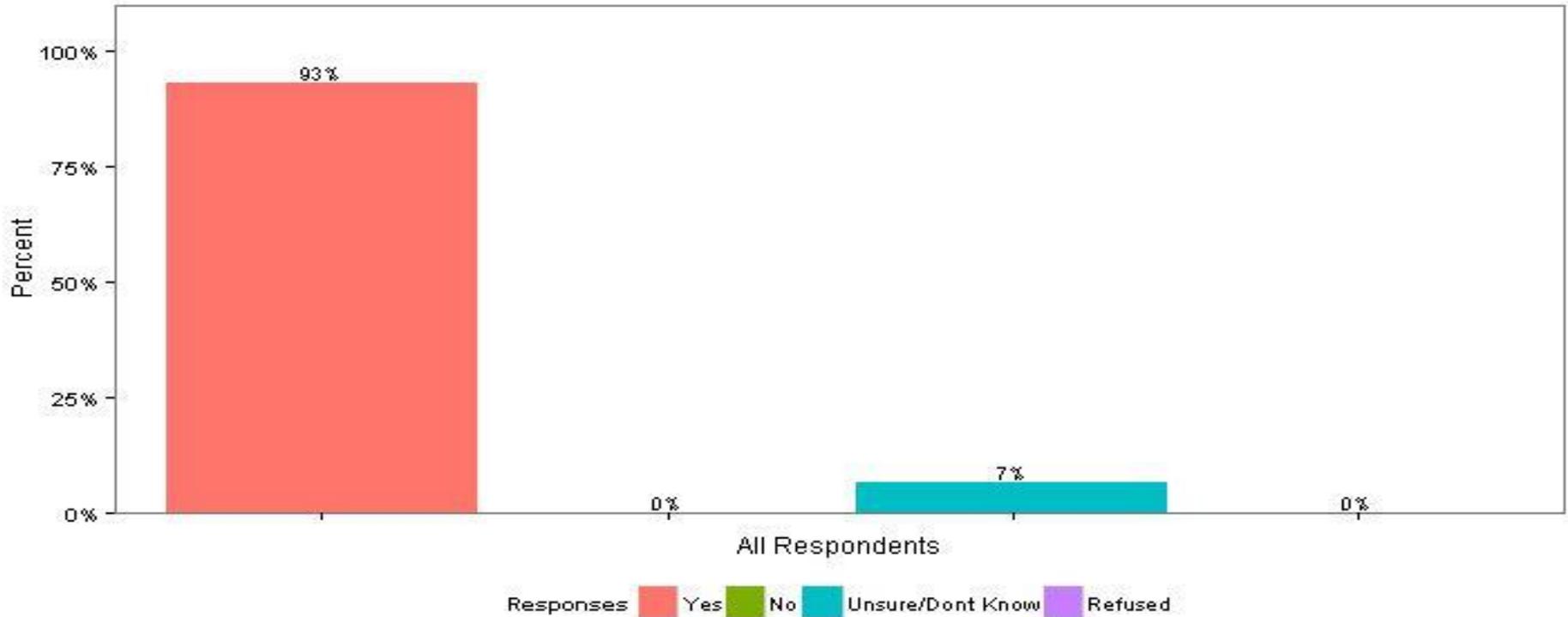
Complete Survey Distribution	
Total Completed	527
Online	153
Outbound Telephone	374

1. According to our records, you are participating in the Smart Energy Solutions program on the Smart Rewards Pricing Plan. Is that correct?

All Respondents: N= 481



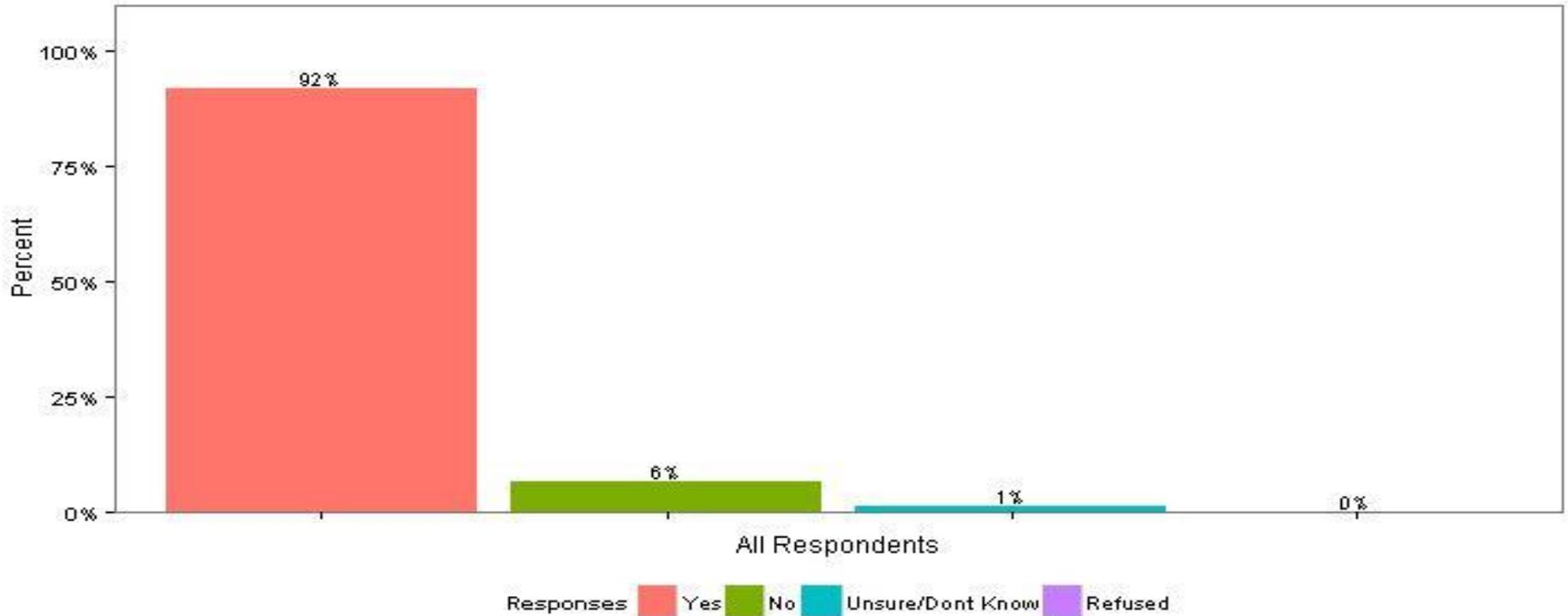
2. According to our records, you are participating in the Smart Energy Solutions program on the Conservation Day Rebate plan. Is that correct? All Respondents: N= 45



3. Were you aware that a Conservation Day occurred on 6-23-15 with specific Peak

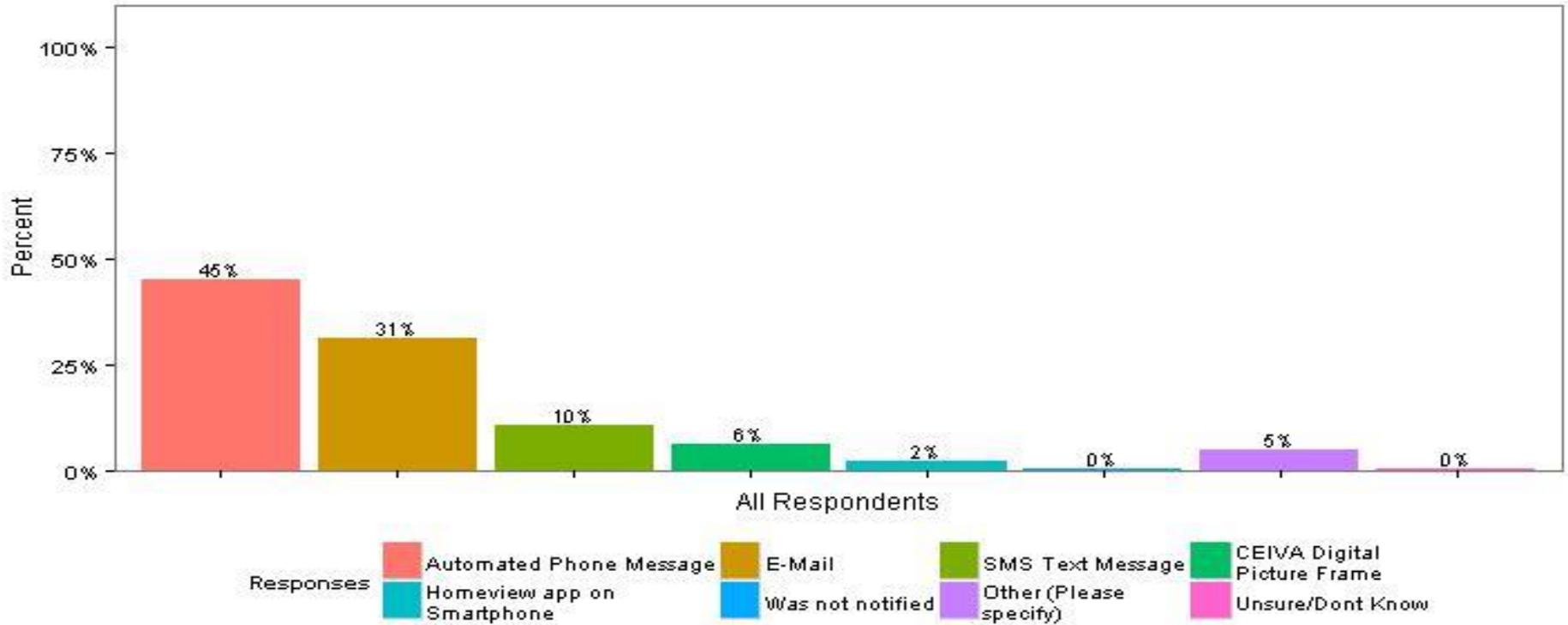
Event hours between 2-6 PM?

All Respondents: N= 493



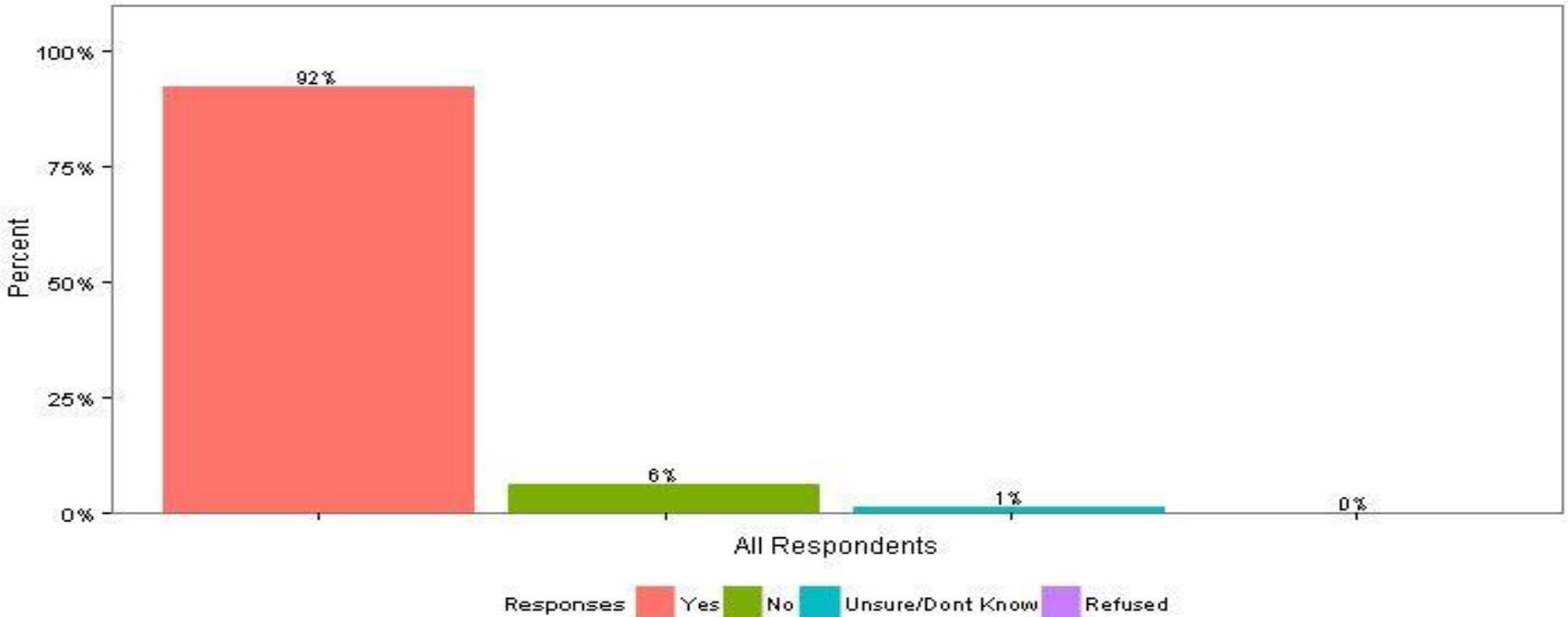


4. How did you become aware that a Conservation Day was going to occur? All Respondents: N= 592



5. Did the notification give you sufficient notice and information about the Conservation Day that was set to occur?

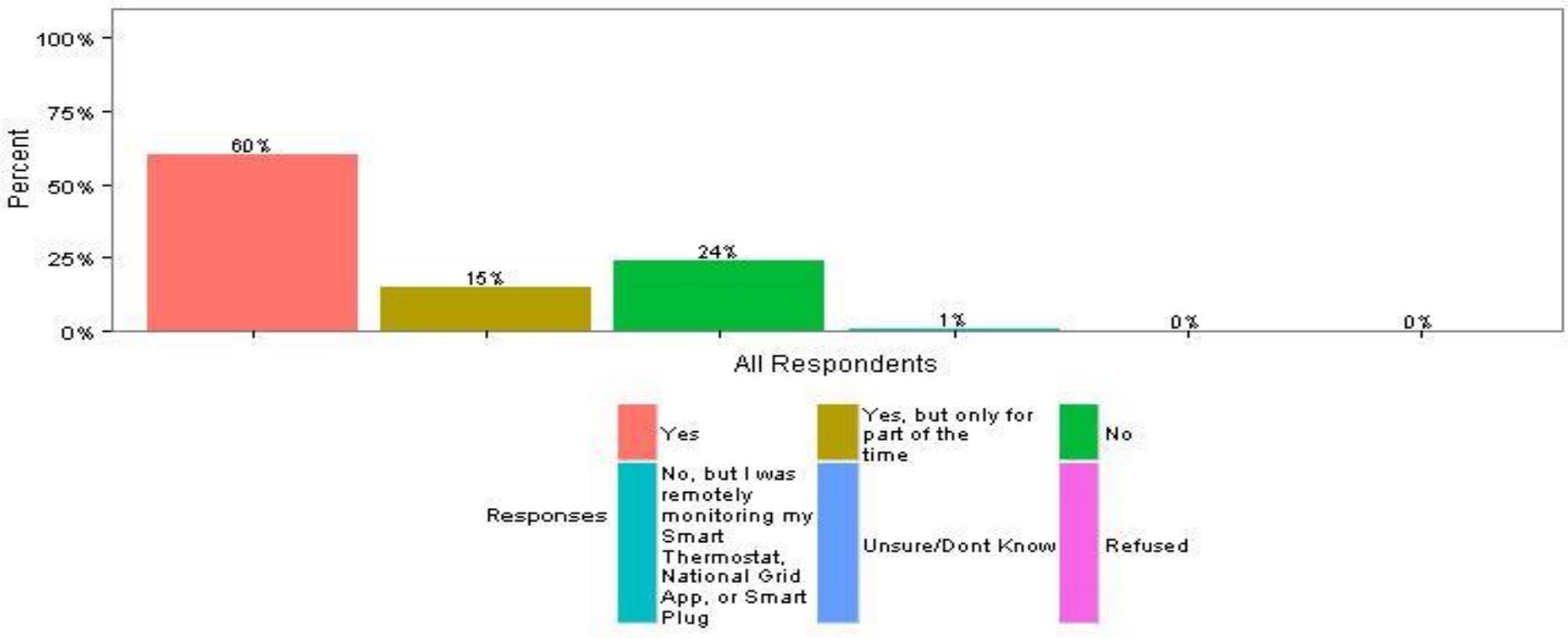
All Respondents: N= 453



6. On Conservation Day (6-23-15) the Peak Event hours occurred between 2-6 PM. Were you or another family member home during the Peak Event hours that occurred on 6-23-15?

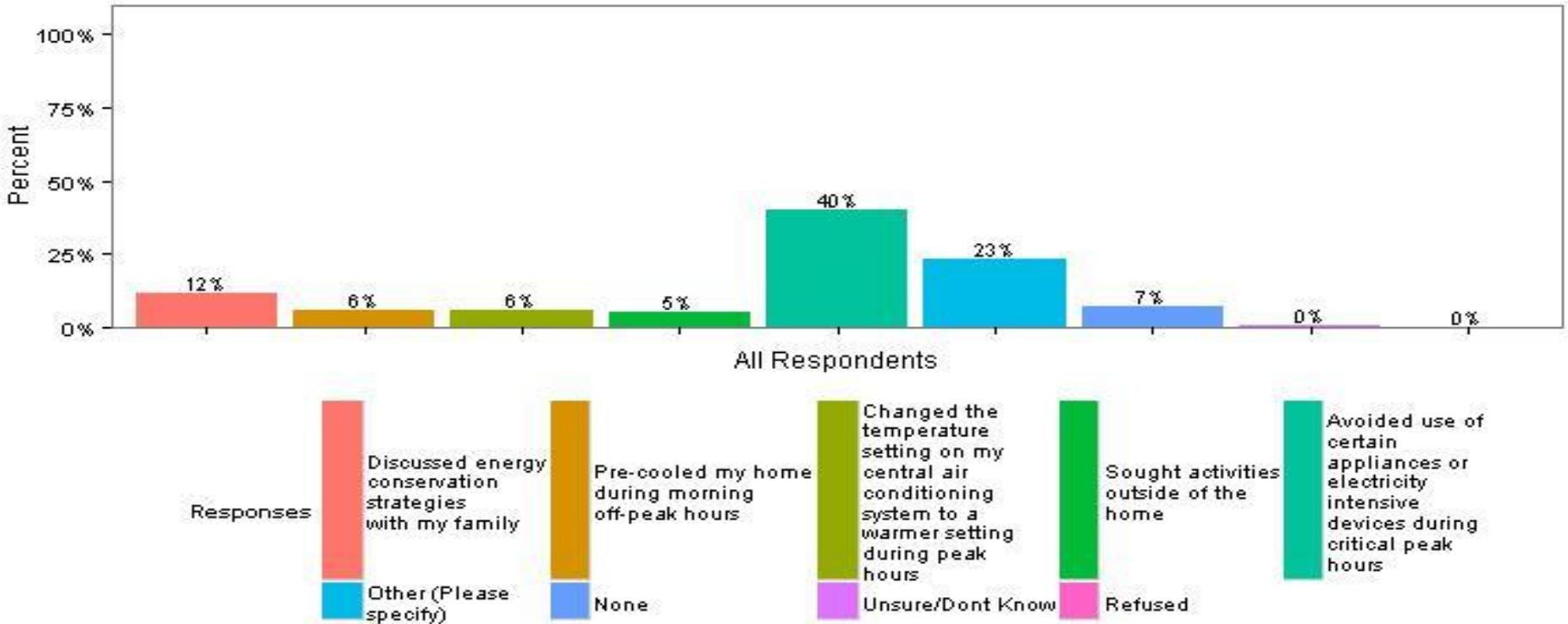


All Respondents: N= 454



9. What actions, if any, did you take to reduce your electricity use on the Conservation Day?

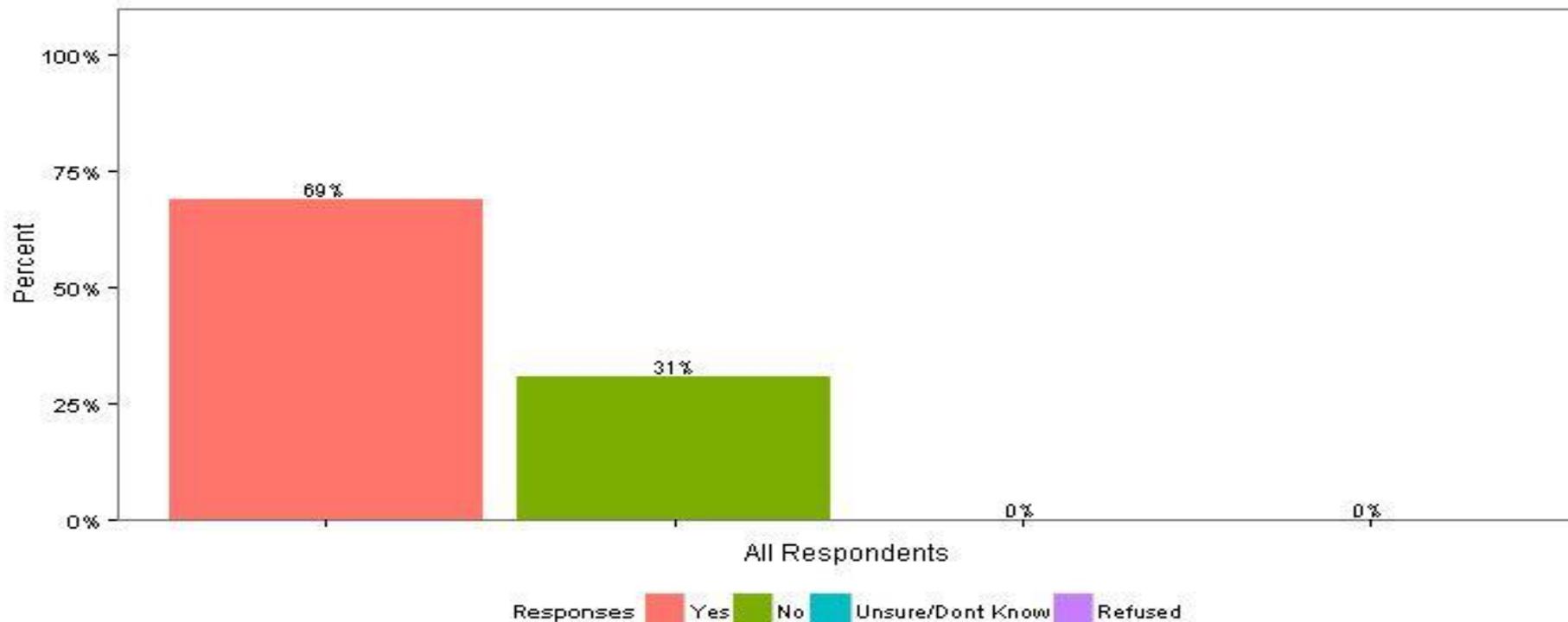
All Respondents: N= 411





7. Even though you were not home during the Peak Event hours, did you take any actions to decrease your electricity usage during the Peak Event hours?

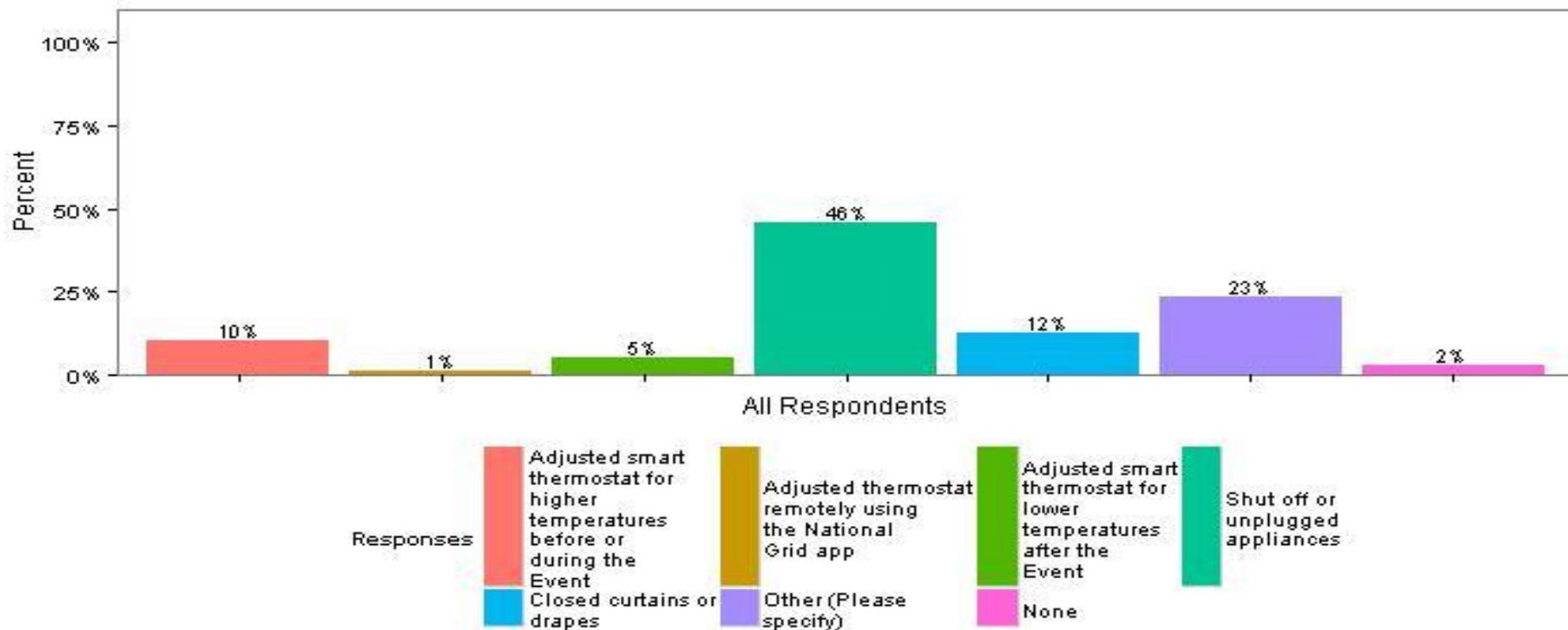
All Respondents: N= 113





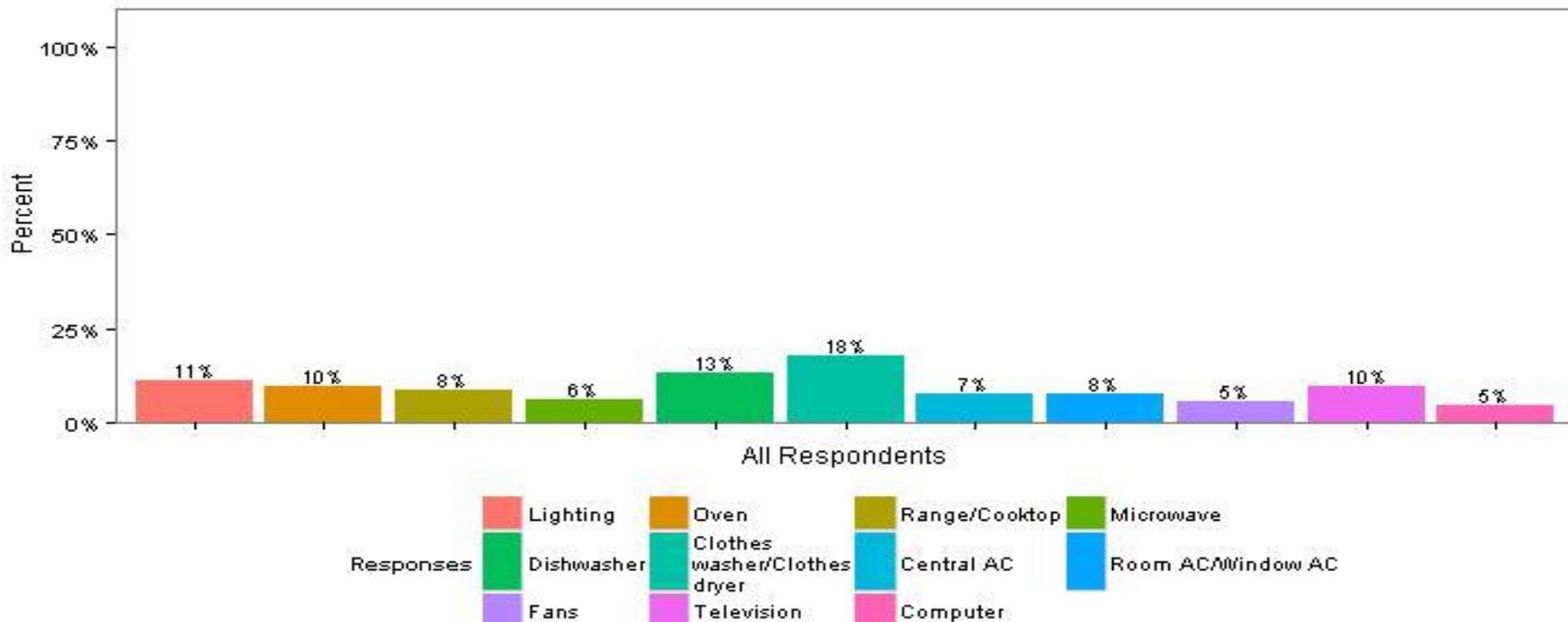
8. What actions did you take?

All Respondents: N= 81



10. What items specifically did you avoid using to save energy during the Conservation Day?

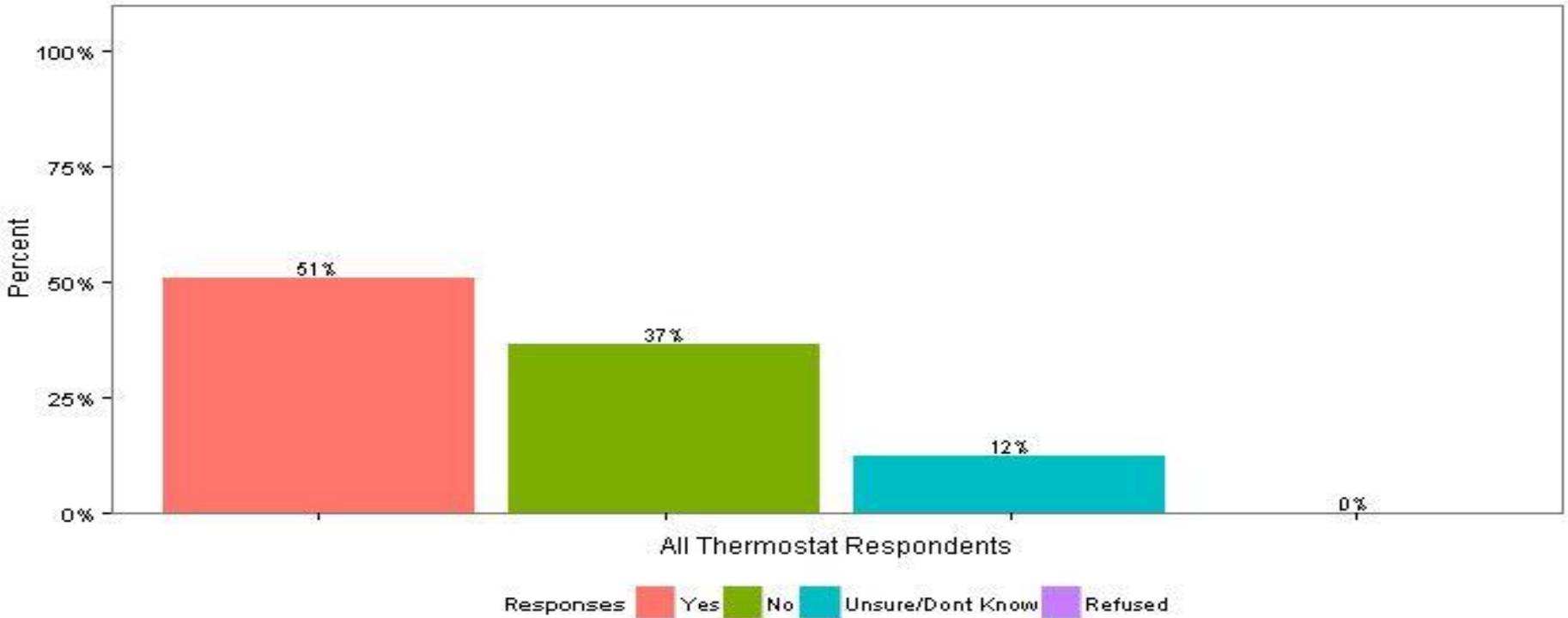
All Respondents: N= 641



12. Did you, or the family member present during the Conservation Day's Peak Event hours, notice a change in temperature in your home on 6-23-15 between the Peak Event hours of 2-6 PM?

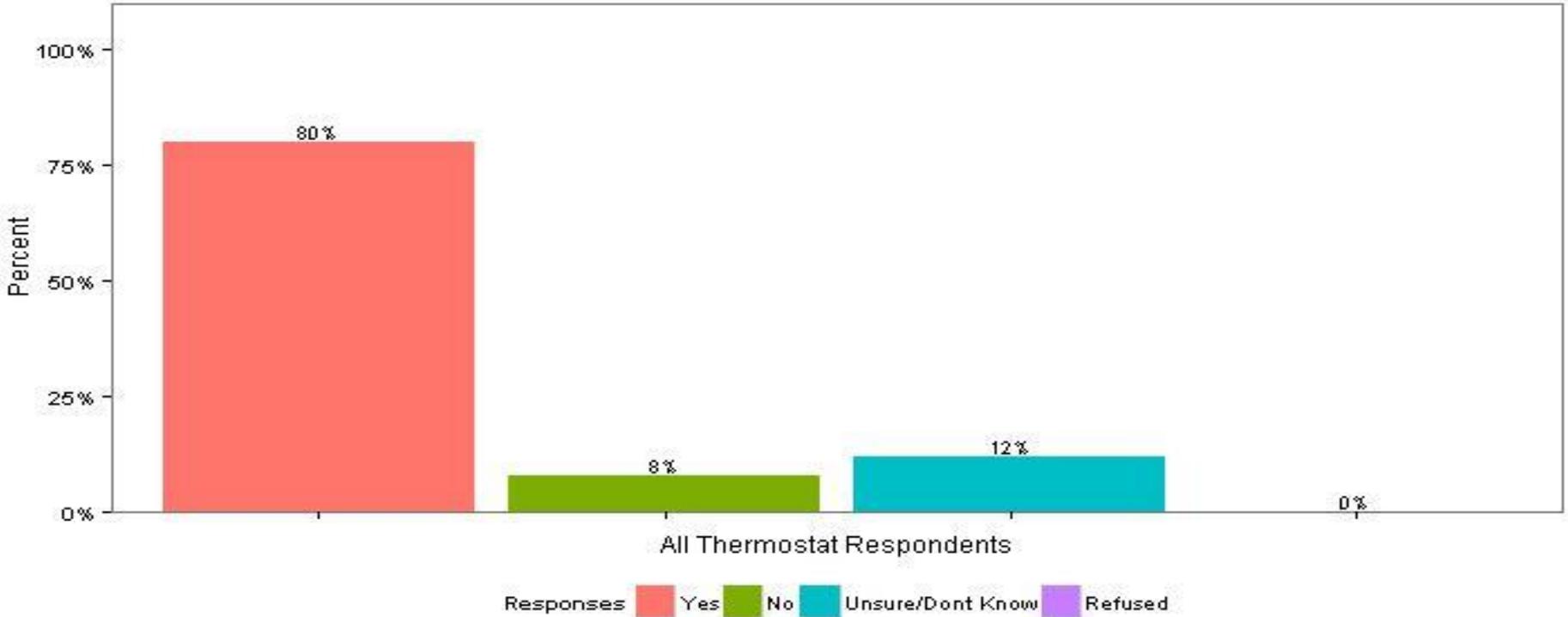


All Thermostat Respondents: N= 49



13. Did you observe the actual temperature in your home during the Peak Event hours 2-6PM?

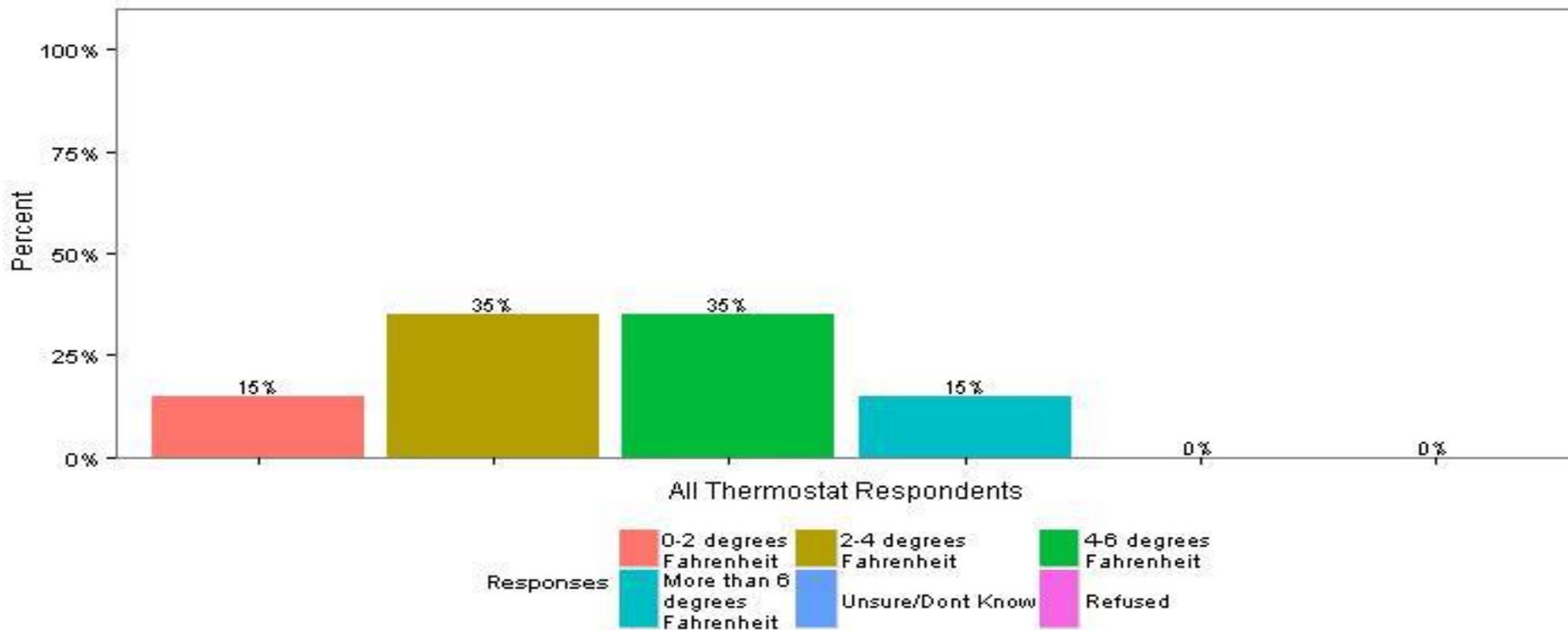
All Thermostat Respondents: N= 25





14. Approximately how many degrees did the temperature in your home rise during the Peak Event hours?

All Thermostat Respondents: N= 20

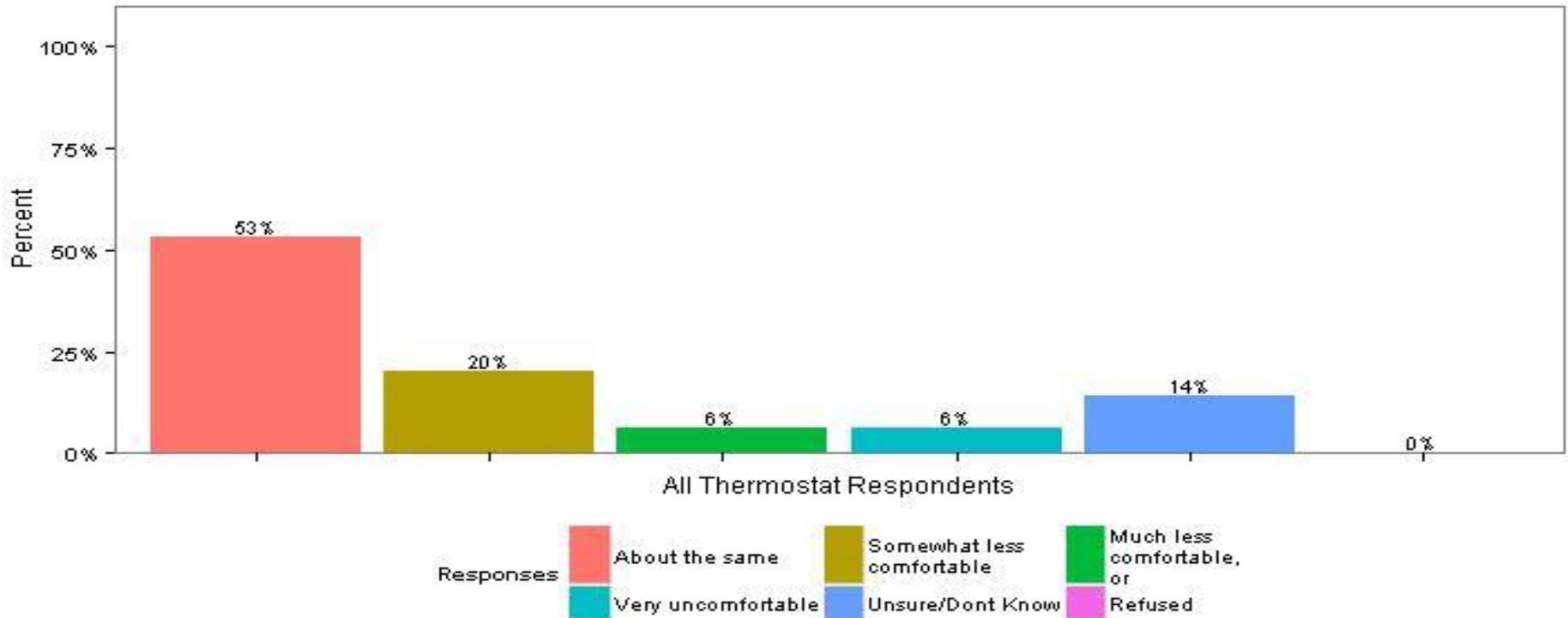


15. During the Event, how would you describe your comfort compared to a typical afternoon with similar outdoor temperatures?



Would you say it was?

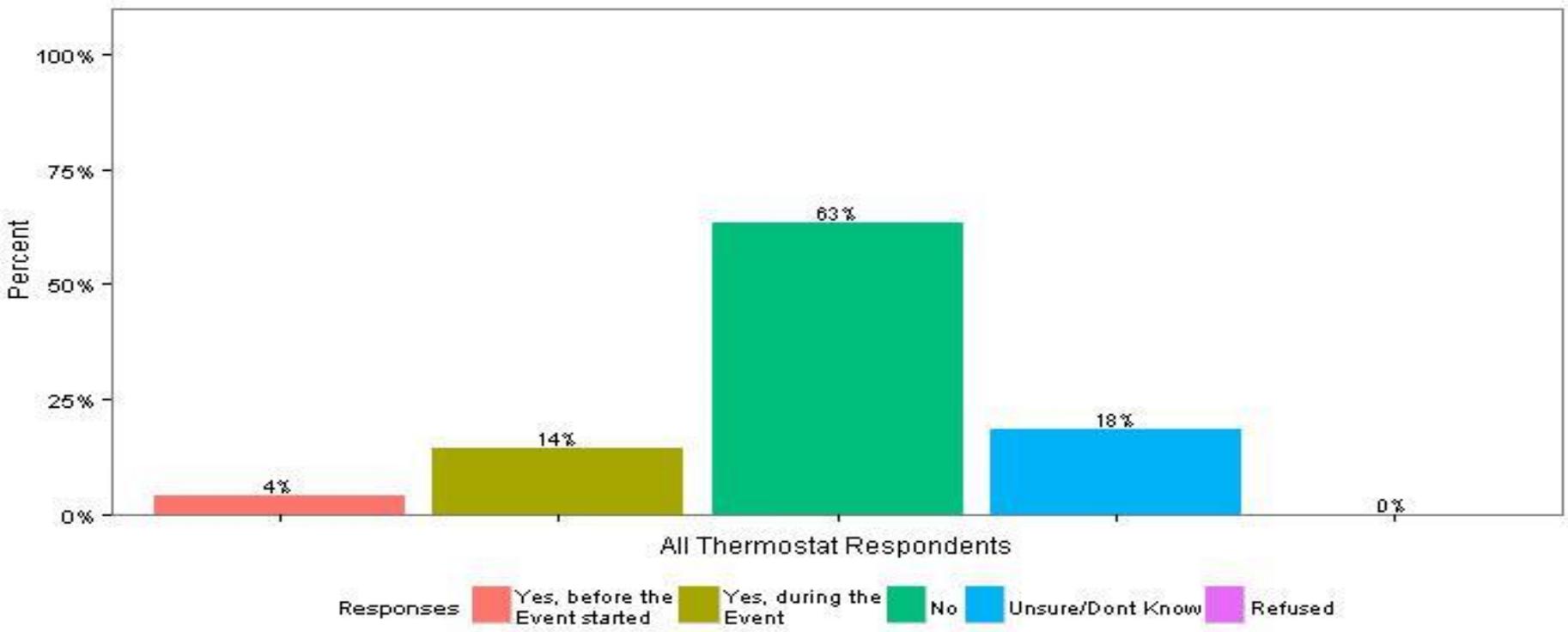
All Thermostat Respondents: N= 49



16. At any point before or during the Peak Event hours, did you press the override button on your thermostat to prevent or stop the program from adjusting your thermostat remotely?

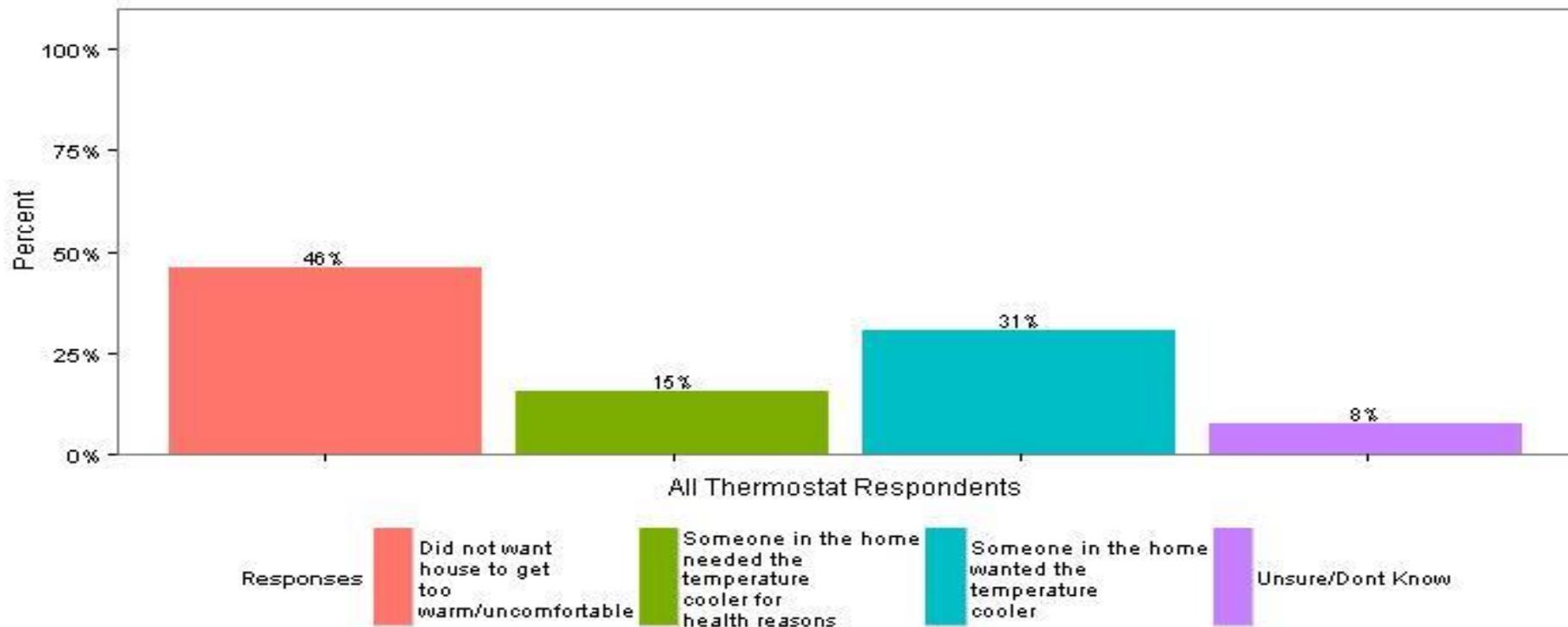


All Thermostat Respondents: N= 49





17. Why did you use the override button? All Thermostat Respondents: N= 13





18. Were there any other reasons for overriding the temperature setting during the Peak Event hours?

Verbatim responses, N=9:

“Too uncomfortable” – 3 respondents

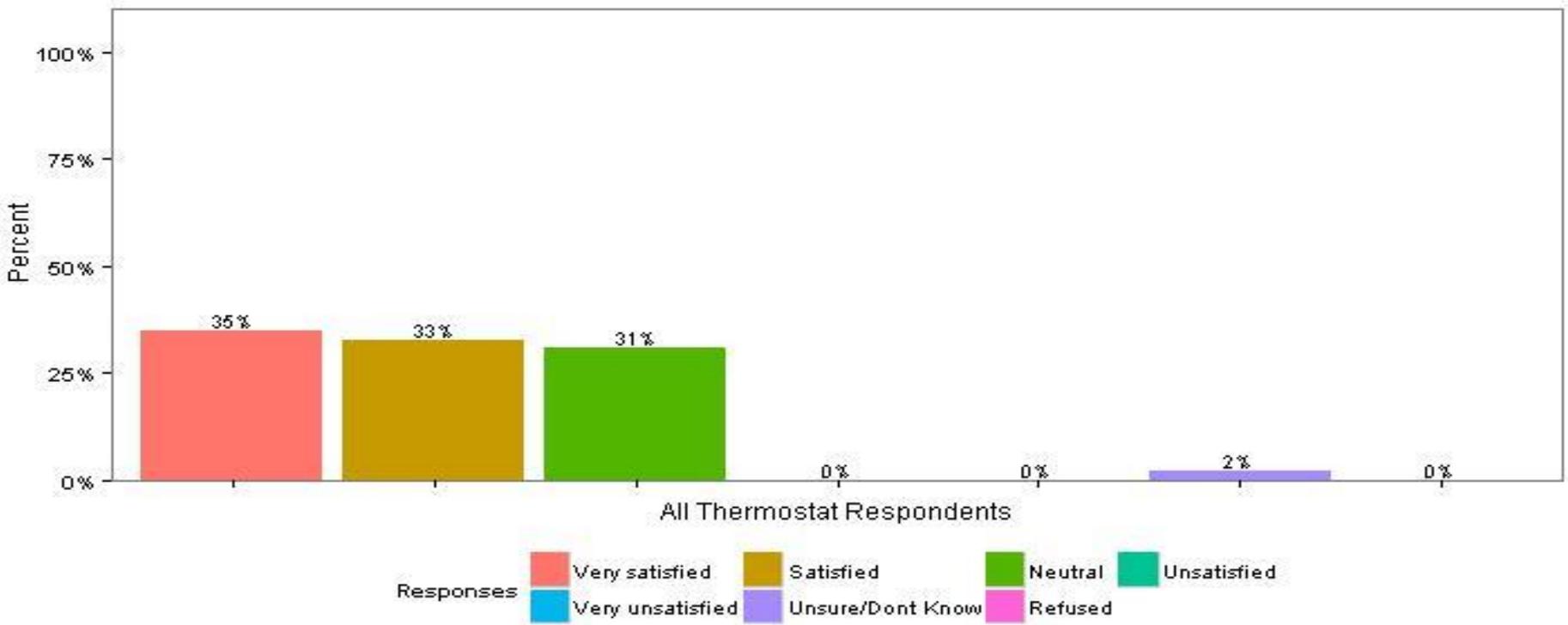
“No other reason.” – 6 respondents



19. How satisfied were you with the performance of the Smart Thermostat during the Peak Event hours?

Peak Event hours?

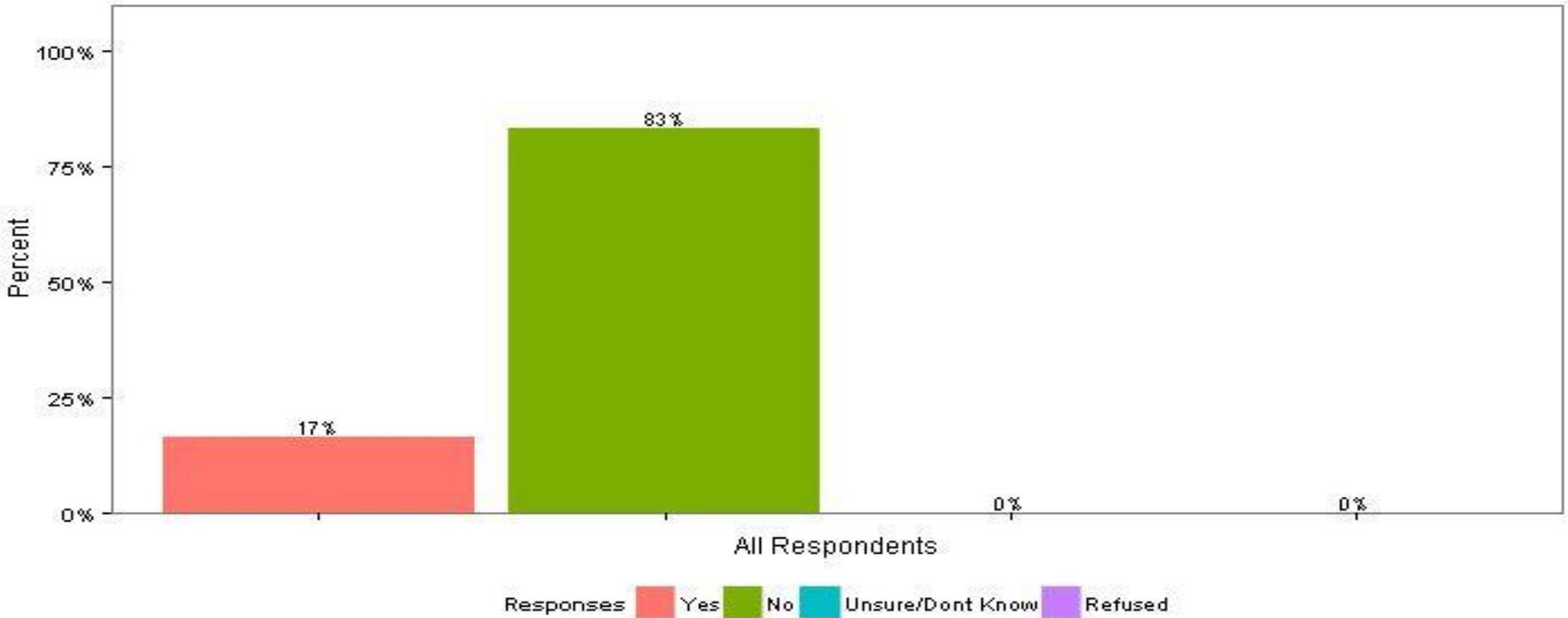
All Thermostat Respondents: N= 49



21. According to our records you received a Smart Plug that you could use to remotely control lights or other small appliances in your home. Is that correct?

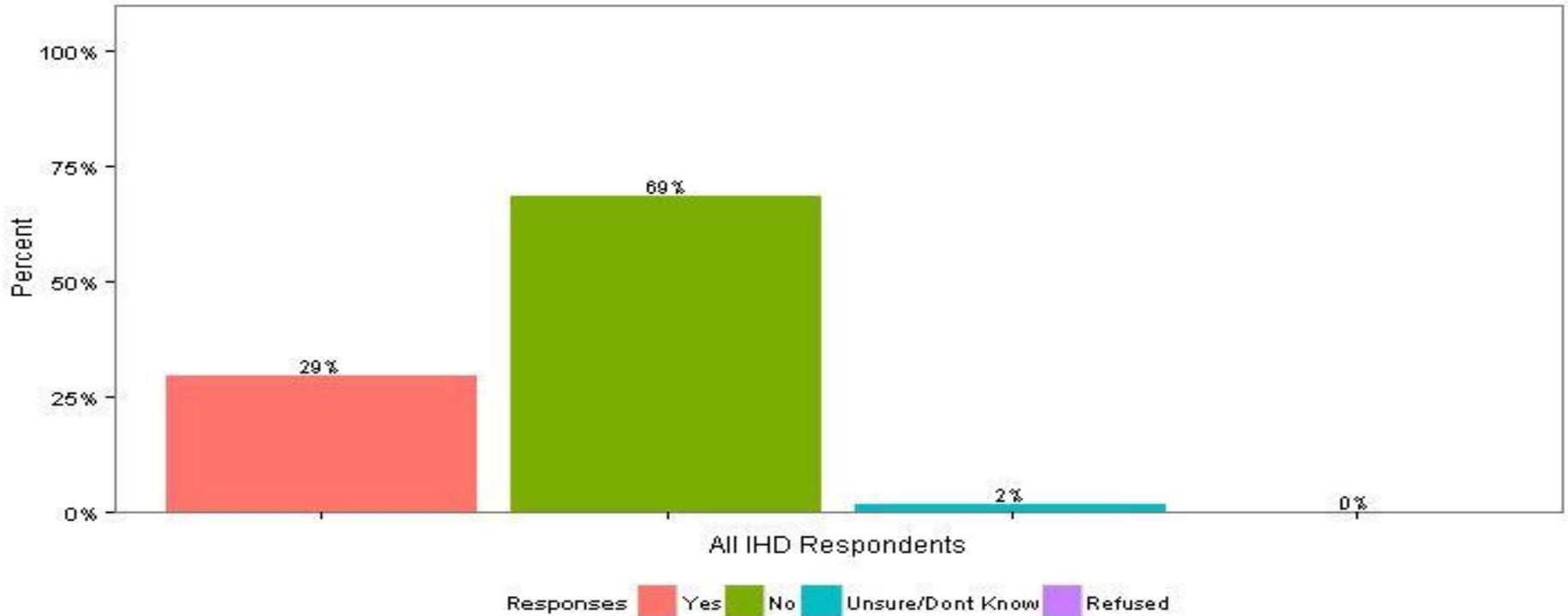


All Respondents: N= 6



27. Did you refer to your Digital Picture Frame at any point during the Peak Event hours to check your electricity consumption?

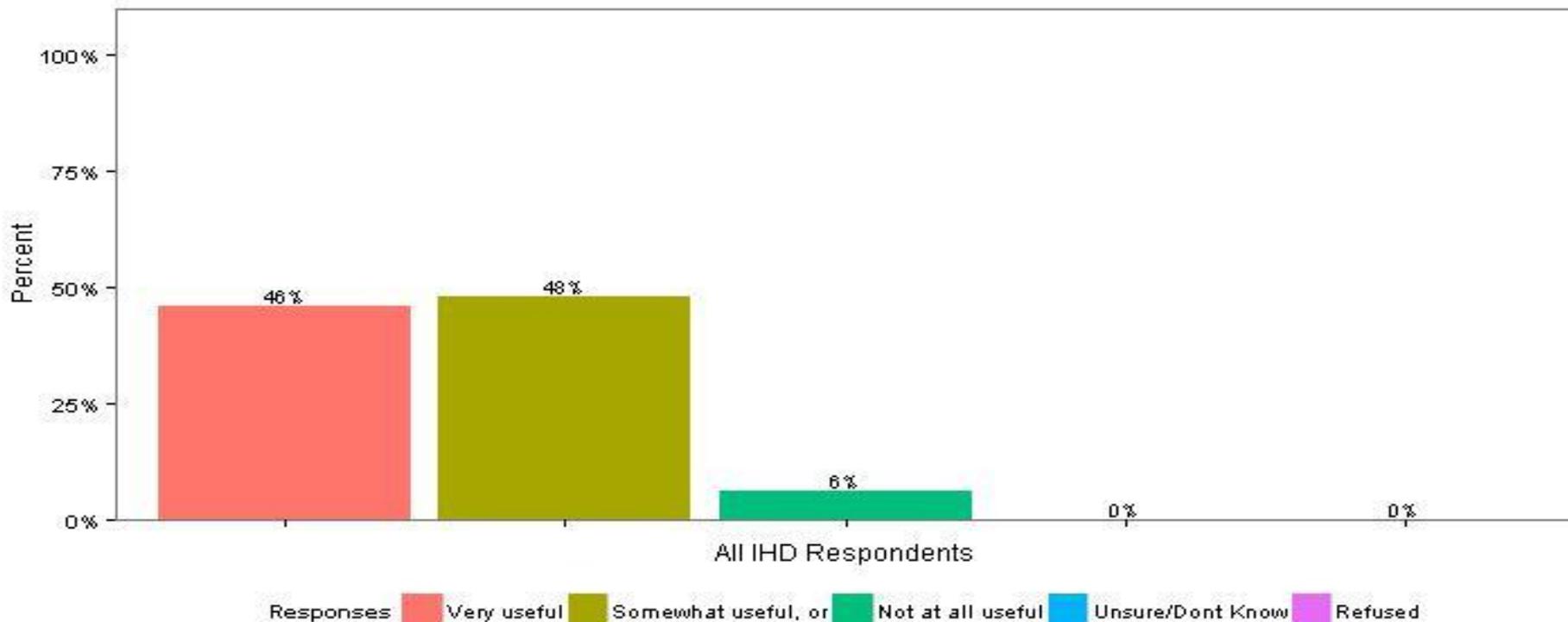
All IHD Respondents: N= 163



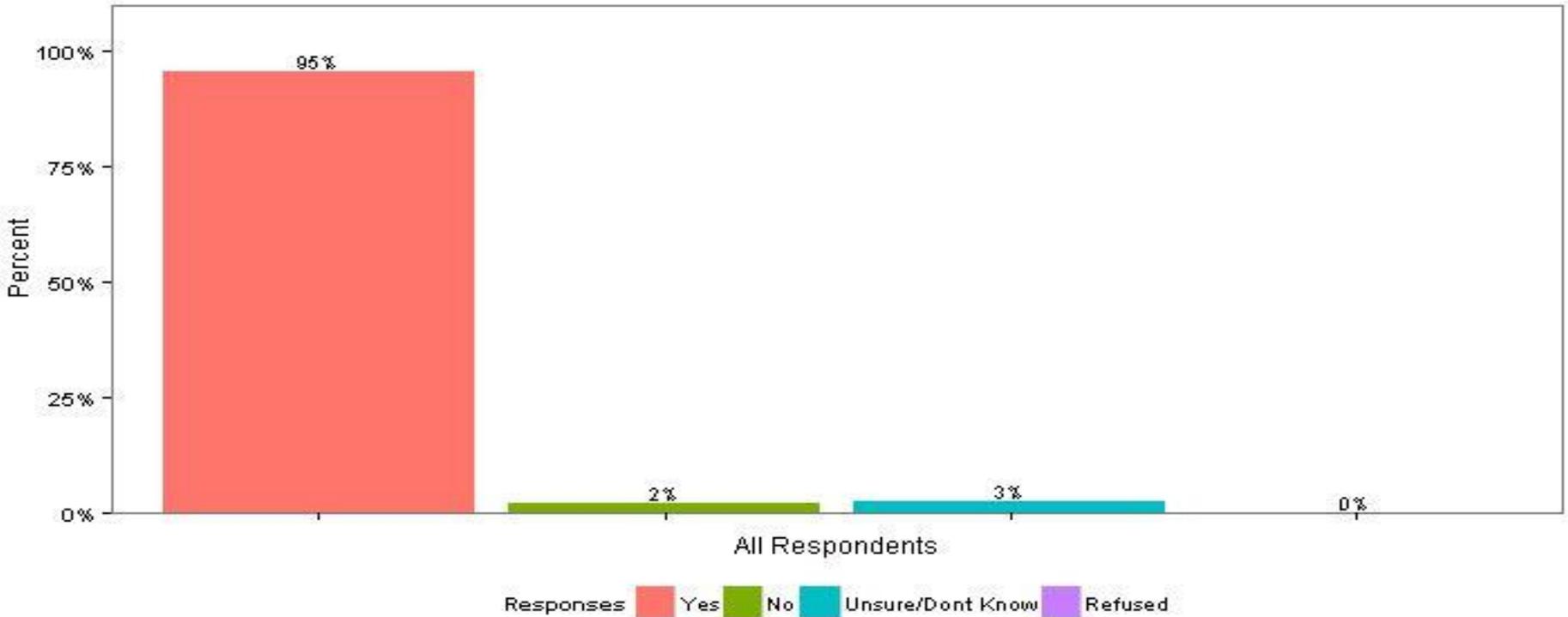


28. How useful was the Digital Picture Frame in making decisions about how to conserve energy during the Peak Event hours? Would you say it was...

All IHD Respondents: N= 48



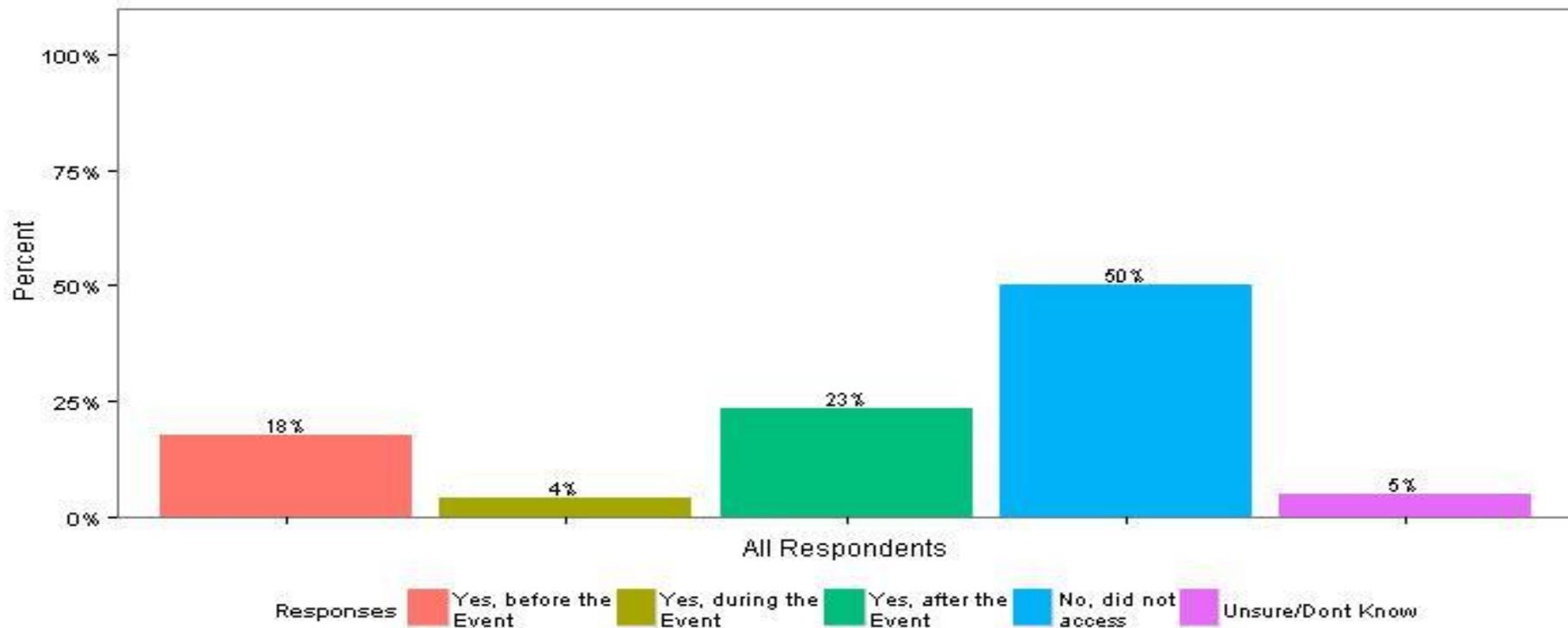
30. According to our records, you have an online account for National Grid's WorcesterSmart Customer Portal, is that correct? All Respondents: N= 261



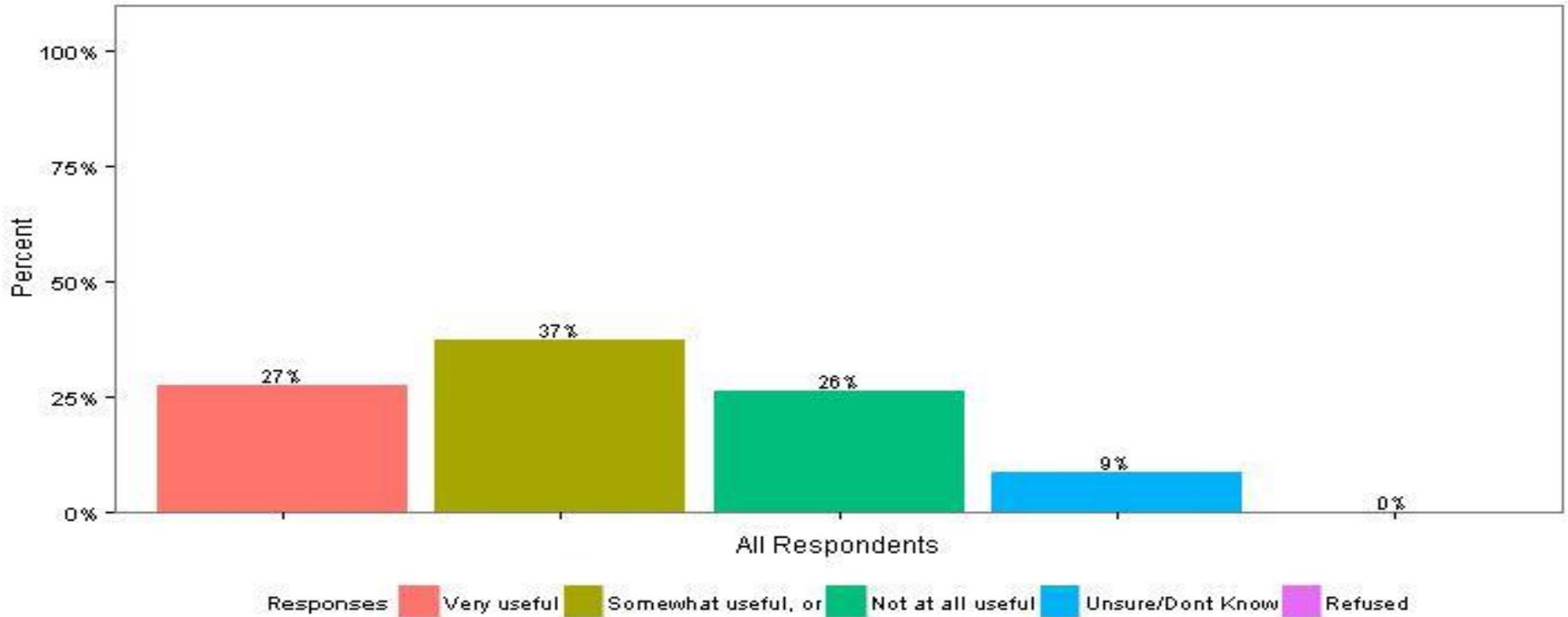


31a. Did you access the WorcesterSmart Customer Portal before, during or after the Peak Event hours?

All Respondents: N= 245



32a. How useful was your Worcester Smart Customer Portal account in making decisions about how to conserve energy during the Peak Event hours? All Respondents: N= 91





33a. Why do you say that the Worcester Smart Customer Portal account was **not useful at all** in making decisions about how to conserve energy during the Peak Event hours?

Verbatim responses, N=23:

“User interface was kind of bland.”

“My household usage compared to similar households is frustrating. We consider ourselves very conservative, but the system does not.”

“Again, it doesn't display information in real time, and doesn't show how my usage impacted rates.”

“Because it doesn't show like what the up and down rate is. You know for the whole day. It doesn't show if I were to use the washing machine. It doesn't show a jump or the day usage.”

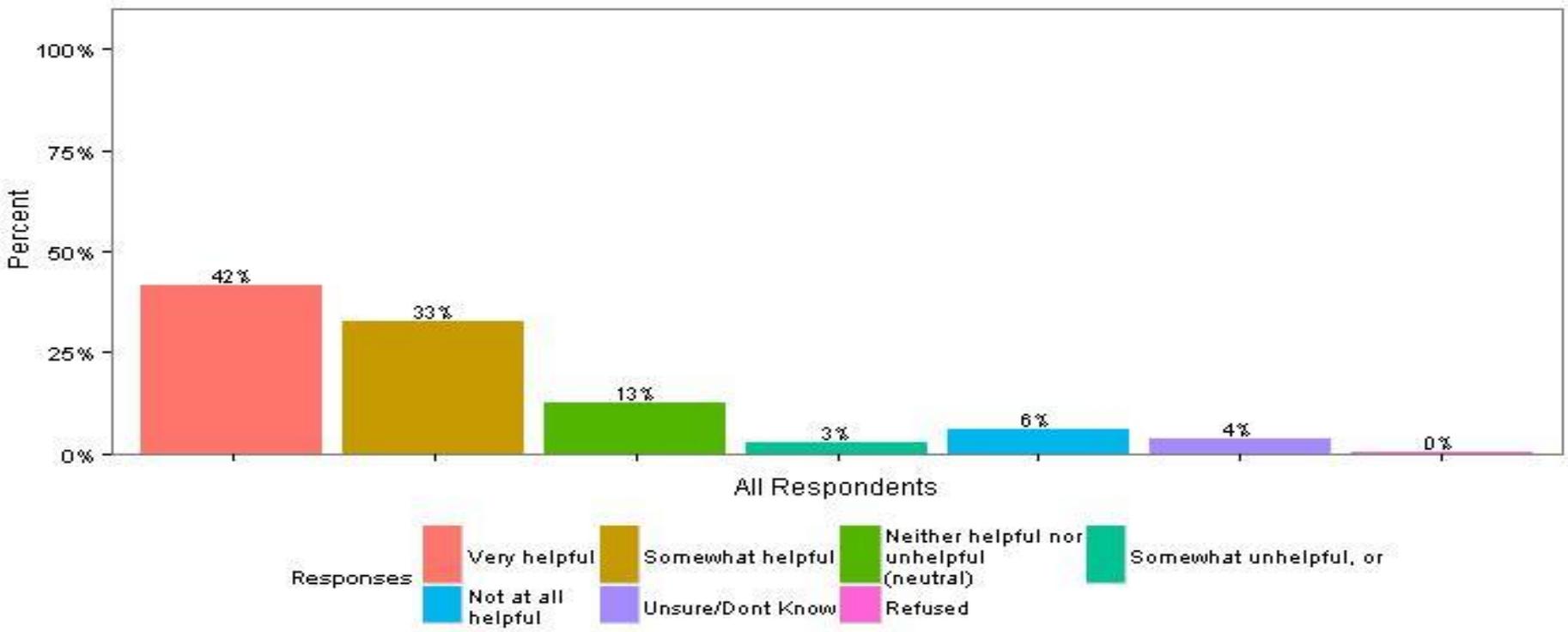
“I could not tell if I had in fact conserved any energy. The information was almost gobbledygook. Seemed to be in hieroglyphics. It was not in English.”

“I did what I could and only saved 2%.”

34A. How helpful was the information that you received from National Grid about the Conservation Day and steps you could take to reduce electricity use during the Peak Even hours?

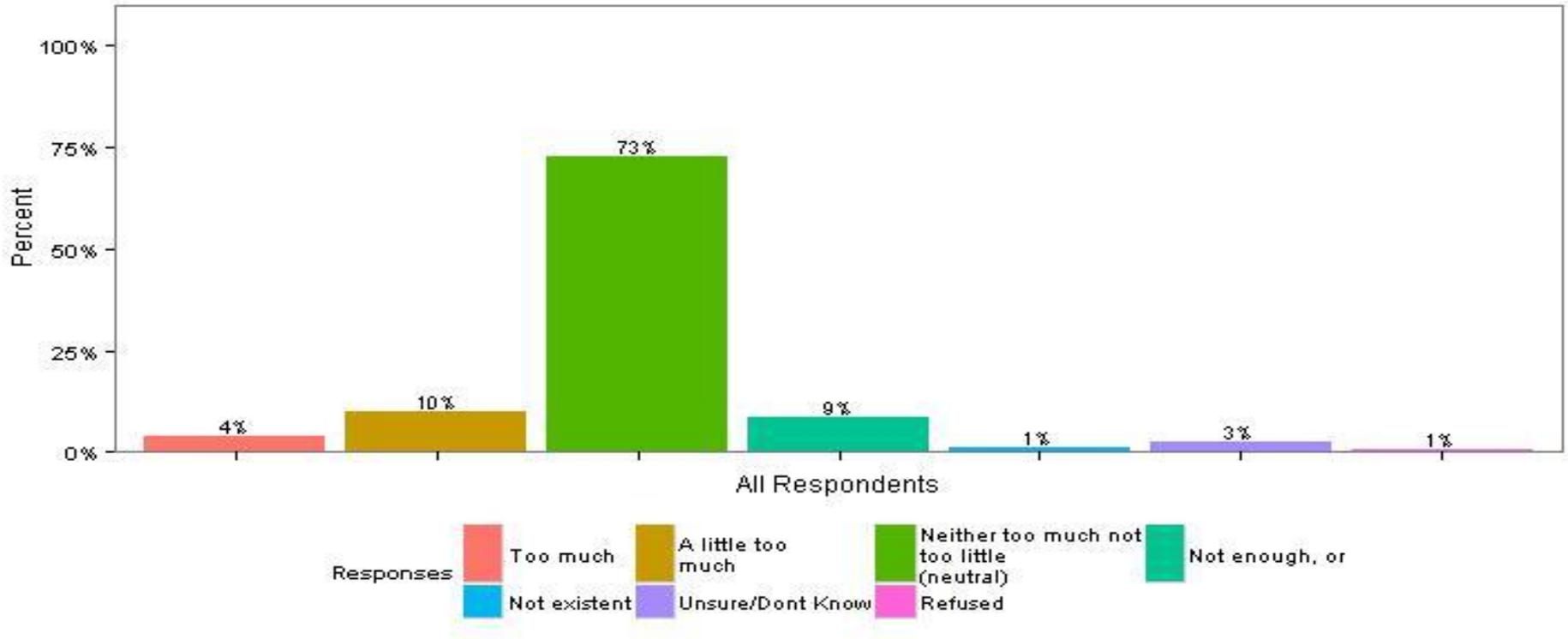


All Respondents: N= 450



35A. How do you feel about the amount of information that you received from National Grid about the Conservation Day?

All Respondents: N= 450





36a. What additional or different information provided by National Grid would make it easier for you to save electricity as a participant in the Smart Energy Solutions program?

Verbatim responses, N=450 (includes “don’t know” variations):

“Looking at combinations with solar energy.”

– several respondents were interested in solar options

“Publish a list of the most/least power using household utilities.”

“A breakdown of our energy usage during peak periods.”

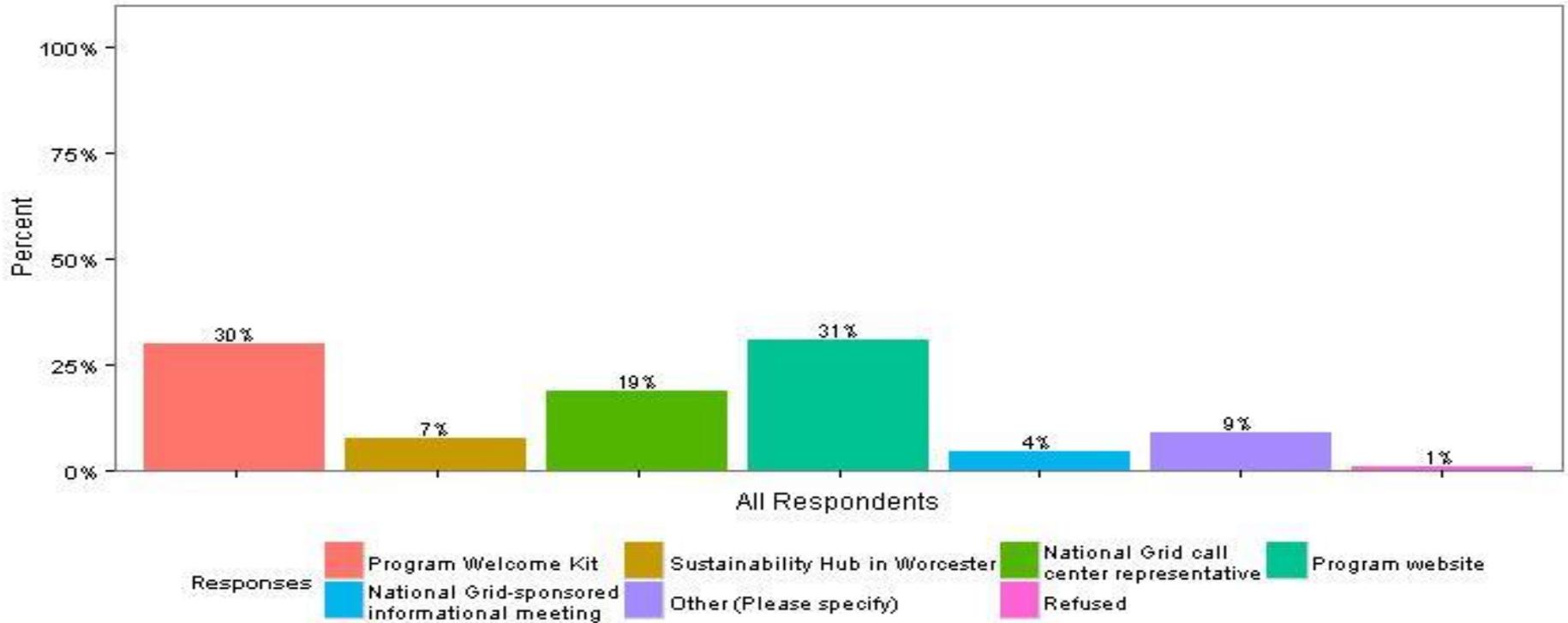
“A little more notice instead of a day maybe 2 or 3 days before.”

“You really need to give more than one day's notice. It would be easier to participate in this if we had more time to react.”

“An additional, more advanced, notice would be nice. That way, I can plan better for the conservation day.”

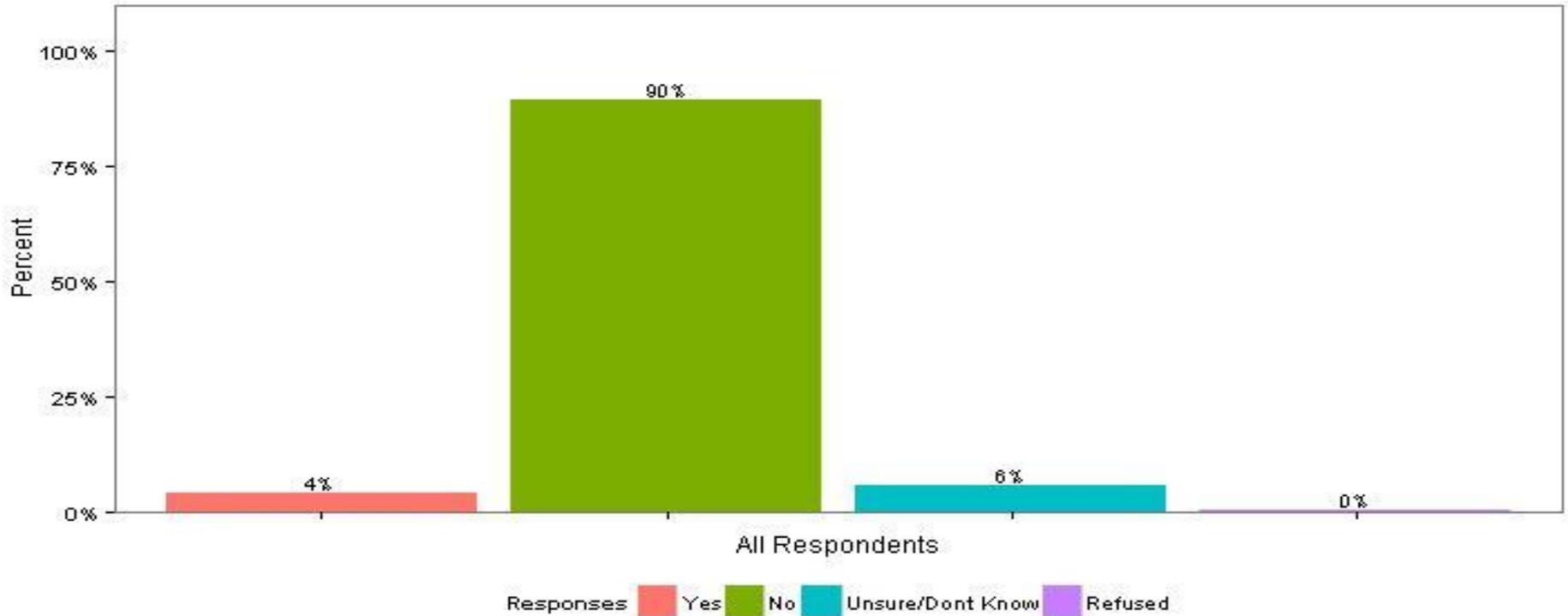
-- many respondents discussed earlier notice

37a. What sources of information were most useful to you in learning about Conservation Days? All Respondents: N= 461



38a. During the Conservation Day, did you have a problem with any of the equipment National Grid installed in your home?

All Respondents: N= 210





Q39A. During the Conservation Day, did you have a problem with any of the equipment National Grid installed in your home? Please describe the problem you had.

Out of nine respondents, five had issues with their digital picture frame.



Q39B. Is there anything specific that the Smart Energy Solutions program could be doing better or differently to improve the experience for you?

Verbatim responses, N= 450 (includes “don’t know” variations):

“Between 2pm and 6pm with kids is kind of tough; a different time would be better.”

– Several people had responses like this which indicate that they don’t understand the program. Other responses explicitly said they didn’t understand the purpose of the program.

:

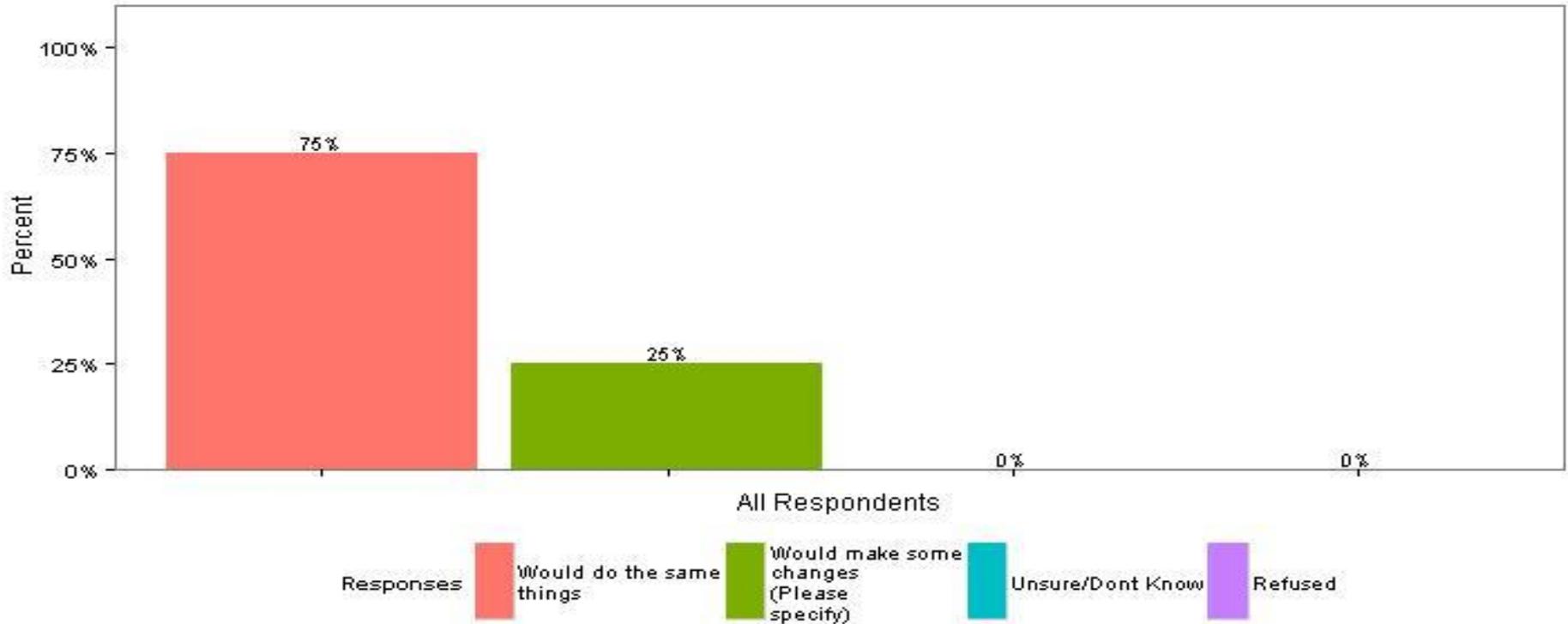
“Give more notice for conservation days. It would be nice to have the schedule for the year up front. At least the schedule for the month up front would be nice. One day of notice does not cut it.– many respondents wanted more time. Responses like these indicate not understanding the program.”

“More personalized information. I often get letters saying that I use more energy than similar neighbors, but can’t seem to fix it. The things suggested are things I have already done (upgraded heater, programmable thermostats, using energy at night, etc). Need more ideas specific to my house. I had an assessment and they didn’t offer any doable suggestions, basically just to replace my windows (can’t afford).”

“Is there a way to determine what is the greatest source of energy usage? For example, a specific appliance or another source.”

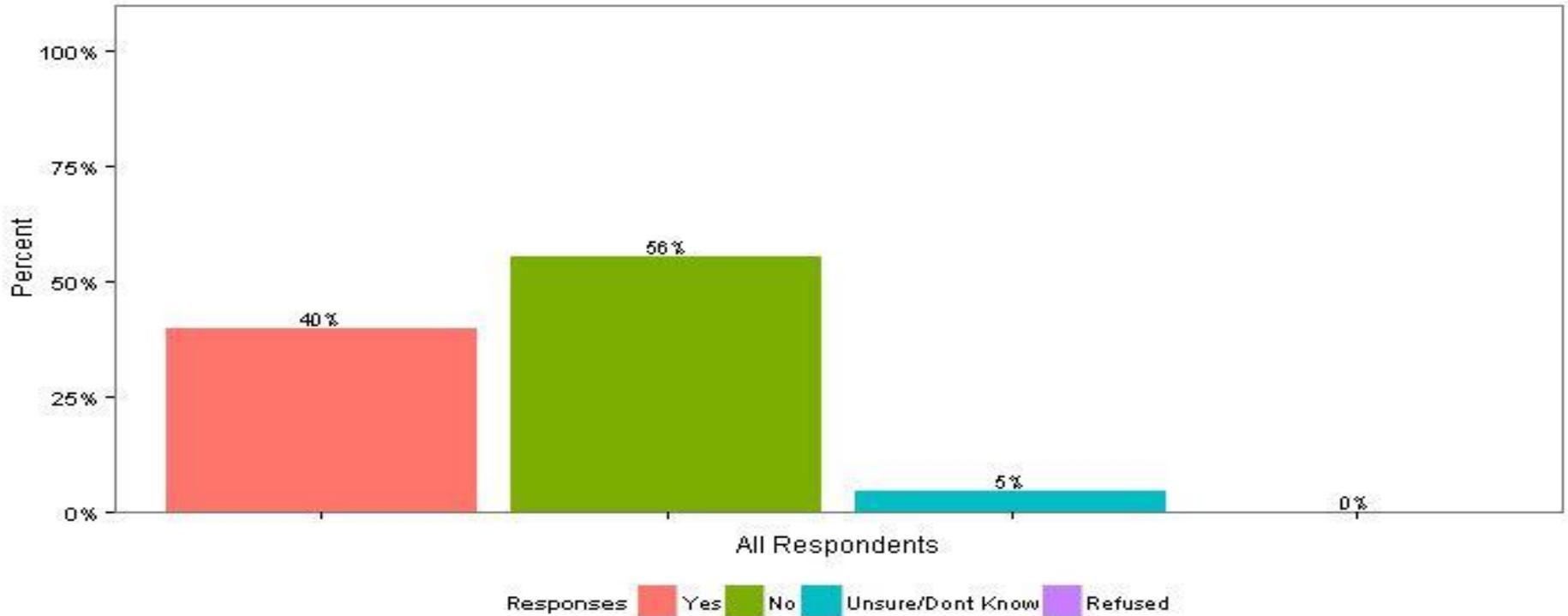
39c. Based on your experience to date, how do you think you will respond to future Conservation Days in this program?

All Respondents: N= 432



39d. Would you like to receive any additional information about the Smart Energy Solutions program or Conservation Days?

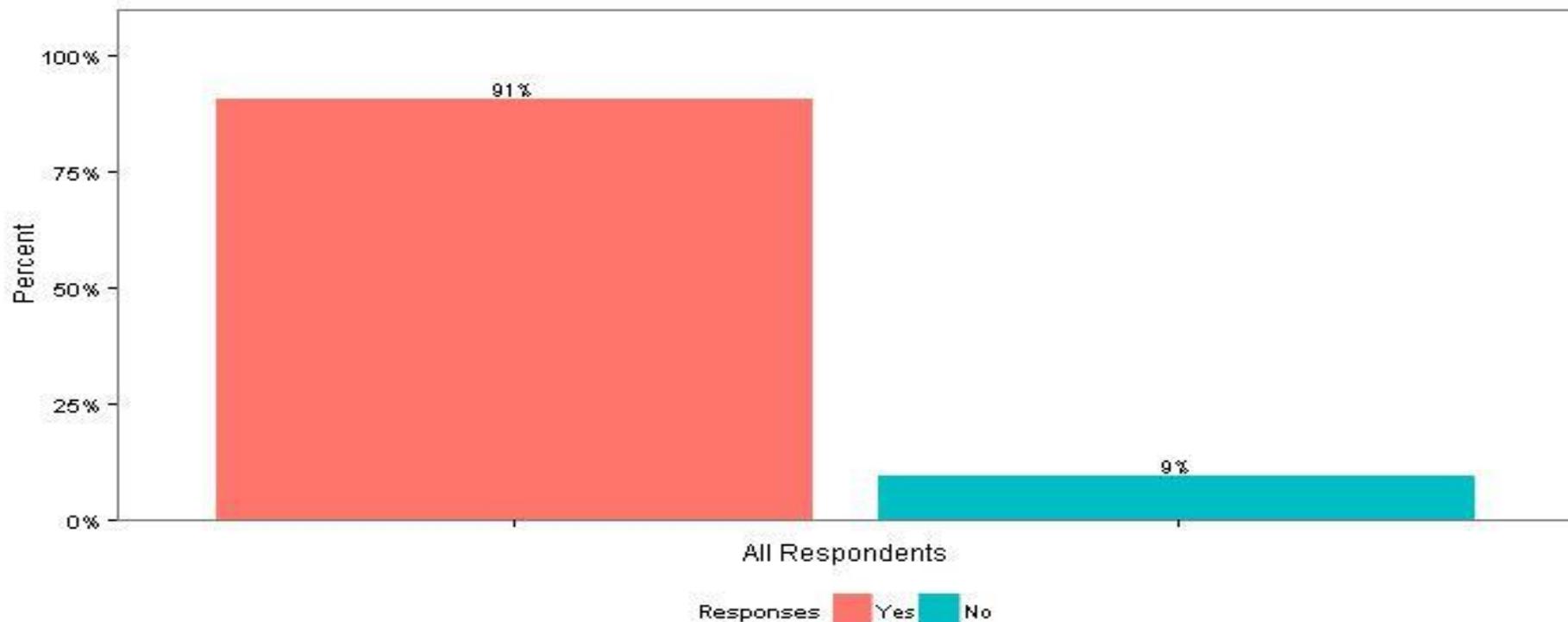
All Respondents: N= 527





39f. May we contact you up to two more times over the course of this year?

All Respondents: N= 527

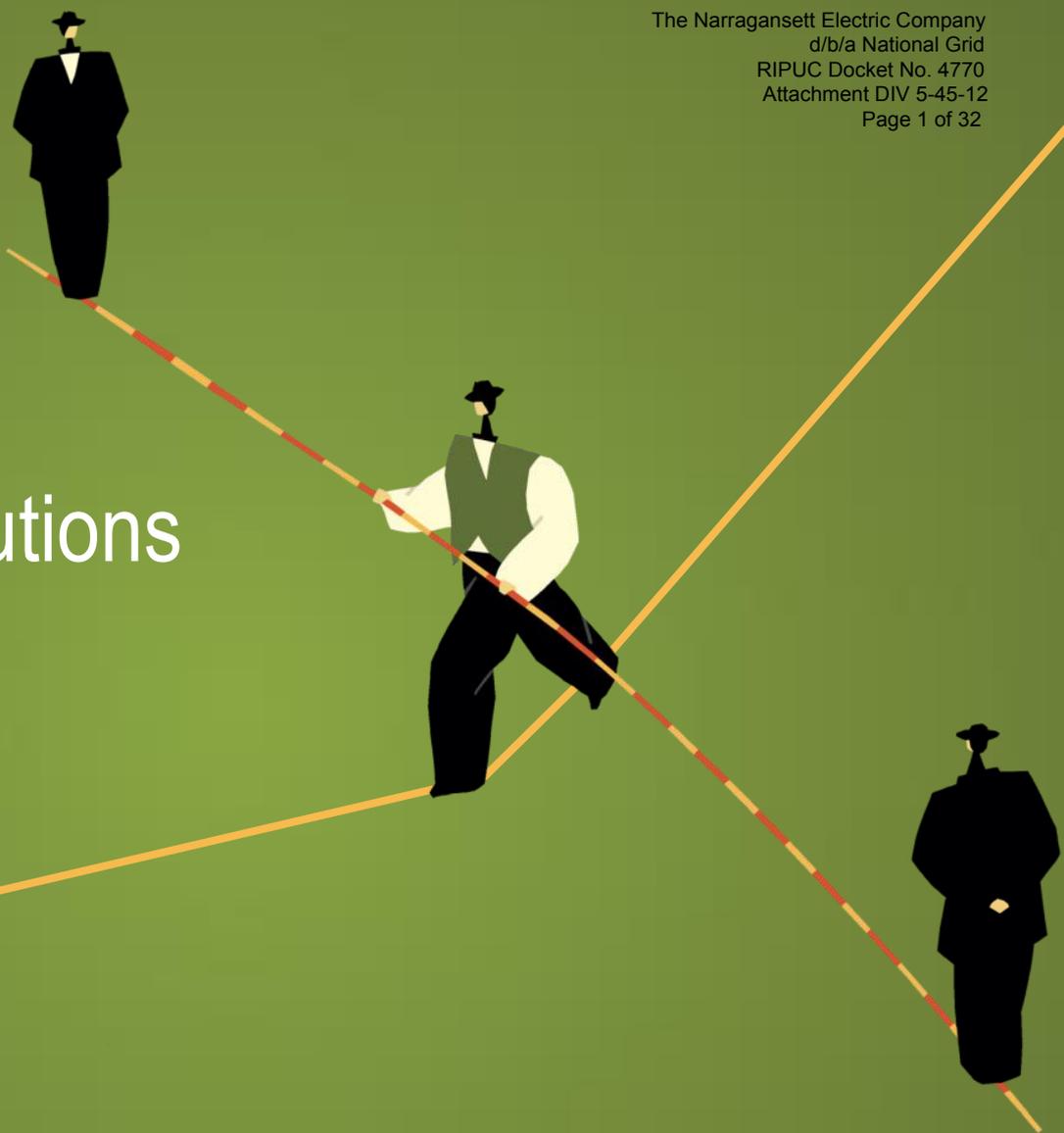


Smart Energy Solutions

Second Post Event Survey:

Final Results

August 11, 2015

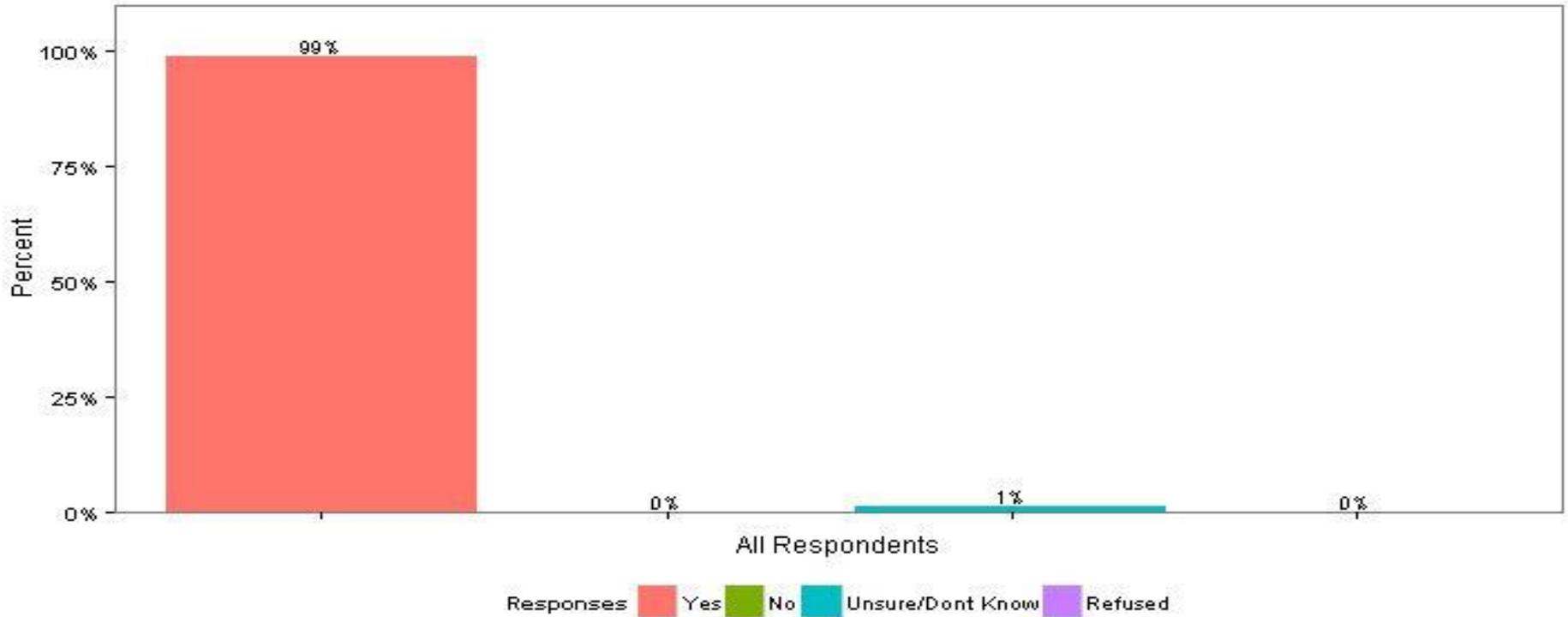




» All Questions_All Responses

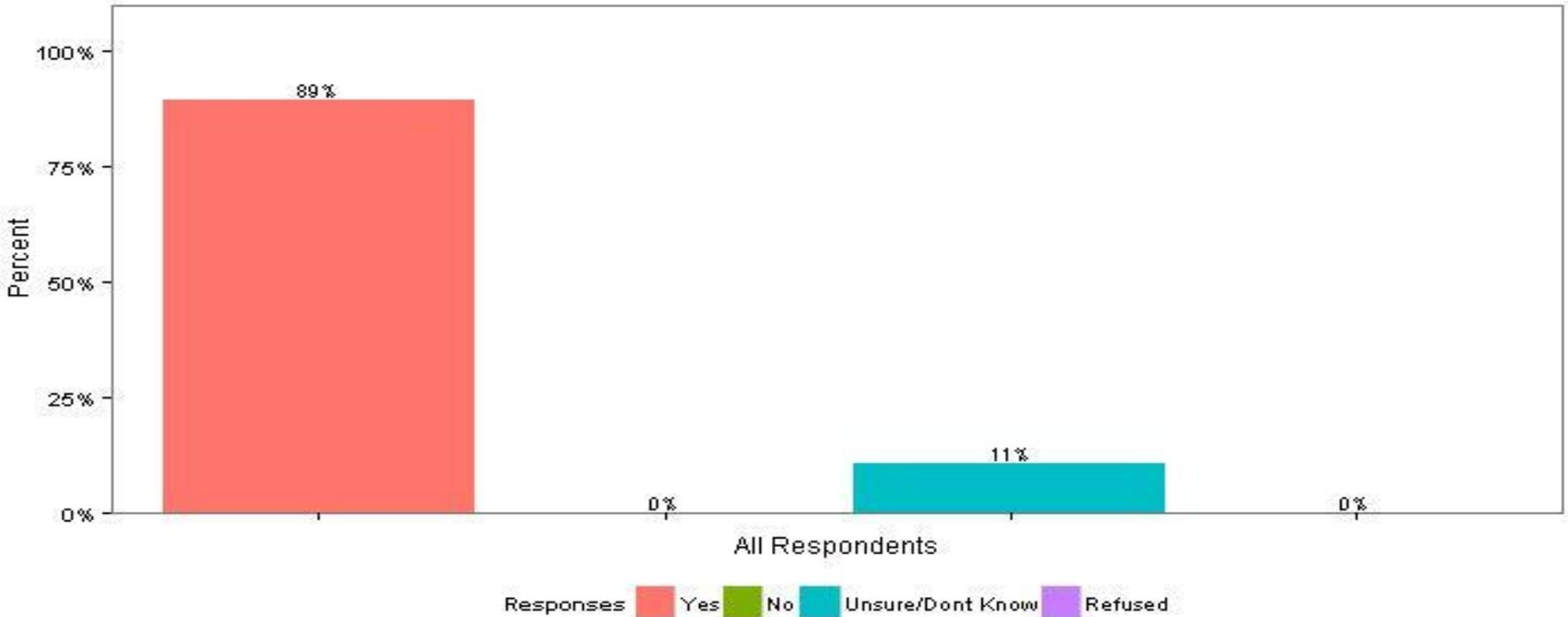
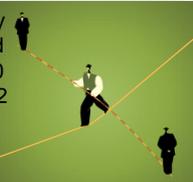
1. According to our records, you are participating in the Smart Energy Solutions program on the Smart Rewards Pricing Plan. Is that correct?

All Respondents: N= 251



2. According to our records, you are participating in the Smart Energy Solutions program on the Conservation Day Rebate plan. Is that correct?

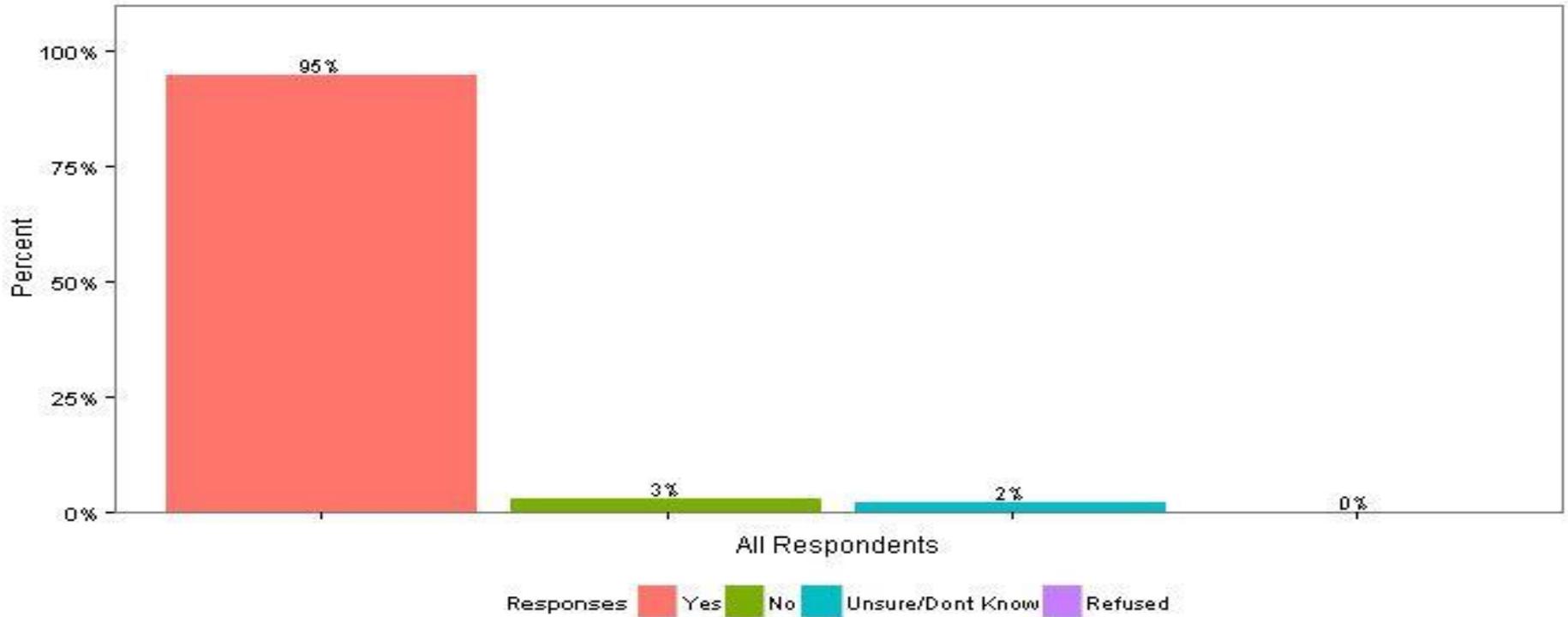
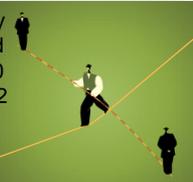
All Respondents: N= 19

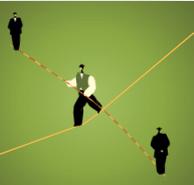


3. Were you aware that a Conservation Day occurred on 7-21-15 with specific Peak

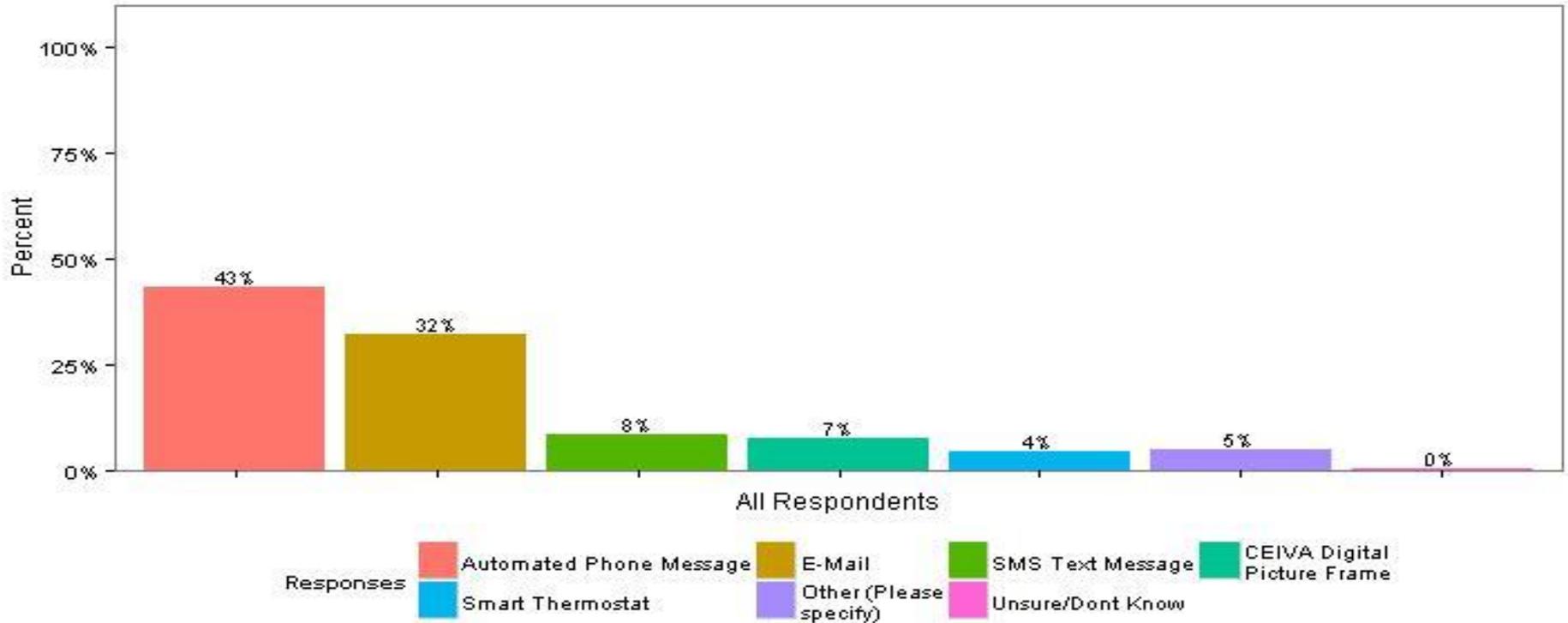
Event hours between 12-8 PM?

All Respondents: N= 270



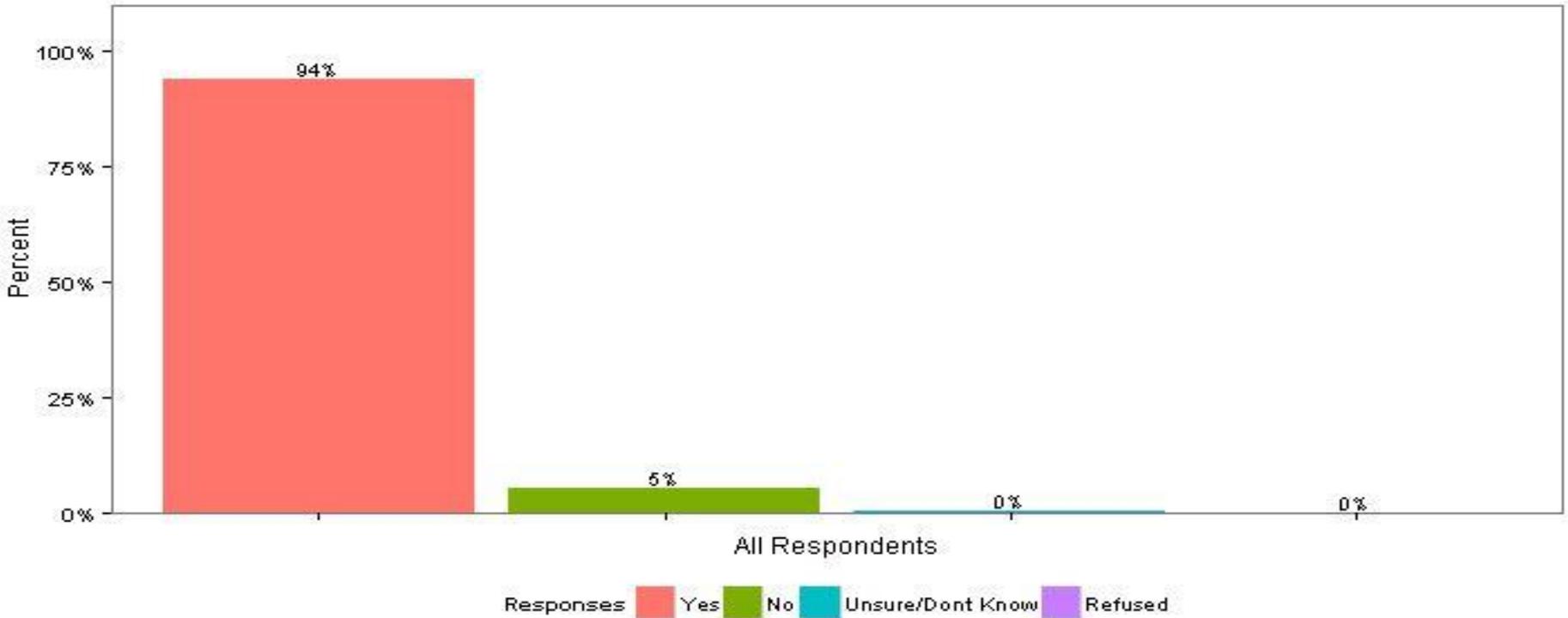


4. How did you become aware that a Conservation Day was going to occur? All Respondents: N= 387



5. Did the notification give you sufficient notice and information about the Conservation Day that was set to occur?

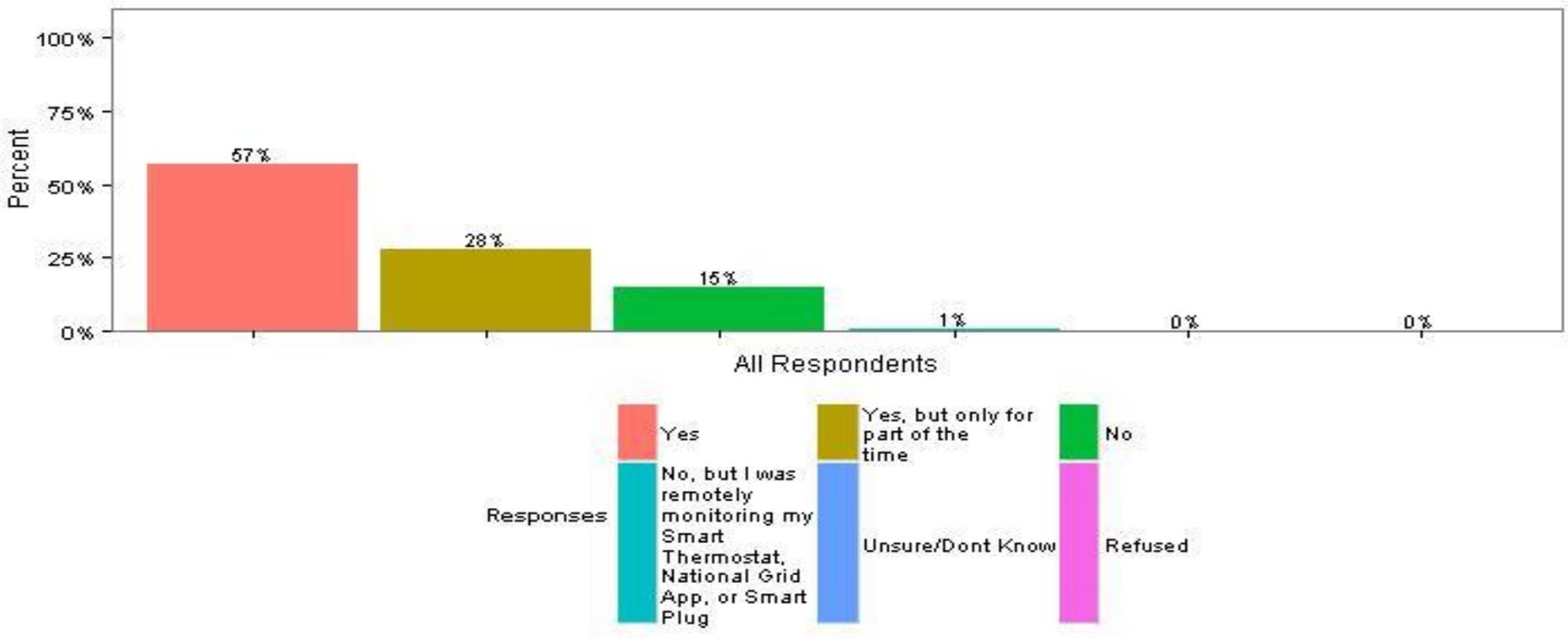
All Respondents: N= 256



6. On Conservation Day (7-21-15) the Peak Event hours occurred between 12-3 PM
 Were you or another family member home during the Peak Event hours that occurred on 7-21-15?

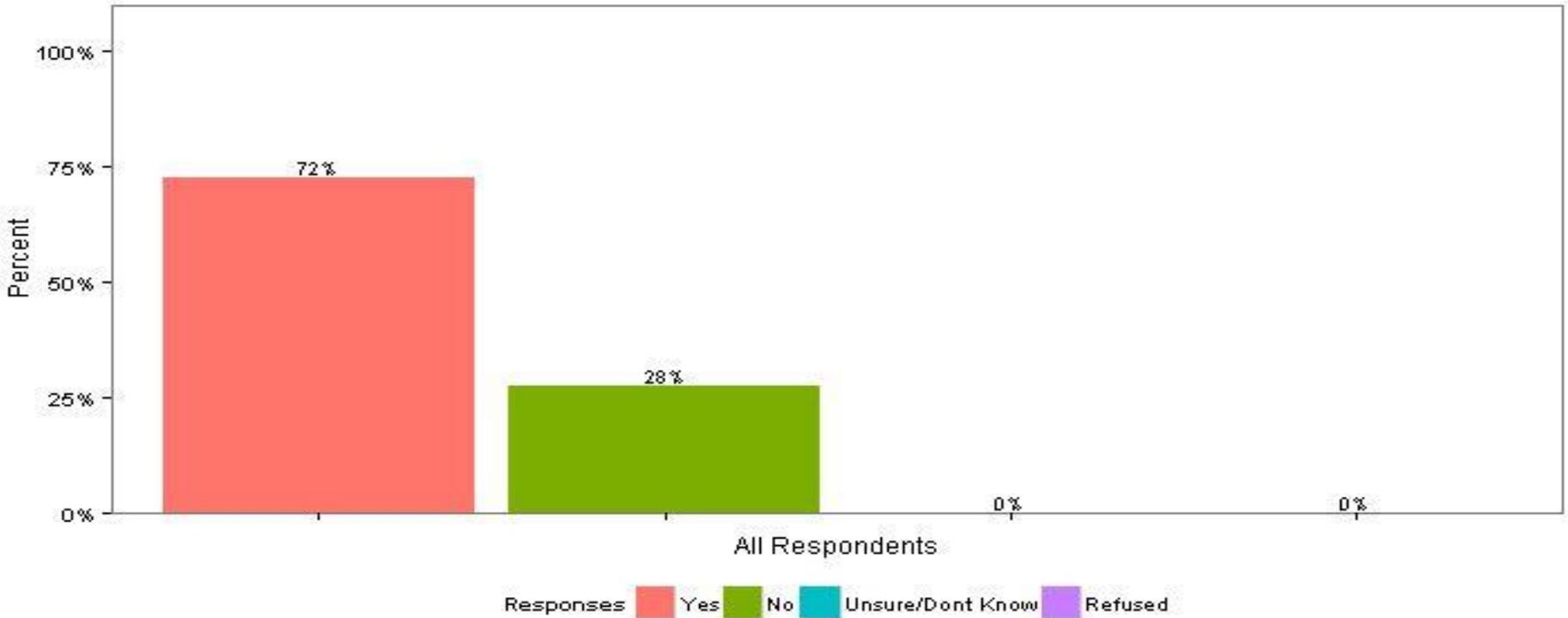


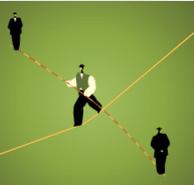
All Respondents: N= 256



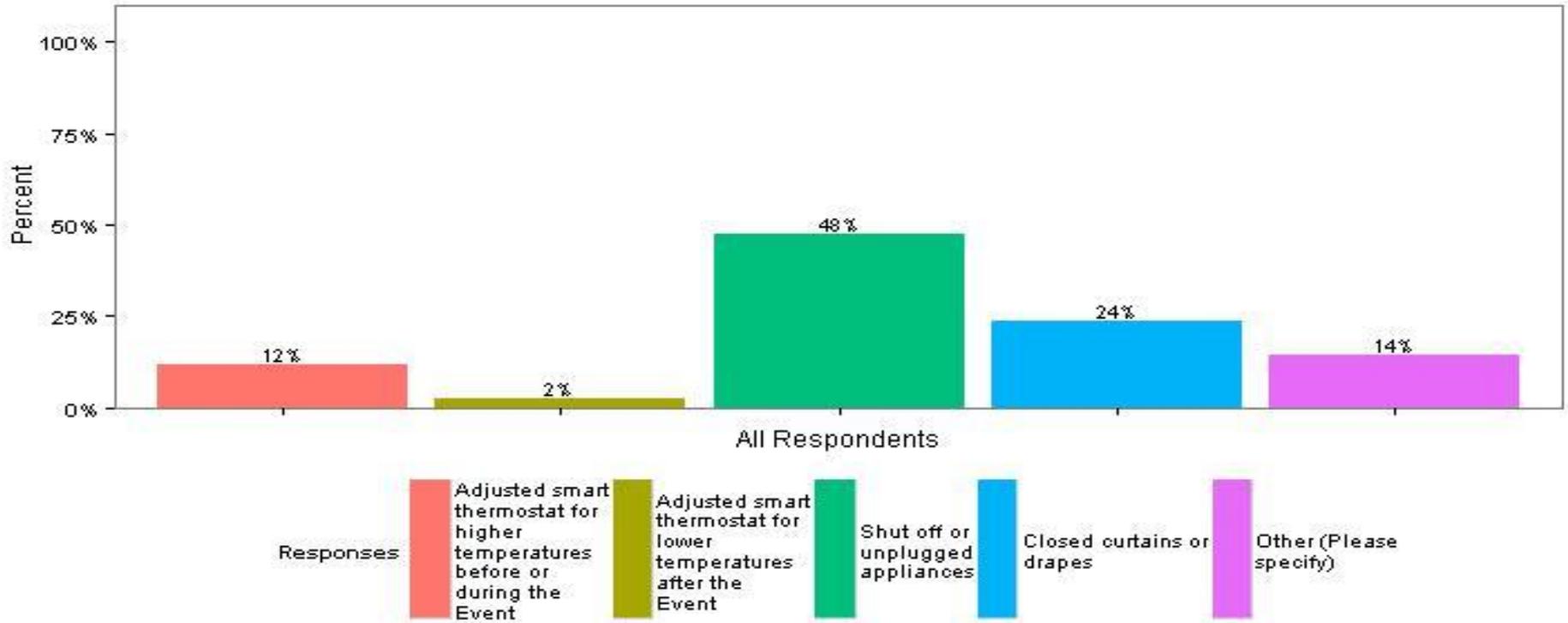
7. Even though you were not home during the Peak Event hours, did you take any actions to decrease your electricity usage during the Peak Event hours?

All Respondents: N= 40



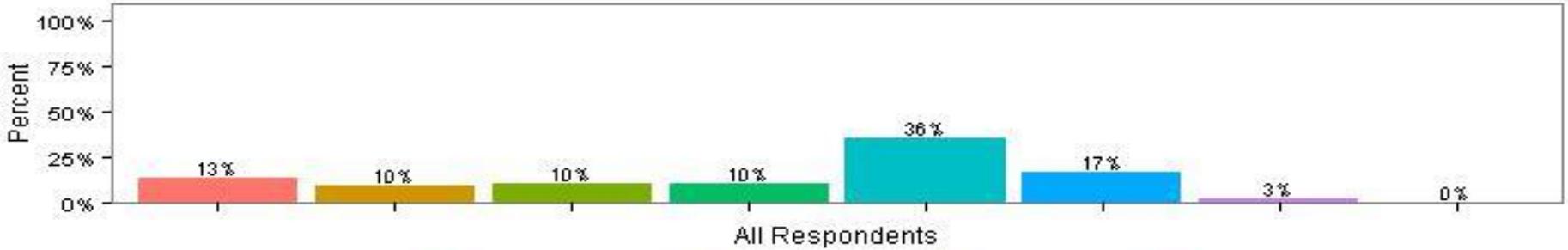


8. What actions did you take? All Respondents: N= 42



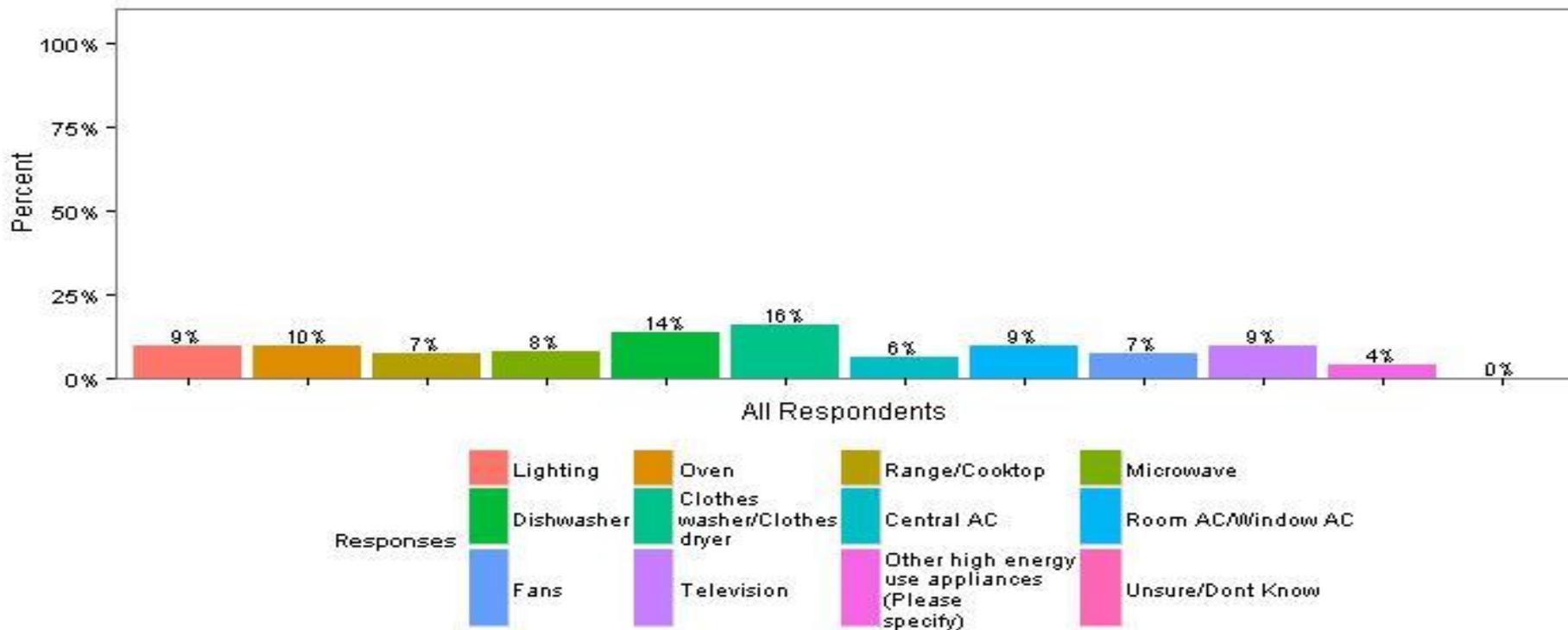
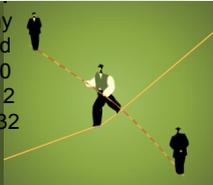
9. What actions, if any, did you take to reduce your electricity use on the Conservation Day?

All Respondents: N= 326



10. What items specifically did you avoid using to save energy during the Conservation Day?

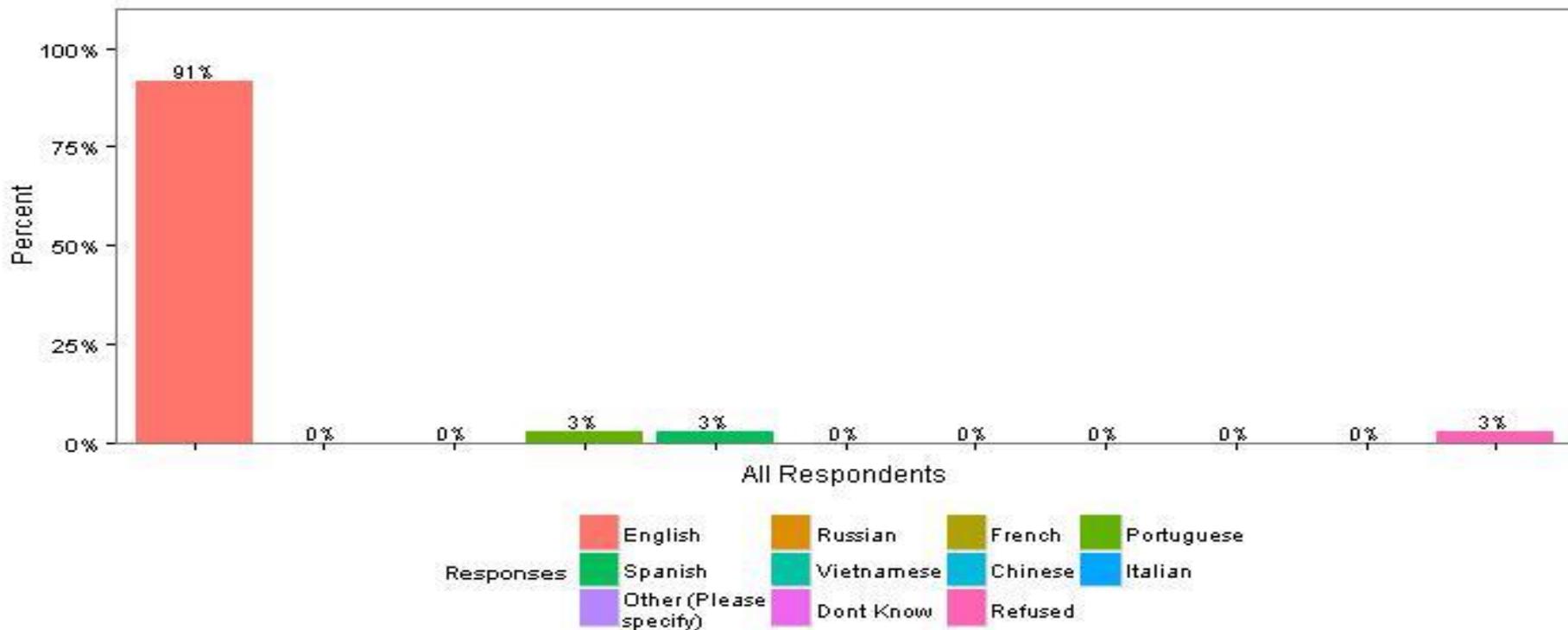
All Respondents: N= 526





11. During which hours did you stop taking these actions?

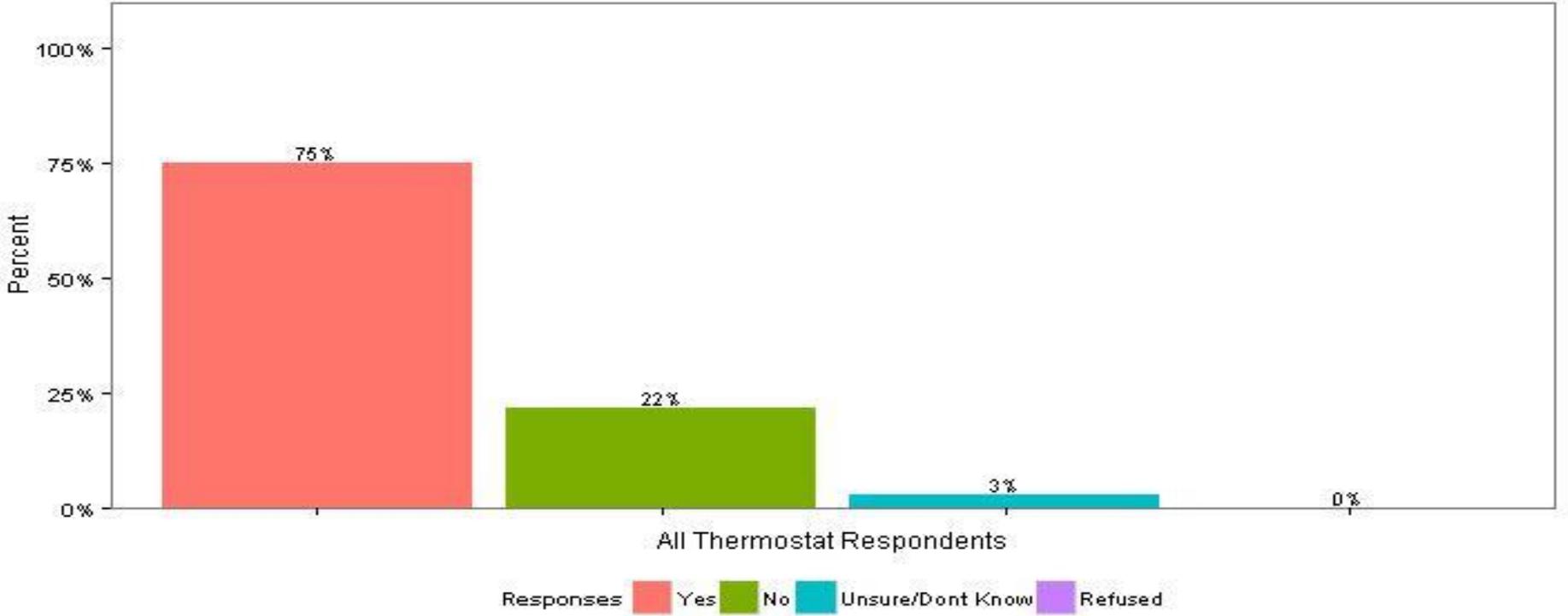
All Respondents: N= 35



12. Did you, or the family member present during the Conservation Day's Peak Event hours, notice a change in temperature in your home on 7-21-15 between the Peak Event hours of 12-8 PM?

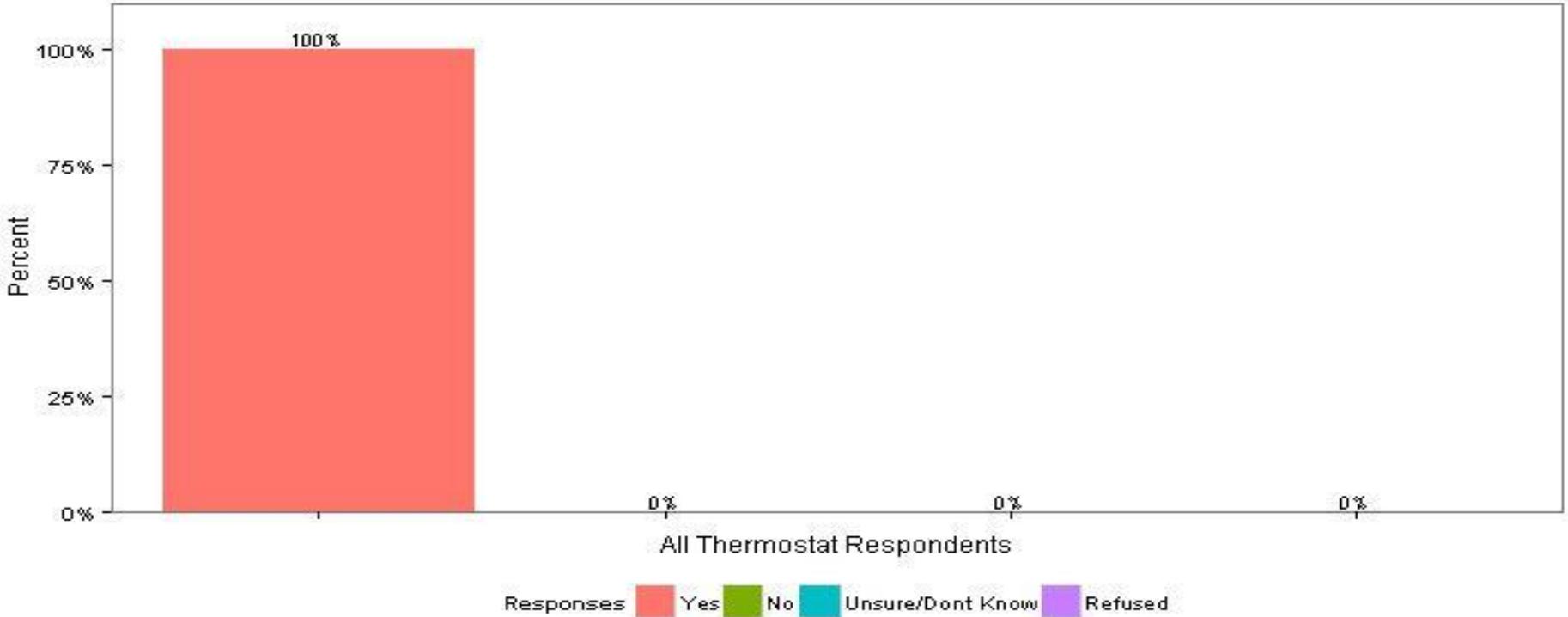


All Thermostat Respondents: N= 32



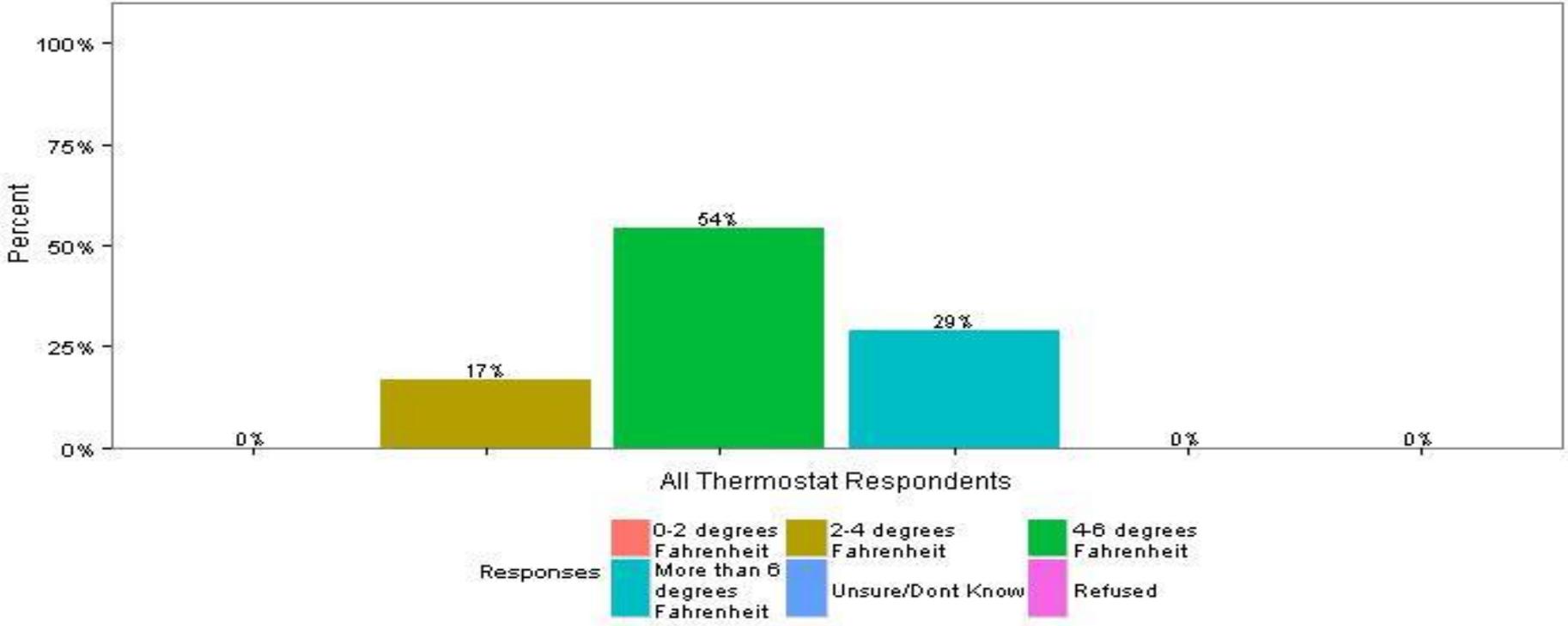
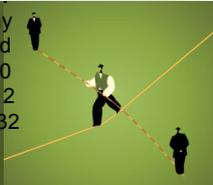
13. Did you observe the actual temperature in your home during the Peak Event hours 12-8PM?

All Thermostat Respondents: N= 24



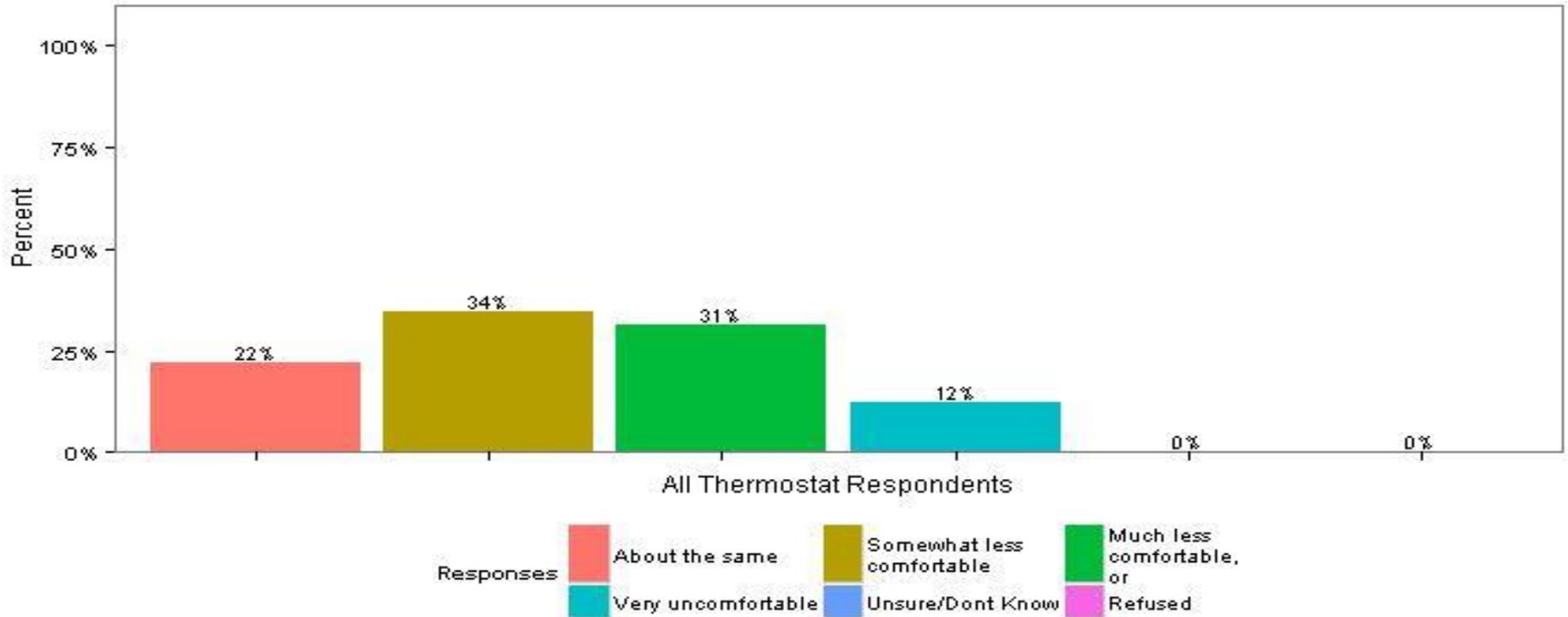
14. Approximately how many degrees did the temperature in your home rise during the Peak Event hours?

All Thermostat Respondents: N= 24

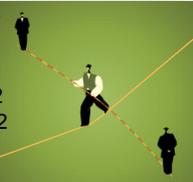


15. During the Event, how would you describe your comfort compared to a typical afternoon with similar outdoor temperatures?

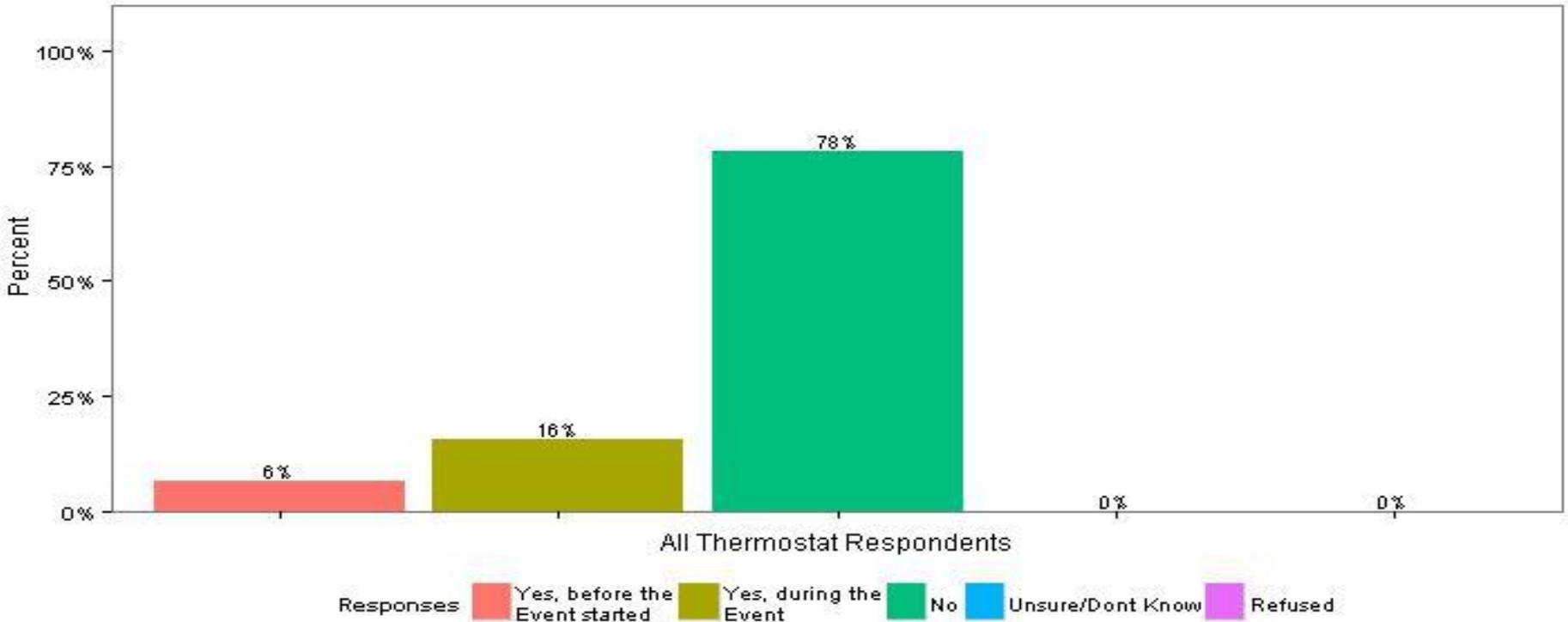
All Thermostat Respondents: N= 32



16. At any point before or during the Peak Event hours, did you press the override button on your thermostat to prevent or stop the program from adjusting your thermostat remotely?

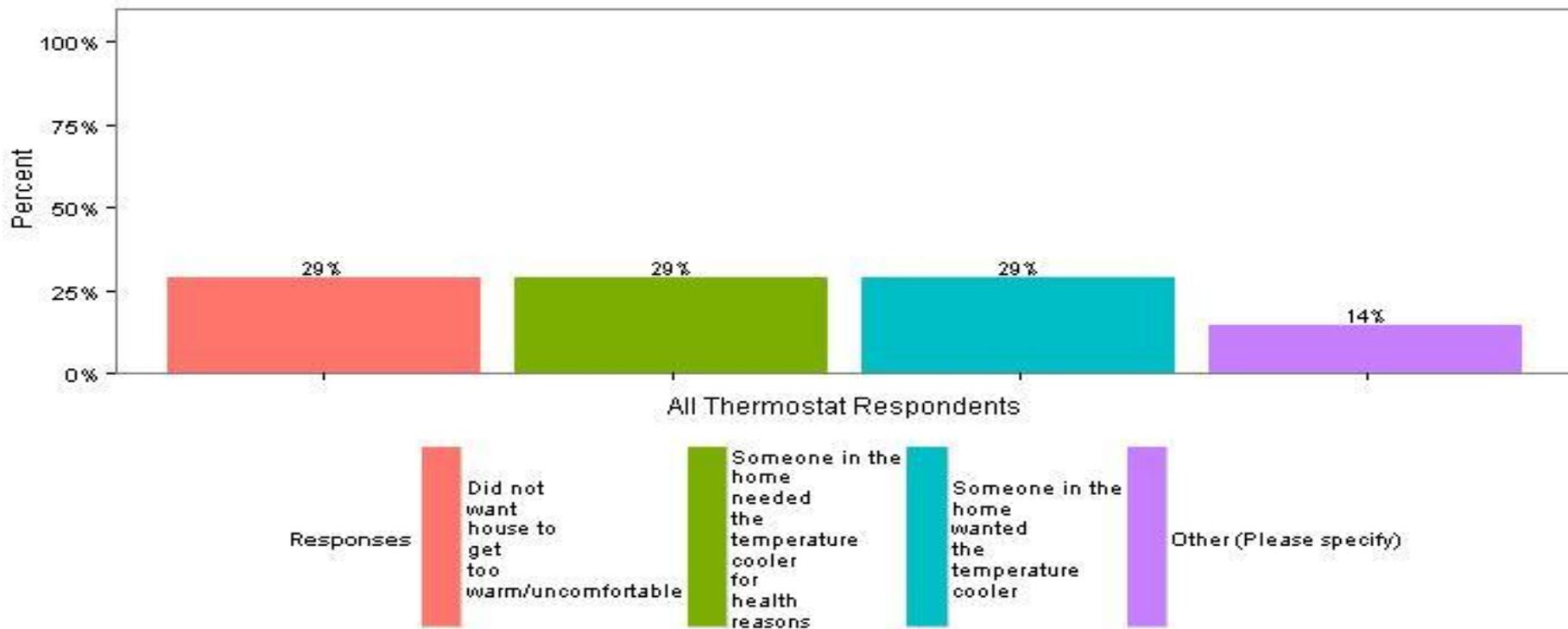


All Thermostat Respondents: N= 32



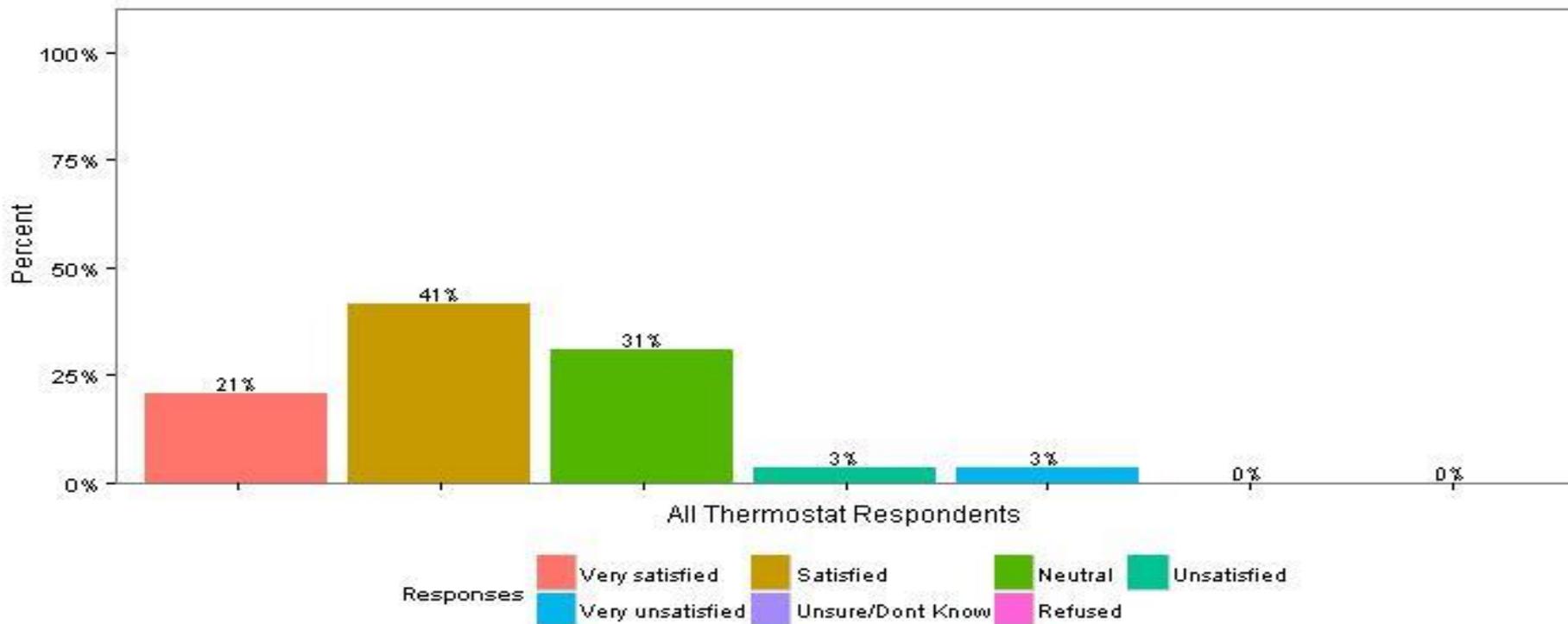


17. Why did you use the override button? All Thermostat Respondents: N= 7

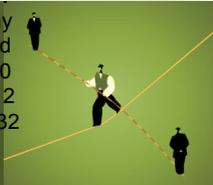


19. How satisfied were you with the performance of the Smart Thermostat during the Peak Event hours?

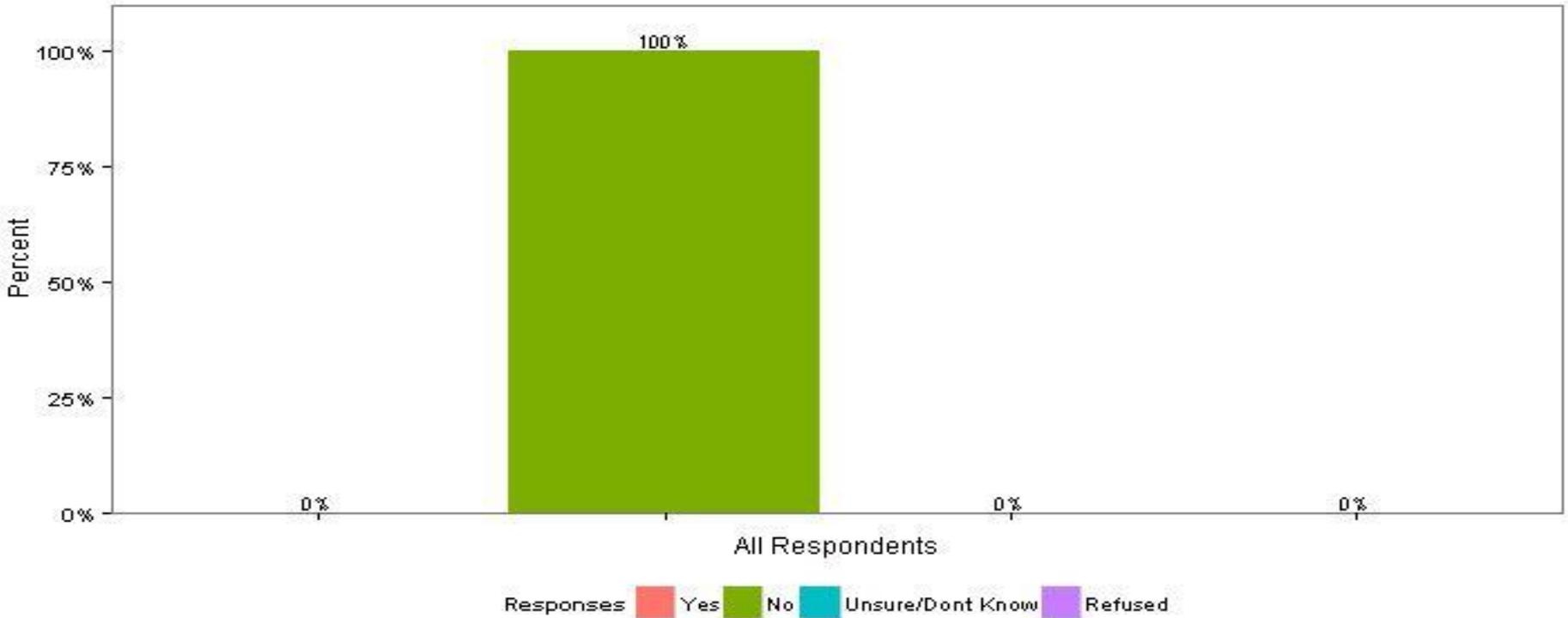
All Thermostat Respondents: N= 29



21. According to our records you received a Smart Plug that you could use to remotely control lights or other small appliances in your home. Is that correct?

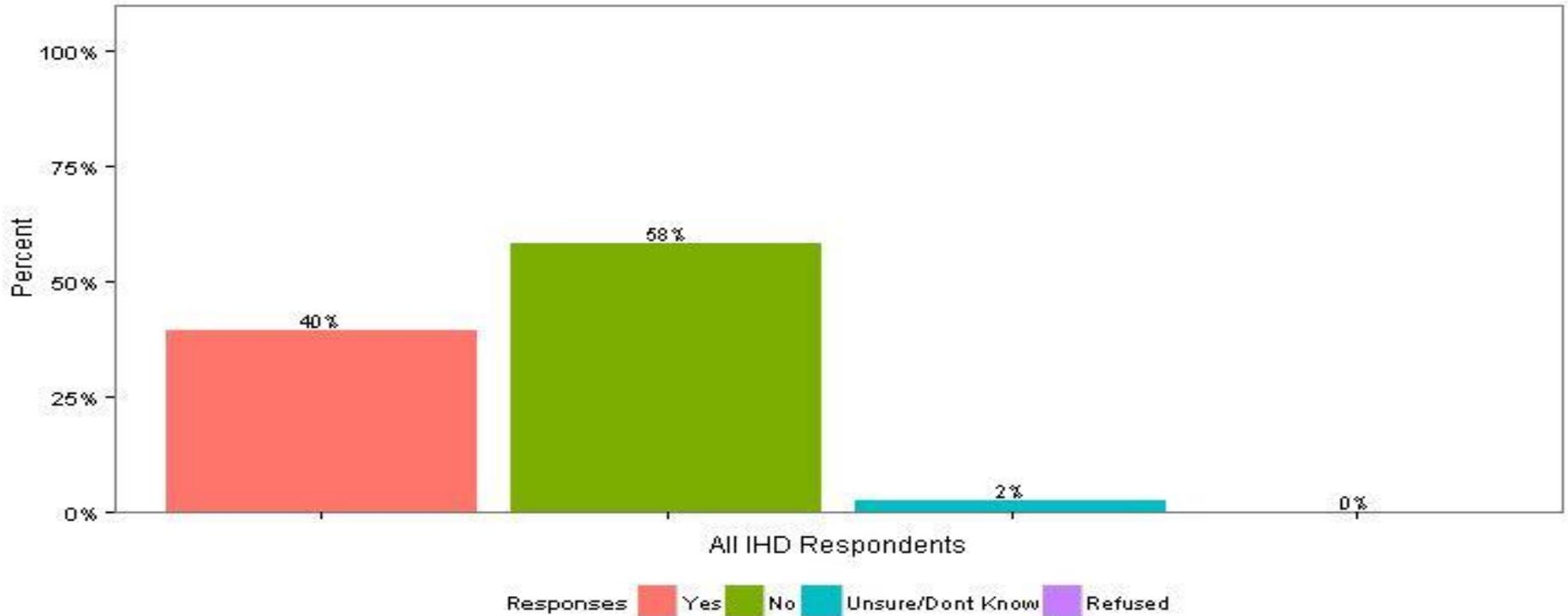


All Respondents: N= 4



27. Did you refer to your Digital Picture Frame at any point during the Peak Event hours to check your electricity consumption?

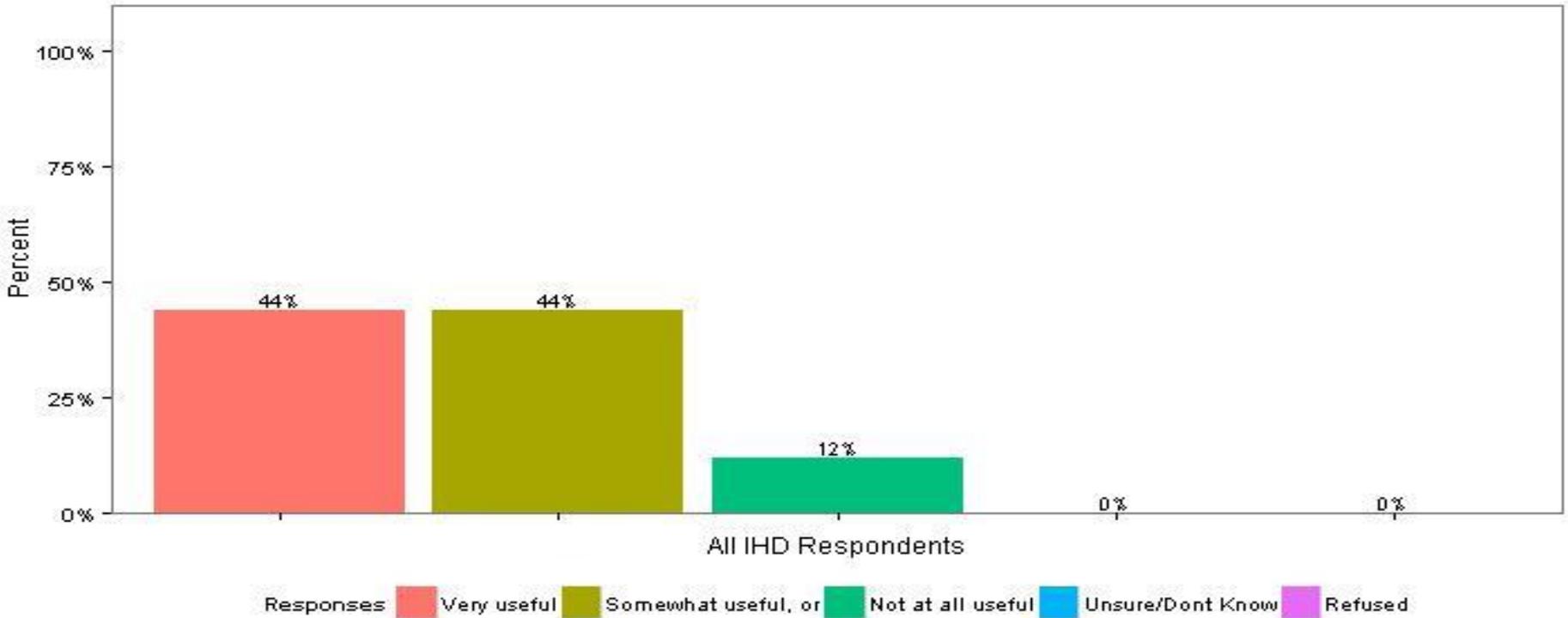
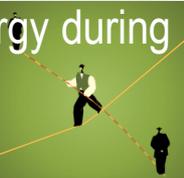
All IHD Respondents: N= 86



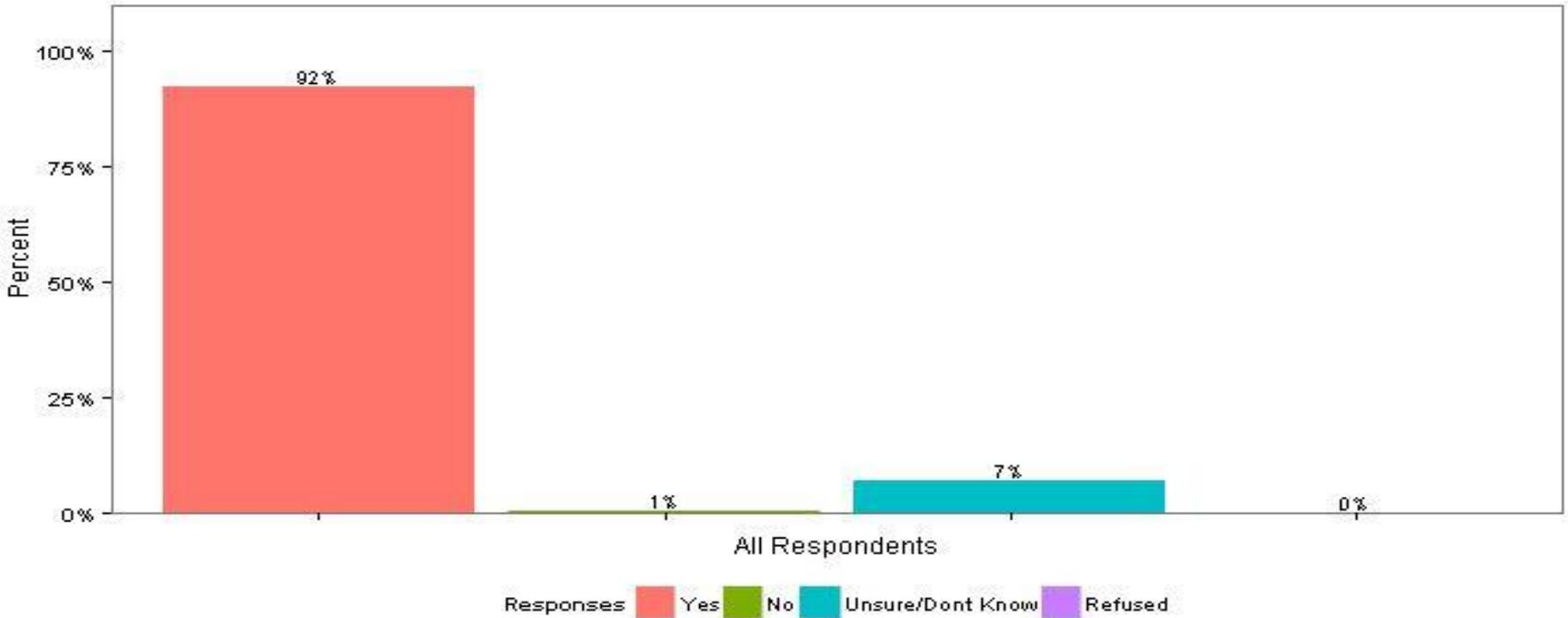
28. How useful was the Digital Picture Frame in making decisions about how to conserve energy during the Peak Event hours?

Would you say it was?

All IHD Respondents: N= 34



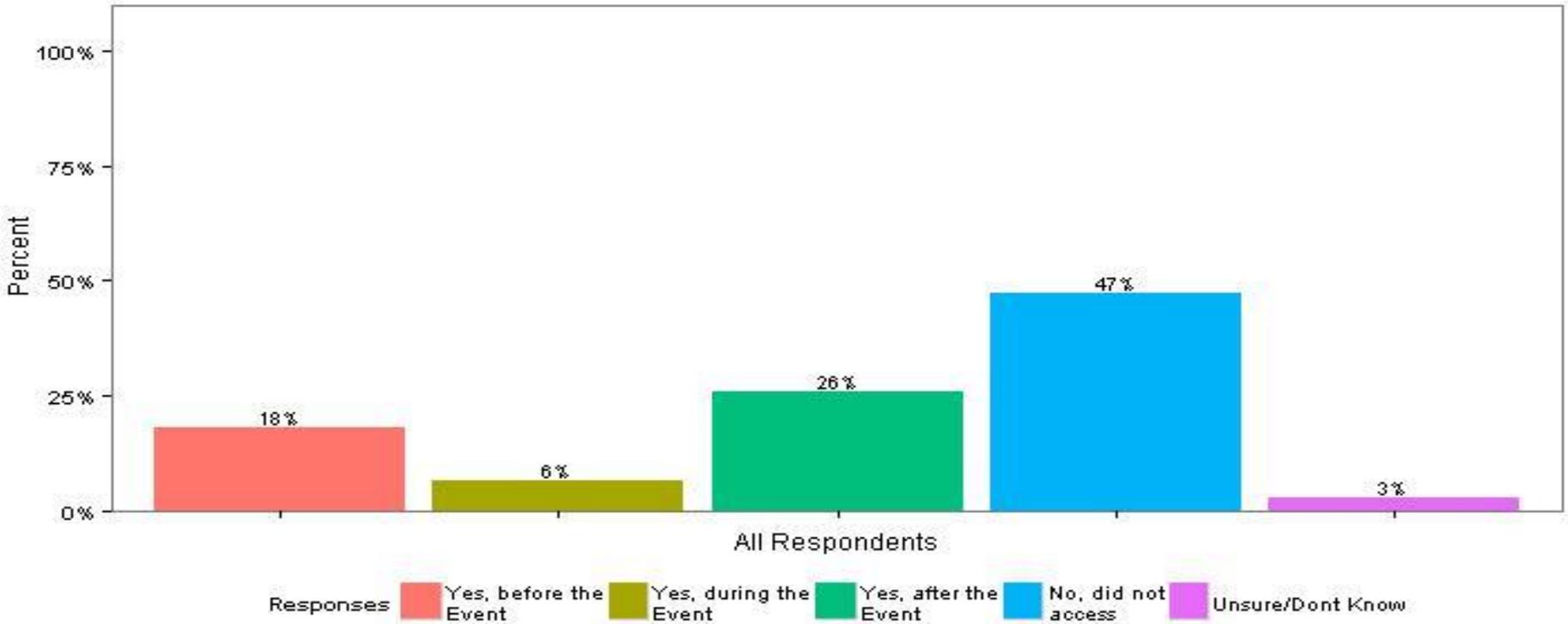
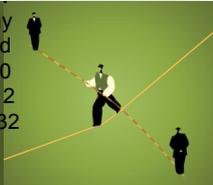
30. According to our records, you have an online account for National Grid's WorcesterSmart Customer Portal, is that correct? All Respondents: N= 168



31a. Did you access the WorcesterSmart Customer Portal before, during or after the Peak Event hours?

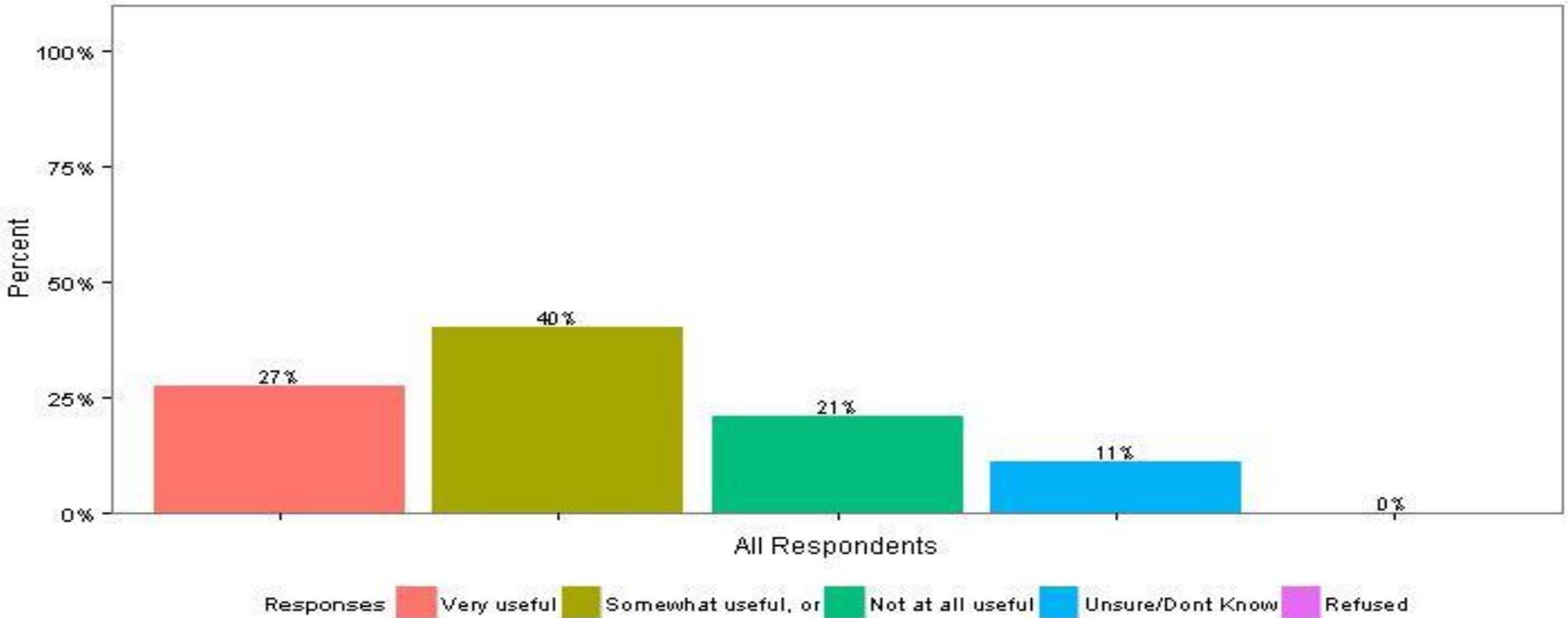
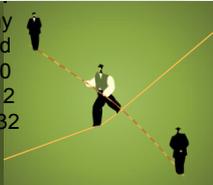
Peak Event hours?

All Respondents: N= 156



32A. How useful was your WorcesterSmart Customer Portal account in making decisions about how to conserve energy during the Peak Event hours?

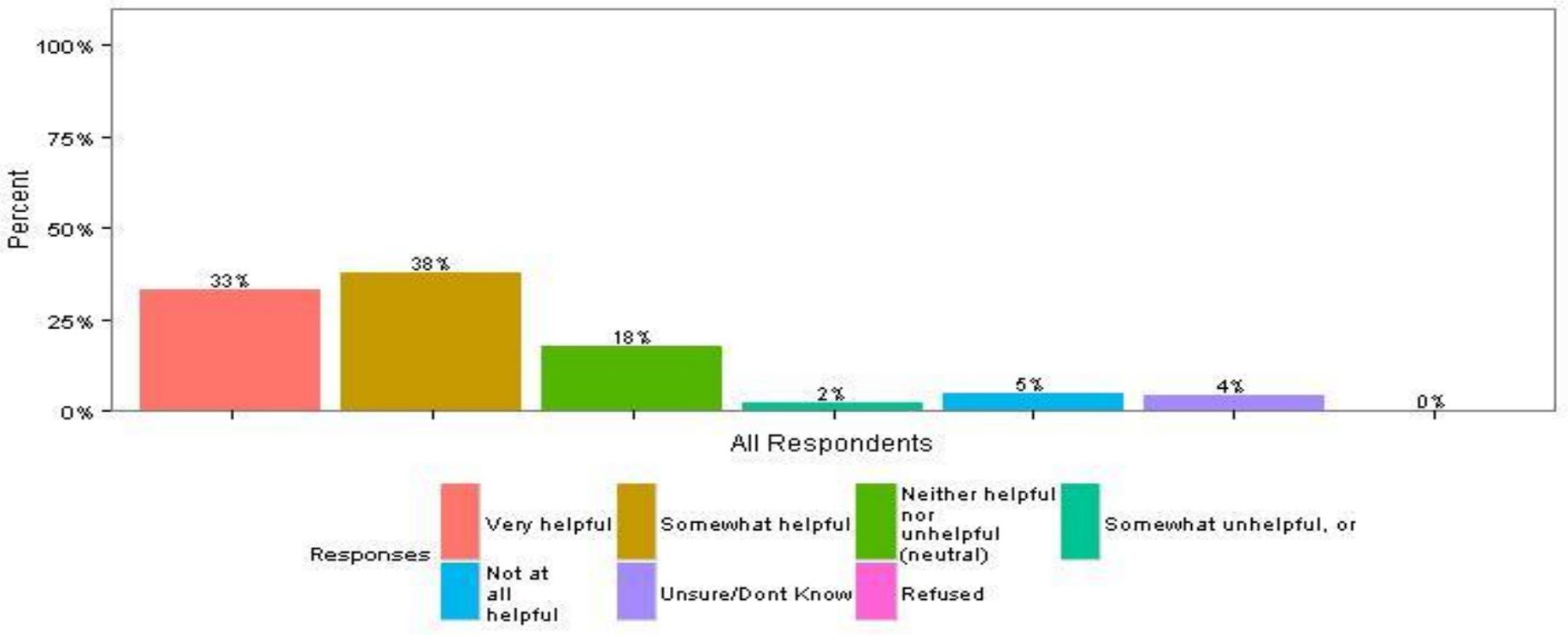
All Respondents: N= 62



34A. How helpful was the information that you received from National Grid about the Conservation Day and steps you could take to reduce electricity use during the Peak Even hours?

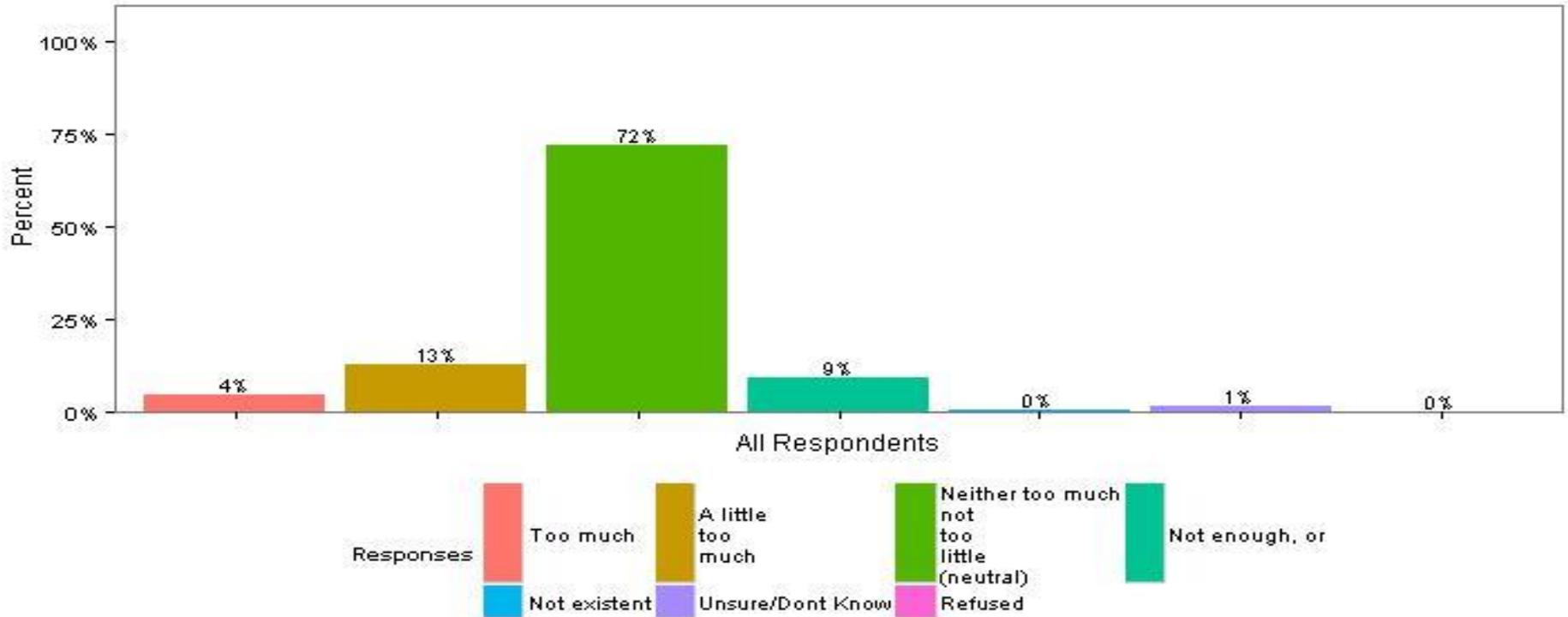
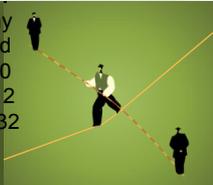


All Respondents: N= 245



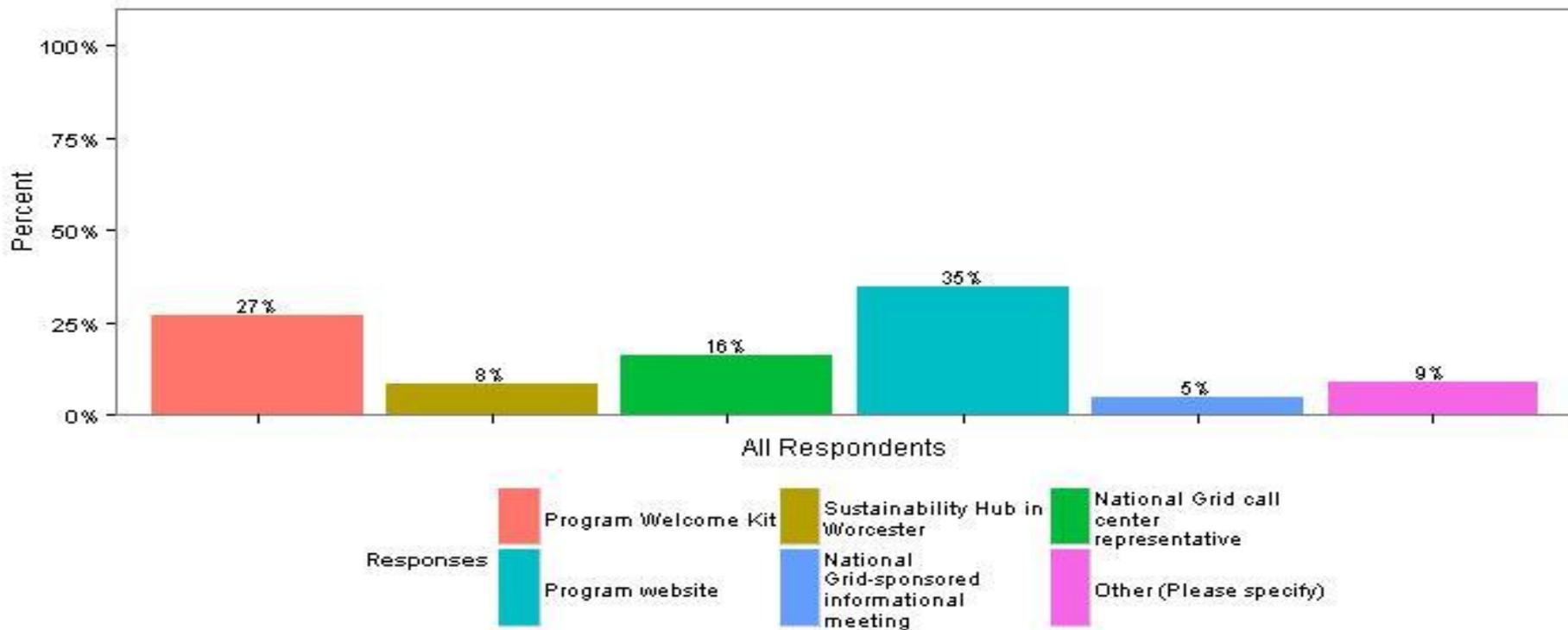
35A. How do you feel about the amount of information that you received from National Grid about the Conservation Day?

All Respondents: N= 245



37A. What sources of information were most useful to you in learning about Conservation Days?

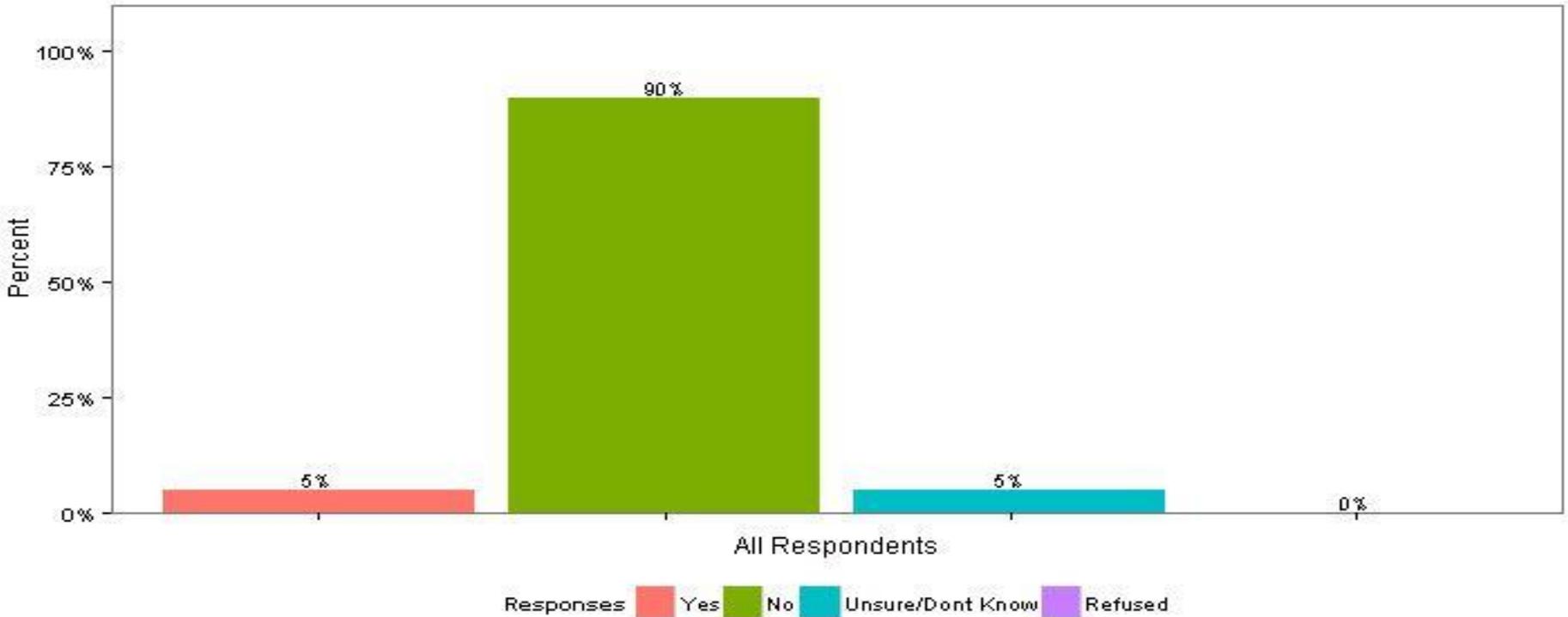
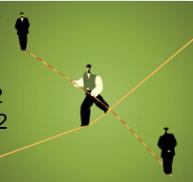
All Respondents: N= 263



38A. During the Conservation Day, did you have a problem with any of the equipment

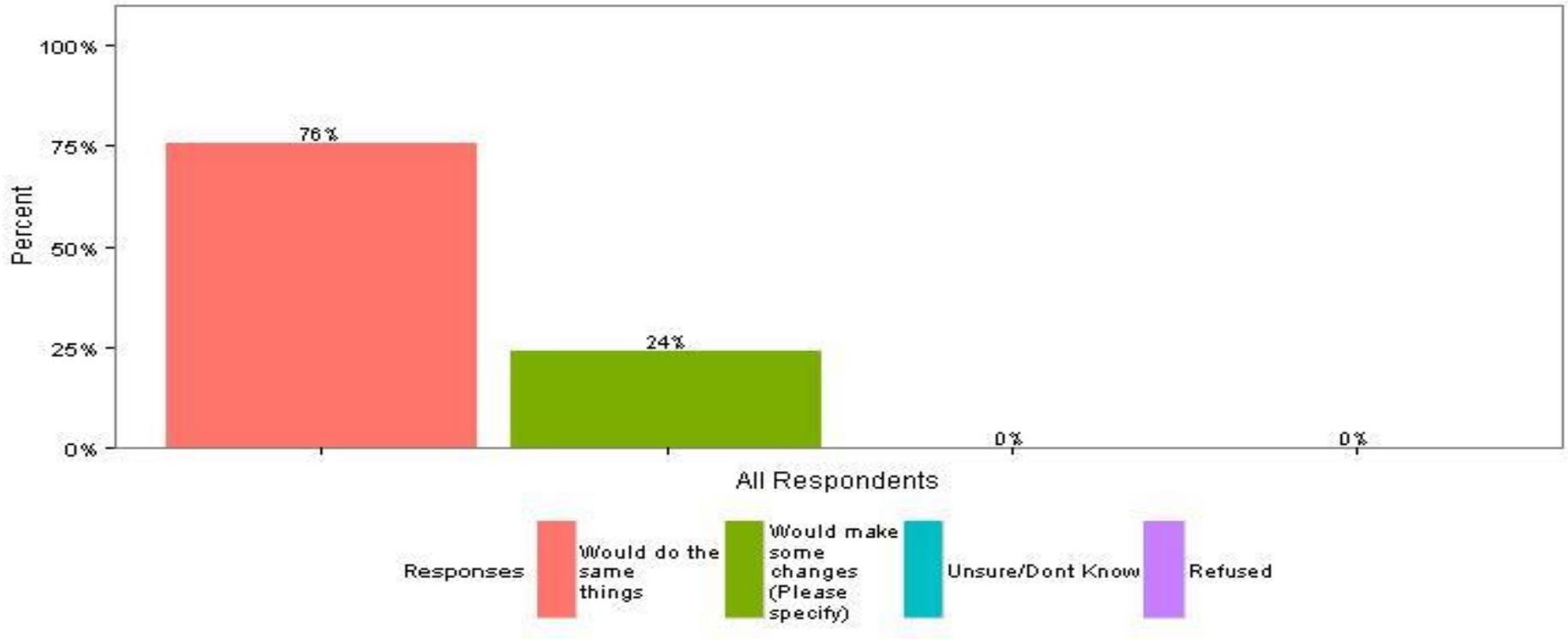
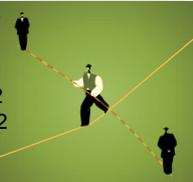
National Grid installed in your home?

All Respondents: N= 100



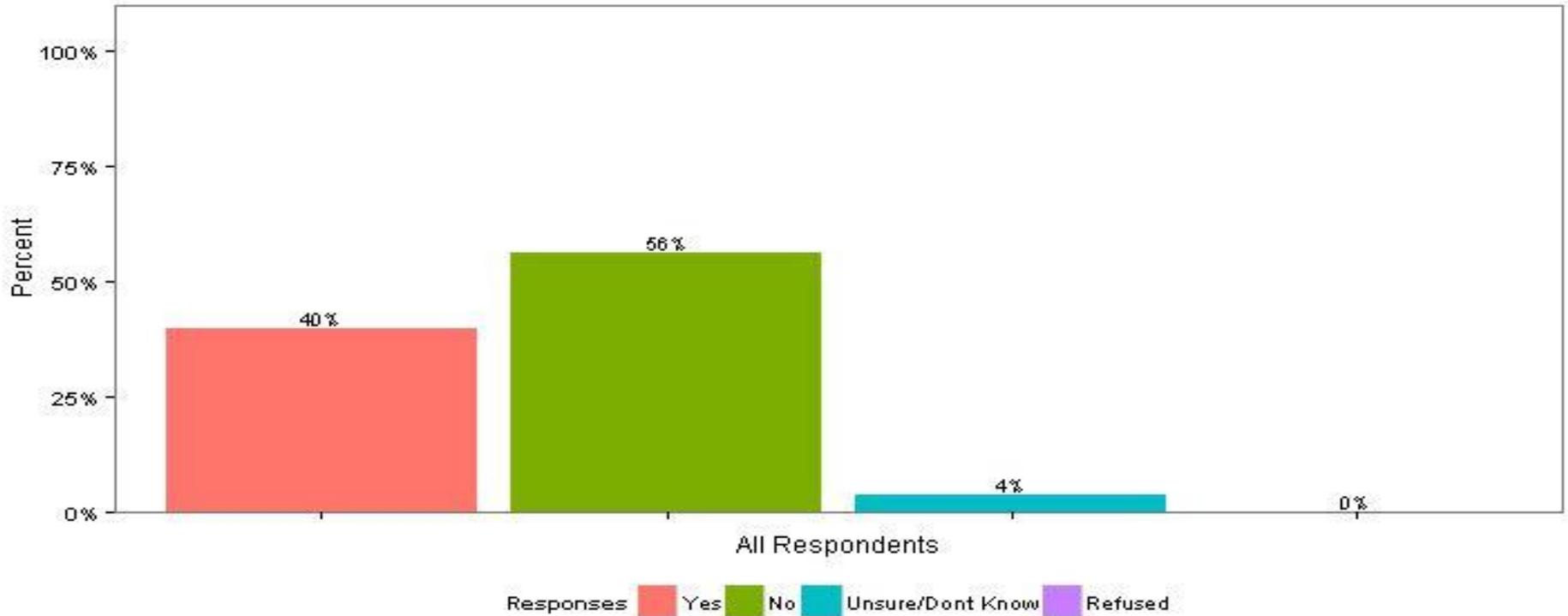
39C. Based on your experience to date, how do you think you will respond to future Conservation Days in this program?

All Respondents: N= 232



39D. Would you like to receive any additional information about the Smart Energy Solutions program or Conservation Days?

All Respondents: N= 270



National Grid Smart Energy Solutions End of Summer Survey

[INSERTS FOR CONTACT_NAME, PSEUDO ID NUMBER WILL COME FROM NGRID-SUPPLIED SAMPLE]

Basic Customer Data: (To be provided by National Grid)

- Name (Adult Customer of Record or Spouse)
- Date Survey Completed (To be completed by Bellomy Research)
- Property Address
- Phone number
- Email Address
- Pseudo ID Number

Sample Variables:

1. *IHDflag: 1 = Respondent has in-home picture frame display provided through pilot, 0 = no IHD*
2. *TSTAT 1= Respondent has thermostat, 0=no thermostat*
3. *DLCflag: 1 = Respondent is on Direct Load Control pilot, 0 = non-DLC*
4. *Plug control: 1 = Respondent has a load control plug, 0= no plug*
5. *Account: 1 = Respondent has My National Grid account, 0 = no account*
6. *Rate Type: 1 = Respondent is on Smart Rewards Pricing.*
7. *Rate Type: 2 = Respondent is on Conservation Day Rate*
8. *DATE = Date of Conservation Day Peak Event - Programmed by Bellomy each event*
9. *HOURS OF EVENT = START AND END TIME (e.g. 2PM-5pm) - Programmed by Bellomy each event*

[INTRO FOR TELEPHONE SURVEY]

Hello, this is (SURVEYOR NAME) from Bellomy Research calling on behalf of National Grid's Smart Energy Solutions program. May I speak with [CONTACT_NAME]? (IF NOT AVAILABLE, ASK: "May I speak with one of the adults in your household who is knowledgeable about your household's participation in National Grid's Smart Energy Solutions program?") (IF NOT AVAILABLE, ARRANGE A CALL BACK.) (IF ANOTHER PERSON COMES TO THE PHONE, REPEAT INTRO TO HIM/HER.)

This is not a sales call or a call about a bill. Your responses will be treated as confidential. We are calling participants in National Grid's Smart Energy Solutions program to provide feedback on your experience with the Conservation Days called by National Grid this summer. ***If you qualify and complete the entire survey we will send you a \$10 check.***

(IF SAY THEY ARE NOT PARTICIPATING OR NOT INTERESTED IN THE SURVEY, THANK AND TERMINATE.)
(ANY CUSTOMER ASKING ANY DETAILED QUESTIONS ABOUT THE SURVEY SHOULD BE REFERRED TO THE NATIONAL GRID CALL CENTER AT 855-377-7627.)

[THIS QUESTION TO BE ASKED OF ALL RESPONDENTS – EMAIL AND PHONE]

1a. Please confirm that you are one of the persons in your household who is most knowledgeable about National Grid's Smart Energy Solutions program. (IF NEEDED: "You may also know the Smart Energy Solutions program as National Grid's "Smart Grid pilot program." This program recently installed advanced electric meters in your area that provide customers with more information and control of their energy usage.")

1. I am the most knowledgeable [SKIP TO Q1]

End of Summer 2015

2. Another person is most knowledgeable but I can answer questions about the event
[SKIP TO Q1]
3. Another person is most knowledgeable **[CONTINUE]**
98. Don't know **[SKIP TO CLOSE]**
99. Refused **[SKIP TO CLOSE]**

[IF 1A = 3, ASK]

1b. What is that person's name and contact information?

1. Name _____
2. Email Address _____
3. Phone Number _____

[PROGRAMMER: PLEASE ADD A CHECK BOX FOR "REFUSED".]

1c. May I please speak with **[INSERT NAME FROM Q1B]**?

1. Yes **[CONTINUE]**
2. Not available (IF NOT AVAILABLE, ARRANGE A CALL BACK.) **[SKIP TO CLOSE]**

Conservation Day Awareness (ASK ALL RESPONDENTS)

[IF RATE TYPE = 1, SAY]

1. According to our records, you are participating in the Smart Energy Solutions program on the Smart Rewards Pricing Plan. Is that correct?

(IF NEEDED: "With Smart Rewards Pricing, you pay less than the basic service rate for your electricity usage during the daytime, and even lower rates during weekday nights, weekends, and holidays. During Peak Event hours on Conservation Days-your rates will increase, but you can minimize this increase by saving electricity during the specified Peak Event hours.")

1. Yes **[SKIP TO Q3]**
2. No **[THANK AND TERMINATE]**
98. Unsure/Don't Know **[SKIP TO Q60]**
99. Refused **[THANK AND TERMINATE]**

[IF RATE TYPE = 2, SAY]

2. According to our records, you are participating in the Smart Energy Solutions program with the Conservation Day Rebate plan. Is that correct?

(IF NEEDED: "On the Conservation Day Rebate plan you pay the basic service electric rate, but if you reduce energy use during Peak Event hours on a Conservation Day, you will receive a credit on your electric bill in the month after Conservation Day.")

1. Yes **[CONTINUE]**
2. No **[THANK AND TERMINATE]**
98. Unsure/Don't Know **[SKIP TO Q60]**
99. Refused **[THANK AND TERMINATE]**

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3. As part of National Grid’s Smart Energy Solutions program, National Grid called a number of Conservation Days this summer, sometimes calling more than one Conservation Day in a week. About how many of those Conservation Days do you recall? (INTERVIEWER NOTE: USE 98 FOR DON’T KNOW AND 99 FOR REFUSED. BEST GUESSTIMATE IS OKAY. “0” IS OKAY.)

Take # _____

[IF NUMBER = 0, SKIP TO Q60]

[IF NUMBER = 98, CONTINUE]

[IF NUMBER = 99, THANK AND TERMINATE]

4. Most often, during this past summer, how did you become aware that a Conservation Day was going to occur? (DO NOT READ LIST. RECORD ONE ANSWER ONLY.)

1. Automated Phone Message
2. E-Mail
3. SMS Text Message
4. CEIVA Digital Picture Frame
5. Smart Thermostat
6. Homeview app on Smartphone
9. Social Media (Twitter, Facebook, etc.)
7. Was not notified **[SKIP TO Q6]**
8. Other (Please specify)
98. Unsure/Don’t Know
99. Refused

5. Did the notification give you sufficient notice and information about the Conservation Day that was set to occur?

1. Yes
2. No
98. Unsure/Don’t Know
99. Refused

6. About how many Conservation Days were you or another family member home during Peak Event hours? (INTERVIEWER NOTE: USE 98 FOR DON’T KNOW AND 99 FOR REFUSED. BEST GUESSTIMATE IS OKAY. “0” IS OKAY.)

Take # _____ **[IF NUMBER = 0, SKIP TO Q10]**

98. Unsure/Don’t Know
99. Refused

7. About how many of the Peak Event hours were you, or a family member at home, on Conservation Days? Were you (READ LIST)?

1. Home for all Peak Event hours
2. Home for most Peak Event hours
3. Home for some Peak Event hours
98. (DO NOT READ) Unsure/Don’t know
99. (DO NOT READ) Refused

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8. What actions, if any, did you take to reduce your electricity use when a Conservation Day occurred? (DO NOT READ LIST. RECORD ALL MENTIONS.)

1. Discussed energy conservation strategies with my family **[SKIP TO Q10]**
2. Pre-cooled my home during morning off-peak hours **[SKIP TO Q10]**

3. Changed the temperature setting on my central air conditioning system to a warmer setting during peak hours **[SKIP TO Q10]**
4. Sought activities outside of the home **[SKIP TO Q10]**
5. Avoided use of certain appliances or electricity intensive devices during critical peak hours **[CONTINUE]**
6. None **[SKIP TO Q10]**
7. Other (Please specify) **[SKIP TO Q10]**
98. Unsure/Don't Know **[SKIP TO Q10]**
99. Refused **[SKIP TO Q10]**

[IF Q8 = 5, CONTINUE. OTHERWISE SKIP TO Q10]

9. What items specifically did you avoid using to save energy during the Conservation Day? (DO NOT READ LIST. RECORD ALL MENTIONS.)

1. Lighting
2. Oven
3. Range/Cooktop
4. Microwave
5. Dishwasher
6. Clothes washer/Clothes dryer
7. Central AC
8. Room AC/Window AC
9. Fans
10. Television
11. DVD/Blu-Ray Player
12. Cable Box
13. Video game console
14. Computer
15. Humidifier/Dehumidifier
16. Other high energy use appliances (Please specify)
98. Unsure/Don't Know
99. Refused

[IF Q7 = 1, SKIP]

10. Since you weren't home for all of the Peak Event hours, we'd like to know whether you monitored or avoided using electricity while not at home. When you were away from home during Peak Event hours, did you MONITOR your energy use or CHANGE the temperature in your home using any of the technology provided by National Grid, such as the Homeview app? (DO NOT READ LIST. RECORD ALL MENTIONS.)

1. I monitored through the Homeview app **[CONTINUE]**
2. I changed my thermostat settings **[ASK Q12]**
3. I monitored through the WorcesterSmart (PRONOUNCED WUSS-TER SMART) portal **[ASK Q13]**
4. I did not usually monitor remotely **[SKIP TO Q18]**

- 98. Unsure/Don't Know **[SKIP TO Q18]**
- 99. Refused **[SKIP TO Q18]**

[IF Q10 = 1, ASK]

11. We'd like to understand whether the frequency with which you used the Homeview app during Peak Event hours changed over the course of the summer. Did you find you used the Homeview app more at the end of the summer than at the beginning? (RECORD ONE ANSWER ONLY.)

- 1. I used the Homeview app more by the end of the summer than I did at the beginning of the summer
- 2. I used the Homeview app less by the end of the summer than I did at the beginning of the summer
- 3. I did not change how frequently I used the Homeview app by the end of the summer
- 98. Unsure/Don't Know
- 99. Refused

[IF Q10 = 2, ASK]

12. We'd like to understand whether the frequency with which you remotely monitored your thermostat settings during Peak Event hours changed over the course of the summer. Did you find any difference in how often you remotely monitored your thermostat settings at the end of the summer compared to the beginning of the summer? (RECORD ONE ANSWER ONLY.)

- 1. I remotely monitored my thermostat settings more by the end of the summer than I did at the beginning of the summer
- 2. I remotely monitored my thermostat settings less by the end of the summer than I did at the beginning of the summer
- 3. I did not change how frequently I monitored my thermostat settings by the end of the summer
- 98. Unsure/Don't Know
- 99. Refused

[IF Q10 = 3, ASK]

13. We'd like to understand whether the frequency with which you used the WorcesterSmart (PRONOUNCED WUSS-TER SMART) portal during Peak Event hours changed over the course of the summer. Did you find any difference in how often you used the WorcesterSmart portal more at the end of the summer compared to the beginning of the summer? (RECORD ONE ANSWER ONLY.)

- 1. I used the WorcesterSmart portal more by the end of the summer than I did at the beginning of the summer
- 2. I used the WorcesterSmart portal less by the end of the summer than I did at the beginning of the summer
- 3. I did not change how frequently I used the WorcesterSmart portal by the end of the summer
- 98. Unsure/Don't Know
- 99. Refused

[IF Q7 = 1, SKIP]

14. When you were away from home during Peak Event hours, did you TAKE STEPS TO REDUCE your energy use or the temperature in your home?

1. Yes **[CONTINUE]**
2. No **[SKIP TO Q60]**
98. Unsure/Don't Know **[SKIP TO Q60]**
99. Refused **[SKIP TO CLOSE]**

[IF Q7 = 1, SKIP]

15. What actions did you take? (DO NOT READ LIST. RECORD ALL MENTIONS.)

1. Adjusted smart thermostat for higher temperatures before or during the Event
2. Adjusted thermostat remotely using the National Grid app
3. Adjusted smart thermostat for lower temperatures after the Event
4. Shut off or unplugged appliances
5. Closed curtains or drapes
6. Other (Please specify)
7. None **[SKIP TO Q18]**
98. Unsure/Don't Know
99. Refused

[IF Q7 = 1, SKIP]

16. Of the actions you just mentioned, which did you find to be the most effective over the course of the summer? (RECORD VERBATIM.)

_____ **[OPEN-END]**

[IF Q7 = 1, SKIP]

17. Why was that action the most effective? (RECORD VERBATIM.)

_____ **[OPEN-END]**

Thermostat Usage (TSTAT = 1)

[IF TSTAT = 1 AND Q6 > 0, CONTINUE. OTHERWISE SKIP TO Q29]

18. Did you, or the family member present during the Conservation Days' Peak Event hours, notice a change in temperature in your home during Peak Event hours?

1. Yes
2. No **[SKIP TO Q21]**
98. Unsure/Don't Know **[SKIP TO Q21]**
99. Refused **[SKIP TO Q21]**

[IF Q18 = 1, CONTINUE. OTHERWISE SKIP TO Q21]

19. Did you observe the actual temperature in your home during the Peak Event hours? You might have looked at your thermostat or an indoor thermometer.

1. Yes
2. No **[SKIP TO Q21]**
98. Unsure/Don't Know **[SKIP TO Q21]**
99. Refused **[SKIP TO Q21]**

[IF Q19 = 1, CONTINUE. OTHERWISE SKIP TO Q21]

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20. Approximately how many degrees did the temperature in your home usually rise during the Peak Event hours? (READ LIST. IF UNSURE, BEST GUESSTIMATE IS OKAY.)

1. 0-2 degrees Fahrenheit
2. 2-4 degrees Fahrenheit
3. 4-6 degrees Fahrenheit
4. More than 6 degrees Fahrenheit
98. (DO NOT READ LIST) Unsure/Don't Know
99. (DO NOT READ LIST) Refused

21. During the Peak Event hours, how would you describe your comfort compared to a typical afternoon with similar outdoor temperatures? Would you say it was...(READ LIST)?

1. About the same
2. Somewhat less comfortable
3. Much less comfortable, or
4. Very uncomfortable
98. (DO NOT READ) Unsure/Don't Know
99. (DO NOT READ) Refused

Thermostat Override

22. At any point before or during the Peak Event hours on any Conservation Day, did you press the override button on your thermostat to prevent or stop the program from adjusting your thermostat remotely?

1. Yes, before the Event started
2. Yes, during the Event
3. No **[SKIP TO Q27]**
98. Unsure/Don't Know **[SKIP TO Q27]**
99. Refused **[SKIP TO Q27]**

[IF Q22 = 1 OR 2, CONTINUE. OTHERWISE SKIP TO Q27]

23. On about how many Conservation Days did you override the thermostat during Peak Event hours? (INTERVIEWER NOTE: USE 98 FOR DON'T KNOW AND 99 FOR REFUSED. BEST GUESSTIMATE IS OKAY. "0" IS OKAY.)

Take # _____

[IF NUMBER = 0, SKIP TO Q27]

[IF NUMBER = 98, SKIP TO Q27]

[IF NUMBER = 99, SKIP TO Q27]

24. Why did you use the override button? (READ LIST. RECORD ALL MENTIONS.)

1. Did not want house to get too warm/uncomfortable
2. Someone in the home needed the temperature cooler for health reasons
3. Someone in the home wanted the temperature cooler
4. Wanted it cooler for a pet
5. Was too uncomfortable during previous events
6. (DO NOT READ) Other (Please specify)
98. (DO NOT READ) Unsure/Don't Know
99. (DO NOT READ) Refused

End of Summer 2015

25. How often did you override the thermostat when you returned home, whether from work, errands, school, or other reasons, on a Conservation Day? Was it...(READ LIST)?

1. Always
2. Sometimes
3. Never
98. (DO NOT READ) Unsure/Don't know
99. (DO NOT READ) Refused

26. Were there any other reasons for overriding the temperature settings during the Peak Event hours? (RECORD VERBATIM.)

_____ [OPEN-END]

27. How satisfied were you with the performance of the Smart Thermostat during the Peak Event hours? Were you...(READ LIST)?

1. Very satisfied [SKIP TO Q29]
2. Satisfied [SKIP TO Q29]
3. Neutral [SKIP TO Q29]
4. Unsatisfied
5. Very unsatisfied
98. (DO NOT READ) Unsure/Don't Know [SKIP TO Q29]
99. (DO NOT READ) Refused [SKIP TO Q29]

[IF Q27 = 4 OR 5, CONTINUE ELSE SKIP TO Q29]

28. Why weren't you satisfied with the Smart Thermostat performance during the Peak Event hours? (RECORD VERBATIM.)

_____ [OPEN-END]

[PROGRAMMER INCLUDE DON'T KNOW AND REFUSED CHECKBOXES.]

Smart Plug

[IF PLUG CONTROL = 1 AND Q6 > 0, CONTINUE. OTHERWISE SKIP TO Q35N]

29. According to our records you received a Smart Plug that you could use to remotely control lights or other small appliances in your home. Is that correct?

1. Yes
2. No [SKIP TO Q35N]
98. Unsure/Don't Know [SKIP TO Q35N]
99. Refused [SKIP TO Q35N]

30. During the Peak Event hours, what household item, such as a lamp or appliance, was the Smart Plug plugged into? (DO NOT READ LIST. RECORD ONE ANSWER ONLY.)

1. Lamp or other light fixture (INTERVIEWER SAY: It's not recommended to plug into a light because there are little savings that way.)
2. Refrigerator or freezer (INTERVIEWER SAY: It's not recommended to plug into a refrigerator or freezer.)
3. Small appliance, electronics, TV
4. Room air conditioner, dehumidifier
5. Other large appliance, like a clothes washer or dryer
6. Other (Please specify)
7. Not plugged in [SKIP TO Q35N]
98. Unsure/Don't Know
99. Refused

[IF Q30 < 7, ASK ELSE SKIP TO Q35N]

31N. On most Conservation Days, did you control the [INSERT HOUSEHOLD ITEM PROVIDED IN Q31N] during the entire Peak Event or only during part of the event? (RECORD ONE ANSWER ONLY.)

1. Controlled for the entire Event [SKIP TO Q33N]
2. Controlled for part of the Event [SKIP TO Q33N]
3. Did not control at all during the Event [CONTINUE]
98. Unsure/Don't Know [SKIP TO Q33N]
99. Refused [SKIP TO Q33N]

[IF Q31N = 3, CONTINUE. OTHERWISE SKIP TO Q35N]

32N. Why did you not control the [HOUSEHOLD ITEM PROVIDED IN Q31N] during Peak Event hours? (RECORD ONE ANSWER ONLY.)

1. Didn't work [SKIP TO Q35N]
2. Forgot about it [SKIP TO Q35N]
3. I needed it functioning as usual [SKIP TO Q35N]
4. Other (Please specify) [SKIP TO Q35N]
98. Unsure/don't know [SKIP TO Q35N]
99. Refused [SKIP TO Q35N]

How satisfied were you with the performance of the Smart Plug during the Peak Event hours? Were you...(READ LIST)?

1. Very satisfied [SKIP TO Q35N]
2. Satisfied [SKIP TO Q35N]
3. Neutral [SKIP TO Q35N]
4. Unsatisfied [CONTINUE]
5. Very unsatisfied [CONTINUE]
98. (DO NOT READ) Unsure/don't know [SKIP TO Q35N]
99. (DO NOT READ) Refused [SKIP TO Q35N]

[IF Q33N = 4 OR 5, CONTINUE. OTHERWISE, SKIP TO Q35N]

34N. Why weren't you satisfied with the Smart Plug performance during the Peak Event hours? (RECORD VERBATIM.)

[OPEN-END]

[PROGRAMMER INCLUDE DON'T KNOW AND REFUSED CHECKBOXES.]

IHD Module

[IF IHDFLAG = 1 AND Q6 > 0, CONTINUE. OTHERWISE SKIP TO Q40N]

35N. Did you **regularly** refer to your Digital Picture Frame at any point during the Peak Event hours to check your electricity consumption?

1. Yes
2. No **[SKIP TO Q40N]**
98. Unsure/Don't Know **[SKIP TO Q40N]**
99. Refused **[SKIP TO Q40N]**

36N. About how many times did you typically look at it during Peak Event hours? (INTERVIEWER NOTE: USE 98 FOR DON'T KNOW AND 99 FOR REFUSED. BEST GUESSTIMATE IS OKAY.)

Take # _____

37N. How useful was the Digital Picture Frame in making decisions about how to conserve energy during the Peak Event hours? Would you say it was...(READ LIST)?

1. Very useful,
2. Somewhat useful, or
3. Not at all useful
98. (DO NOT READ) Unsure/Don't Know
99. (DO NOT READ) Refused

[IF Q37N < 98, CONTINUE. OTHERWISE SKIP TO Q39N Q40N]

38N. Why do you say that the Digital Picture Frame was **[INSERT Q37N ANSWER]** in making decisions about how to conserve energy during Peak Event hours? (RECORD VERBATIM.)

_____ **[OPEN-END]**

39N. We'd like to understand whether the frequency with which you checked your Digital Picture Frame during Peak Event hours changed over the course of the summer. Did you find you looked at the Digital Picture Frame more often at the end of the summer than at the beginning, less than at the beginning, or no change? (RECORD ONE ANSWER ONLY.)

1. I checked my Digital Picture Frame more by the end of the summer than I did at the beginning of the summer
2. I checked my Digital Picture Frame less by the end of the summer than I did at the beginning of the summer
3. I did not change how frequently I checked my Digital Picture Frame by the end of the summer
98. Unsure/Don't Know
99. Refused

National Grid's WorcesterSmart Customer Portal

[IF ACCOUNT = 1, CONTINUE. OTHERWISE SKIP TO Q45N]

40N. According to our records, you have an online account for National Grid's WorcesterSmart (PRONOUNCED WUSS-TER SMART) Customer Portal, is that correct?

1. Yes **[CONTINUE]**
2. No **[SKIP TO Q45N]**
98. Unsure/Don't know **[SKIP Q45N]**
99. Refused **[SKIP TO Q45N]**

[IF Q40N = 1, CONTINUE. OTHERWISE SKIP TO Q45N]

41N. Did you regularly access the WorcesterSmart Customer Portal before, during or after the Peak Event hours? (RECORD ALL MENTIONS.)

1. Yes, before the Event
2. Yes, during the Event
3. Yes, after the Event
4. No **[SKIP TO Q45N]**
98. Unsure/Don't Know **[SKIP TO Q45N]**
99. Refused **[SKIP TO Q45N]**

[IF Q41N < 4, CONTINUE. OTHERWISE SKIP TO Q45N]

42N. We'd like to understand whether the frequency with which you checked your WorcesterSmart Customer Portal account during Peak Event hours changed over the course of the summer. Did you find you looked at the WorcesterSmart Customer Portal more often at the end of the summer than at the beginning, less than at the beginning, or no change? (RECORD ONE ANSWER ONLY.)

1. I checked my WorcesterSmart Customer Portal account more by the end of the summer than I did at the beginning of the summer
2. I checked my WorcesterSmart Customer Portal account less by the end of the summer than I did at the beginning of the summer
3. I did not change how frequently I checked my WorcesterSmart Customer Portal account by the end of the summer
98. Unsure/Don't Know **[SKIP TO Q45N]**
99. Refused **[SKIP TO Q45N]**

[IF Q42N = 1, 2, OR 3 CONTINUE. OTHERWISE SKIP TO Q45N]

43N. How useful was your WorcesterSmart Customer Portal account in making decisions about how to conserve energy during Peak Event hours? Would you say it was...(READ LIST)?

1. Very useful,
2. Somewhat useful, or
3. Not at all useful
98. (DO NOT READ) Unsure/Don't Know
99. (DO NOT READ) Refused

[IF Q43N < 98 CONTINUE. OTHERWISE SKIP TO Q45N]

44N. Why do you say that the WorcesterSmart Customer Portal account was **[INSERT Q43N ANSWER]** in making decisions about how to conserve energy during Peak Event hours? (RECORD VERBATIM.)

[OPEN-END]

Information

45N. How helpful was the information that you received from National Grid about the Conservation Days and steps you could take to reduce electricity use during the Peak Event hours? Would you say it was...(READ LIST)?

1. Very helpful,
2. Somewhat helpful,
3. Neither helpful nor unhelpful (neutral)
4. Somewhat unhelpful, or
5. Not at all helpful
98. (DO NOT READ) Unsure/Don't Know
99. (DO NOT READ) Refused

46. How do you feel about the amount of information that you received from National Grid about the Conservation Day? Would you say it was...(READ LIST)?

1. Too much,
2. A little too much, or
3. Neither too much nor too little (neutral)
4. Not enough
5. Not existent
98. (DO NOT READ) Unsure/Don't Know
99. (DO NOT READ) Refused

47. What additional or different information provided by National Grid would make it easier for you to save electricity as a participant in the Smart Energy Solutions program? (RECORD VERBATIM.)

_____ **[OPEN-END]**

48. What sources of information were most useful to you in learning about Conservation Days? (READ LIST, RECORD ALL MENTIONS.)

1. Program Welcome Kit
2. Sustainability Hub in Worcester
3. National Grid call center rep
4. Program website
5. National Grid-sponsored informational meeting
7. Social Media (Twitter, Facebook, etc.)
6. (DO NOT READ) Other (Please specify)
98. (DO NOT READ) Don't Know
99. (DO NOT READ) Refused

[IF IHDFLAG, TSTAT, DLCFLAG OR PLUG CONTROL = 1, ASK. OTHERWISE, SKIP TO Q53.]

49. During any of the Conservation Days, did you have a problem with any of the equipment National Grid installed in your home?

1. Yes **[CONTINUE TO Q50]**
2. No **[SKIP TO Q53]**
98. Unsure/Don't Know **[SKIP TO Q53]**
99. Refused **[SKIP TO Q53]**

[IF Q49 = 1, CONTINUE. OTHERWISE, SKIP TO Q53]

50. Please describe the problem you had. (RECORD VERBATIM.)

_____ **[OPEN-END]**

51. Did you report the problem to National Grid?

1. Yes

- 2. No **[SKIP TO Q53]**
- 98. Unsure/Don't Know **[SKIP TO Q53]**
- 99. Refused **[SKIP TO Q53]**

[IF Q50 = 1, ASK]

52. Was the problem resolved?
- 1. Yes
 - 2. No
 - 98. Unsure/Don't Know
 - 99. Refused

Results of 2015 Conservation Days

53. How, if at all, has the amount of electricity your household uses changed this summer compared to a normal summer? Was it (READ LIST)?
- 1. Much less
 - 2. Somewhat less
 - 3. About the same
 - 4. Somewhat more
 - 5. A lot more
 - 98. (DO NOT READ) Unsure/Don't Know
 - 99. (DO NOT READ) Refused

54. How, if at all, has your household electric bill changed this summer compared to a normal summer? Was it (READ LIST)?
- 1. Much less
 - 2. Somewhat less
 - 3. About the same
 - 4. Somewhat more
 - 5. A Lot more
 - 98. (DO NOT READ) Unsure/Don't Know
 - 99. (DO NOT READ) Refused

IF Q54 = 1, 2, 4, 5 ASK. OTHERWISE SKIP TO Q56]

55. On a scale of 1 to 5, where 1 is "no effect" and 5 is a "large effect," how much of the change you noticed was attributed to the Smart Energy Solutions program?

No effect				Large effect	Don't Know	Refused
1	2	3	4	5	98	99

56. How would you rate your overall satisfaction with the Smart Energy Solutions program? Were you...(READ LIST)?
- 1. Very satisfied
 - 2. Somewhat satisfied
 - 3. Not satisfied at all
 - 98. (DO NOT READ) Unsure/Don't Know

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99. (DO NOT READ) Refused

57. Why do you say that you were [INSERT Q56 ANSWER] with the Smart Energy Solutions program?
(RECORD VERBATIM.)

_____ [OPEN-END]

58. Is there anything specific that the Smart Energy Solutions program could be doing better or differently to improve the experience for you? (RECORD VERBATIM.)

_____ [OPEN-END]

59. Based on your experience to date, how do you think you will respond to future Conservation Days in this program? (READ LIST.)

1. Would do the same things
 2. Would make some changes (Please specify)
98. (DO NOT READ) Unsure/Don't Know
99. (DO NOT READ) Refused

60. Would you like to receive any additional information about the Smart Energy Solutions program or Conservation Days?

1. Yes [CONTINUE]
 2. No [SKIP TO Q62]
98. Unsure/Don't Know [CONTINUE]
99. Refused [SKIP TO Q62]

[IF Q60 = 1 OR 98, CONTINUE. OTHERWISE, SKIP TO Q62]

61. How would you like to receive this information: by phone, email, or mail? (RECORD ONE ANSWER ONLY.)

1. Phone
2. Email
3. Mail
4. No preference

62. We are almost done. **National Grid would like you to receive a \$10 honorarium for taking your time to complete this survey. The check is authorized by National Grid; it will be issued by Bellomy Research and will be mailed to your home. This survey and the \$10 honorarium are not any sort of sales promotion or other commercial venture. You are not being asked or obligated to take any further action beyond completing this survey.**

Once you have provided us with your most current phone number, email address and mailing address so that we can mail you your \$10 gratuity, there may be a few follow-up questions for classification purposes only that must be answered. So please don't hang up until you have answered these additional questions. I have your current phone number as...(INTERVIEWER: IF INFORMATION ALREADY PIPED IN, PLEASE READ CURRENT PHONE NUMBER AND EMAIL ADDRESS TO RESPONDENT AND ASK THEM TO CONFIRM. PLEASE CHANGE AS NECESSARY.)

1. Phone (Please specify) (RECORD/CONFIRM PHONE NUMBER)
2. Email (Please specify) (RECORD/CONFIRM EMAIL ADDRESS)
3. Mailing address (Please specify) (RECORD MAILING ADDRESS) [DO NOT PRE-POPULATE.]
4. Contact Name (Please specify)

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[PROGRAMMER: PLEASE PIPE IN PHONE, EMAIL ADDRESS, AND NAME FROM SAMPLE]

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Demographics

MIKE NOTE: HAVE NOT MADE ANY CHANGES TO DEMOGRAPHICS OR NUMBERING THOSE QUESTIONS.

[PROGRAMMER: PLEASE CHECK CUSTOMER'S IDNUM FOR EXISTING DEMOGRAPHIC DATA.]
[IF DEMOGRAPHIC DATA EXISTS ALREADY, SKIP TO CLOSE. OTHERWISE, CONTINUE.]
[IF NO IDNUM EXISTS, CONTINUE.]

(Note: for convenience, demographic question numbers have been changed to match up with the demographic questions from previous national grid studies. (BRI 15337B, 15337, 14292, 14447, 14210.)

31. Are you or is anyone in your household a National Grid employee?

1. Yes
2. No
98. Don't Know
99. Refused

32. Now we would like to turn to several questions about your household.

Which one of these options best describes this residence? (READ LIST. RECORD ONE ANSWER ONLY.)

1. Single-family detached house
2. Townhouse, duplex, or row house (shares common wall with neighboring unit from basement to roof)
3. Apartment (either rent or own) (2-4 units)
4. Apartment (either rent or own) (5 or more units)
5. Mobile home or trailer ("manufactured home")
6. Other (Please Specify)
98. (DO NOT READ) Don't Know
99. (DO NOT READ) Refused

33. Which one of these options best describes this residence? (READ LIST. RECORD ONE ANSWER ONLY.)

1. This is my permanent year-round residence
2. This is my partial-year or seasonal residence
3. This is my vacation home and generally used only by my family
4. This is a vacation rental home
5. (DO NOT READ) Other (Please Specify)
98. (DO NOT READ) Don't Know
99. (DO NOT READ) Refused

34. Which one of these options best describes the exterior of this residence? (READ LIST. RECORD ONE ANSWER ONLY.)

1. Wood
2. Cement
3. Aluminum siding

- 4. Stucco
- 5. Brick
- 6. (DO NOT READ) Other (Please Specify)
- 7. Vinyl/Vinyl siding
- 98. (DO NOT READ) Don't Know
- 99. (DO NOT READ) Refused

[IF Q33 = 2, 3, OR 4 CONTINUE, OTHERWISE SKIP TO Q36]

35. Please tell me the months this partial-year or vacation home is typically occupied by your family and/or renters. (RECORD ALL MENTIONS.)

- 1. Jan
- 2. Feb
- 3. Mar
- 4. Apr
- 5. May
- 6. Jun
- 7. Jul
- 8. Aug
- 9. Sep
- 10. Oct
- 11. Nov
- 12. Dec
- 98. Don't Know
- 99. Refused

36. How many square feet of living space are there in this residence, including bathrooms, foyers, and hallways? Please exclude unheated rooms and garages. If you live in an apartment building, please answer for the living space considered "your home." (RECORD ONE ANSWER ONLY.)

- 1. Less than 500
- 2. 500-999
- 3. 1,000 – 1,499
- 4. 1,500 – 1,999
- 5. 2,000 – 2,499
- 6. 2,500 – 2,999
- 7. 3,000 – 3,499
- 8. 3,500 – 3,999
- 9. 4,000 – 4,999
- 10. Greater than 5,000
- 98. Don't Know
- 99. Refused

37. How many rooms are in this residence? Please exclude bathrooms, halls, pantries, unheated rooms, and garages. (USE 98 FOR DON'T KNOW AND 99 FOR REFUSED.)

_____ **[ENTER # OF ROOMS]**

38. Approximately what year was this residence built? (USE 9998 FOR DON'T KNOW AND 9999 FOR REFUSED.)

_____ **[ENTER YEAR]**

End of Summer 2015

38_CODE. [PROGRAMMER: PLEASE AUTO PUNCH Q38_CODE WITH THE FOLLOWING CODES BASED ON THE ANSWER AT Q38.]

1. Before 1930
2. 1930-1939
3. 1940-1949
4. 1950-1959
5. 1960-1969
6. 1970-1979
7. 1980-1989
8. 1990-1999
9. 2000-2002
10. 2003-2004
11. 2005-2006
12. 2007 or after
98. Don't Know
99. Refused

[IF Q33 = 1 CONTINUE, OTHERWISE SKIP TO Q40]

39. How long has this been your permanent, year-round residence? (RECORD ONE ANSWER ONLY.)

1. Less than 1 year
2. 1-3 years
3. 4-10 years
4. 11-20 years
5. Over 20 years
98. Don't Know
99. Refused

40. What age is the head of household? If two share this role, please use the average. (RECORD ONE ANSWER ONLY.)

1. Under 30 years
2. 30-39 years
3. 40-49 years
4. 50-59 years
5. 60-69
6. 70-74
7. 75-80
8. 80+
98. Don't Know
99. Refused

[ASK Q40A TO EVERYONE, EVEN IF PREVIOUSLY COMPLETED DEMO/FIRMO.]40a. How many people, including yourself, live in your home full-time at least six months of the year?
(USE 98 FOR DON'T KNOW AND 99 FOR REFUSED.)

_____ RECORD NUMBER

[IF Q40a = 98 OR 99, SKIP TO Q41. OTHERWISE, CONTINUE.]

43.- For the following age groups, please tell me how many people, including you, normally live in your home at least six months of the year. (READ AGE RANGES SEPARATELY AND RECORD RESPONSE FOR EACH, MUST ENTER ZERO IF NONE IN A SPECIFIC AGE GROUP.) (IF RESPONDENT REFUSES, ALL AGE CATEGORIES MUST BE "0" OR REFUSED CHECKBOX WILL BE DISABLED.)

[PROGRAMMER: CAN EACH AGE CATEGORY BE AUTO FILLED TO "0"?]

[FOR EACH HOUSEHOLD MEMBER, UP TO 10 MEMBERS, INCREMENT THE HOUSEHOLD COUNT IN EACH OF THE FOLLOWING AGE RANGES:]

1. _____ **[ENTER #]** Infant (less than 1 year old)
2. _____ **[ENTER #]** 1-6 years old
3. _____ **[ENTER #]** 7-18 years old
4. _____ **[ENTER #]** 19-24 years old
5. _____ **[ENTER #]** 25-34 years old
6. _____ **[ENTER #]** 35-44 years old
7. _____ **[ENTER #]** 45-54 years old
8. _____ **[ENTER #]** 55-59 years old
9. _____ **[ENTER #]** 60-64 years old
10. _____ **[ENTER #]** 65-69 years old
11. _____ **[ENTER #]** 70 -74
12. _____ **[ENTER #]** 75 -79
13. _____ **[ENTER #]** 80+

[CALCULATE TOTAL NUMBER RESIDENTS IN HOUSEHOLD. CANNOT BE > Q40a.]

[PROGRAMMER: PLEASE ADD A "REFUSED" CHECKBOX. SOME RESPONDENTS ARE REFUSING THIS INFO.]

41. Please select the range that best describes this household's gross income for 2014 (before adjustments for taxes and credits). Please include all sources of income such as salaries, wages, rent, interest, dividends, pensions, and social security. (READ LIST.)

1. Less than \$10,000
2. \$10,000 to less than \$18,000
3. \$18,000 to less than \$30,000
4. \$30,000 to less than \$50,000
5. \$50,000 to less than \$75,000
6. \$75,000 to less than \$100,000
7. \$100,000 to less than \$150,000
8. More than \$150,000
98. (DO NOT READ) Don't Know
99. (DO NOT READ) Refused

USING NUMBER IN HOUSEHOLD AND LOOKUP TABLE ASK: IS YOUR TOTAL ANNUAL HOUSEHOLD INCOME LESS THAN \$_____ (TABLE CAN HAVE 60% MEDIAN OR 200% FPL) SEE BELOW

[ASK Q41A AND Q41B TO EVERYONE, EVEN IF PREVIOUSLY COMPLETED DEMO/FIRMO.]

41a. The next one or two questions will ask if your income is below a specific amount. The amount is computer generated and bears no reflection on any income range you may have provided us with previously. These questions are for research only and are completely confidential.

End of Summer 2015

Was your total 2014 household income before taxes below [INCOME_THRESHOLD_200% FPL]?

1. Yes
2. No
98. Don't Know
99. Refused

[ASK IF Q41a = 2]

41b. Was your total 2014 household income before taxes below [INCOME_THRESHOLD_60% Median]?

1. Yes
2. No
98. Don't Know
99. Refused

Income Threshold Table

Reference: Q40a (# People in HH)	ITH_200FPL – label in data file INCOME_THRESHOLD_200% FPL	ITH_MED – label in data file INCOME_THRESHOLD_60% Median (FY2014)
1	\$ 23,000	\$ 32,065
2	\$ 31,000	\$ 41,932
3 or DK/REF	\$ 39,000	\$ 51,798
4	\$ 47,000	\$ 61,664
5	\$ 55,000	\$ 71,530
6	\$ 63,000	\$ 81,396
7	\$ 71,000	\$ 83,246
8	\$ 79,000	\$ 85,096
9	\$ 87,000	\$ 86,946
10	\$ 95,000	\$ 88,795
11	\$ 103,000	\$ 90,646
12 or more	\$ 111,000	\$ 92,496

42. What is the highest level of education completed by any head of household in this residence?

1. Elementary (Grades 1-8)
2. Some high school (Grades 9-12)
3. High School Graduate
4. Some College/Trade/Vocational School
5. College Graduate
6. Postgraduate College
98. Don't Know
99. Refused

[ASK Q44 TO EVERYONE, EVEN IF PREVIOUSLY COMPLETED DEMO/FIRMO.]

44. Does anybody in this residence require electricity to operate critical medical equipment, such as breathing machines, kidney or dialysis pumps, or other medically prescribed devices?

1. Yes
2. No
98. Don't Know
99. Refused

[ASK Q44A TO EVERYONE, EVEN IF PREVIOUSLY COMPLETED DEMO/FIRMO.]

44a. Does anyone in this residence require electricity for any other essential appliance or equipment?

By “essential” I mean some electric appliance or equipment, not including your refrigerator, that you must have operable all the time? If you do, please tell me what that appliance or equipment is?

(RECORD VERBATIM.)

1. Yes (Please record other essential appliance/equipment? _____)
2. No
98. Don't Know
99. Refused

45. What is the primary language spoken in this residence?

[ALPHABETIZE LIST]

1. English **[FIXED]**
2. Russian
3. French
4. Portuguese
5. Spanish
6. Vietnamese
7. Chinese
8. Italian
9. Other (Please Specify) **[FIXED]**
98. Don't Know **[FIXED]**
99. Refused **[FIXED]**

[CLOSE]

Thank you for participating in this survey; your feedback on National Grid's Smart Energy Solutions program is extremely valuable. Have a wonderful day!

(Note to BRI – Project to reference for Demographics: 14292, 14210, 14447, 15337, 15337B.)

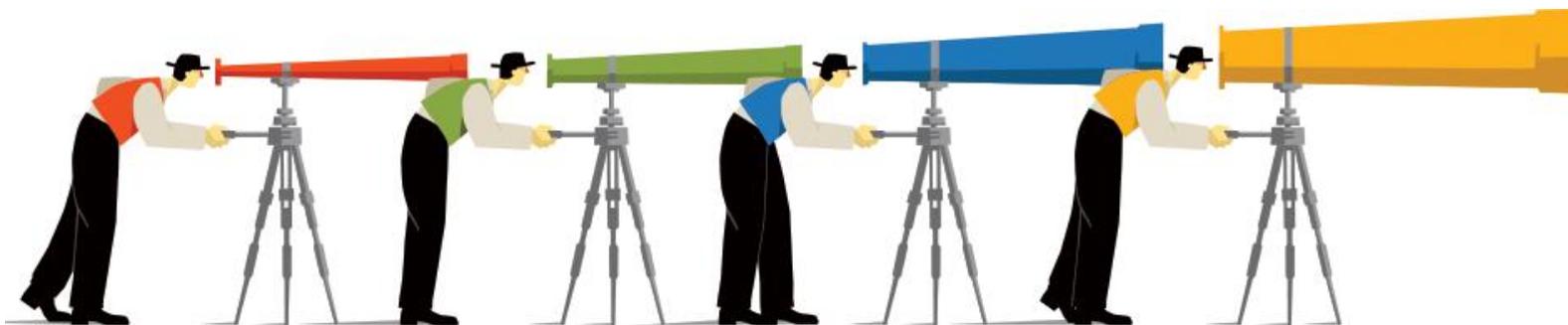
Questions in **RED** were added for 14447 and were not in previous studies.

Smart Energy Solutions End of Summer Survey



Prepared for National Grid

October 19, 2015



DISPUTES & INVESTIGATIONS • ECONOMICS • FINANCIAL ADVISORY • MANAGEMENT CONSULTING

- » Customers changed their behavior and attitudes towards the Smart Energy Solutions program over the summer.

Customer Learning

Behavioral changes over Summer 2015

- Avoided energy intensive chores (laundry, dishwashing) during Peak Events
- More customers sought activities outside the home during peak hours
- Picture display customers used the device more intensively as the summer progressed
- PCT customers overrode thermostat more frequently as the summer progressed
- Few Smart Plug users plugged appliances into the device

Customer Attitudes

Customer dislikes and likes about Summer 2015

- Over 70% of customers are very satisfied or somewhat satisfied; 20% not satisfied at all
- Dissatisfied customers desire fewer Conservation Days, shorter events, lower rates, and less contact
- Customers want transparency into bill calculations and savings as a result of participating in SES
- Customers want personalized conservation tips and end-use specific electricity consumption data
- Customers believed they used less electricity this Summer than in Summer 2014

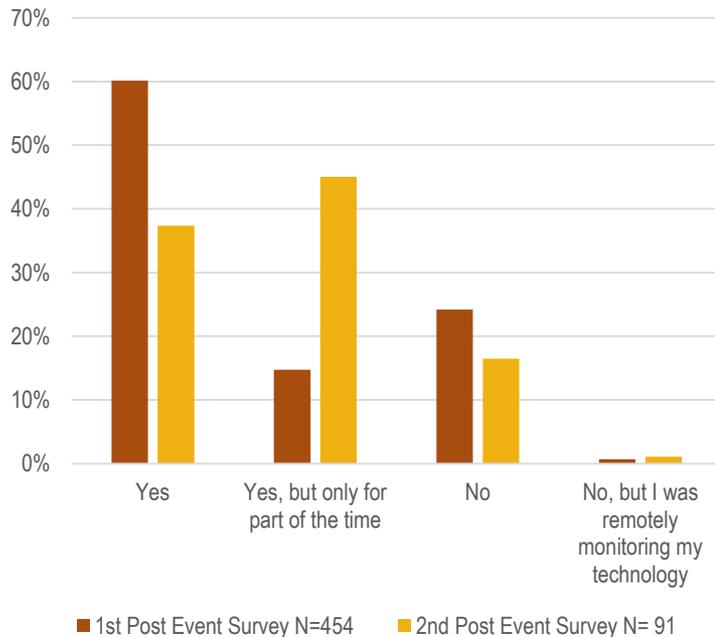
	1 st Post Event Survey		2 nd Post Event Survey		End of Summer Survey	
	Number of Respondents	Percent of Total Respondents	Number of Respondents	Percent of Total Respondents	Number of Respondents	Percent of Total Respondents
Level One	307	58%	167	62%	315	62%
Level Two	156	30%	68	25%	118	23%
Level Three	10	2%	5	2%	7	1%
Level Four	54	10%	30	11%	66	13%
Total	527	100%	270	100%	506	100%

- » All customers were contacted for the 1st post event and End of Summer surveys.
- » Half of the customers were contacted for the 2nd post event survey to reduce survey fatigue.
- » In-home displays are the most popular technology amongst respondents.
- » At the end of the summer the number of smart plug respondents increased because of improvements / corrections in the program tracking database.

- » Most (75-80%) customers reported being home for at least part of the Peak Event hours in the first two surveys.
- » More than half (55%) of customers were home for most or all Peak Event hours by the end of summer.

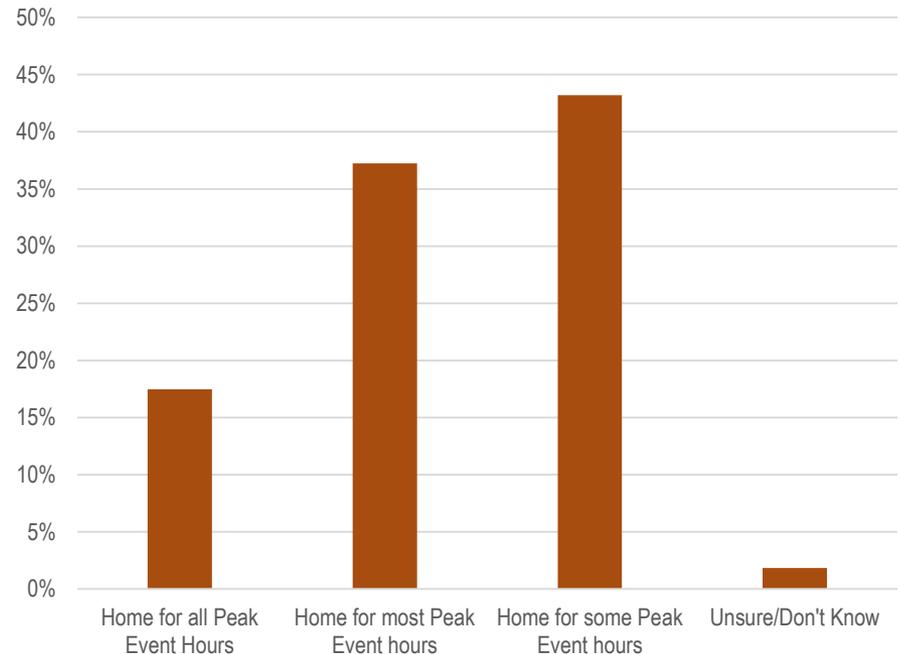
1st and 2nd Post Event Survey

Were you or another family member home during the Peak Event hours of the Conservation Day?



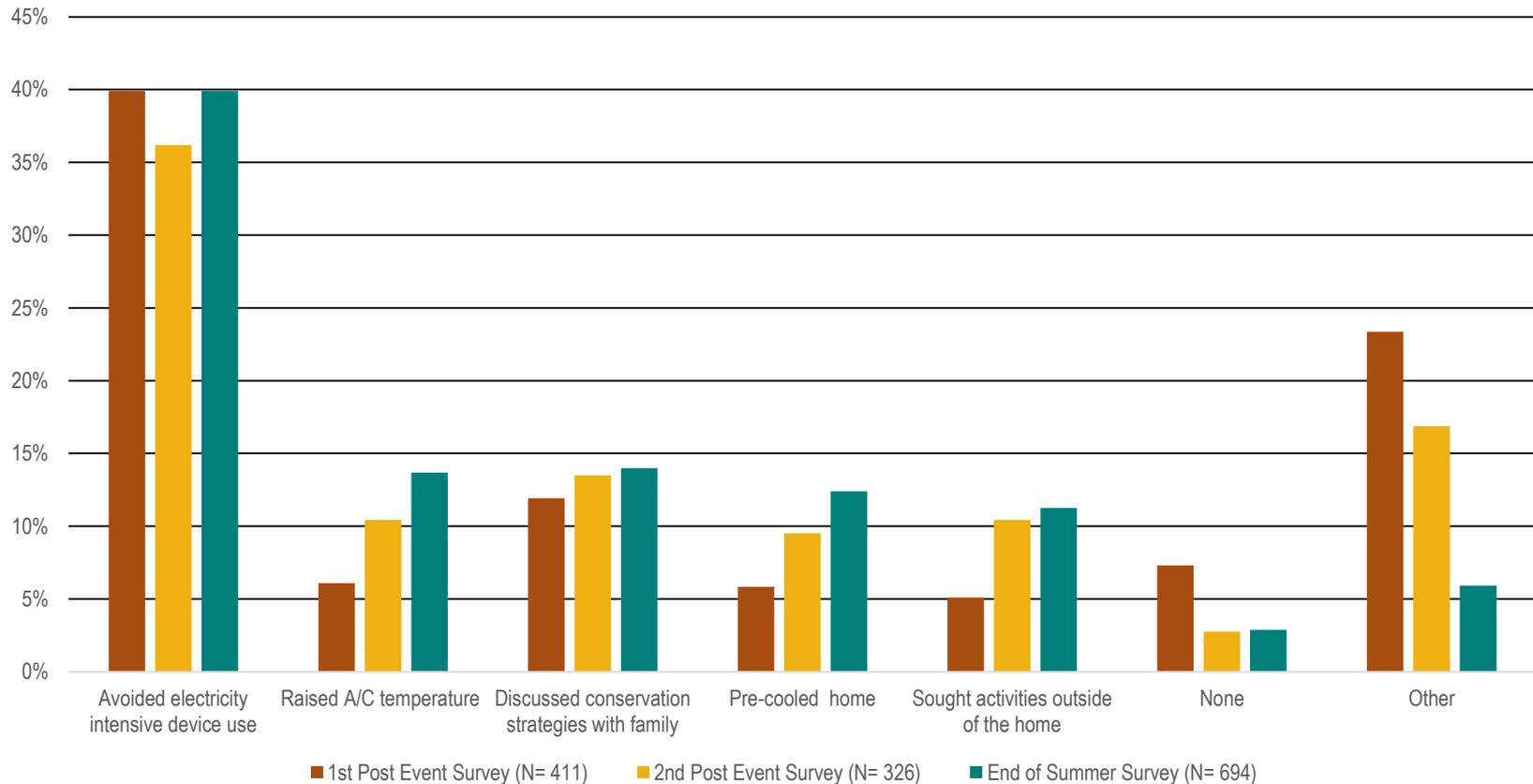
End of Summer Survey

About how many of the Peak Event hours were you, or a family member at home, on Conservation Days?



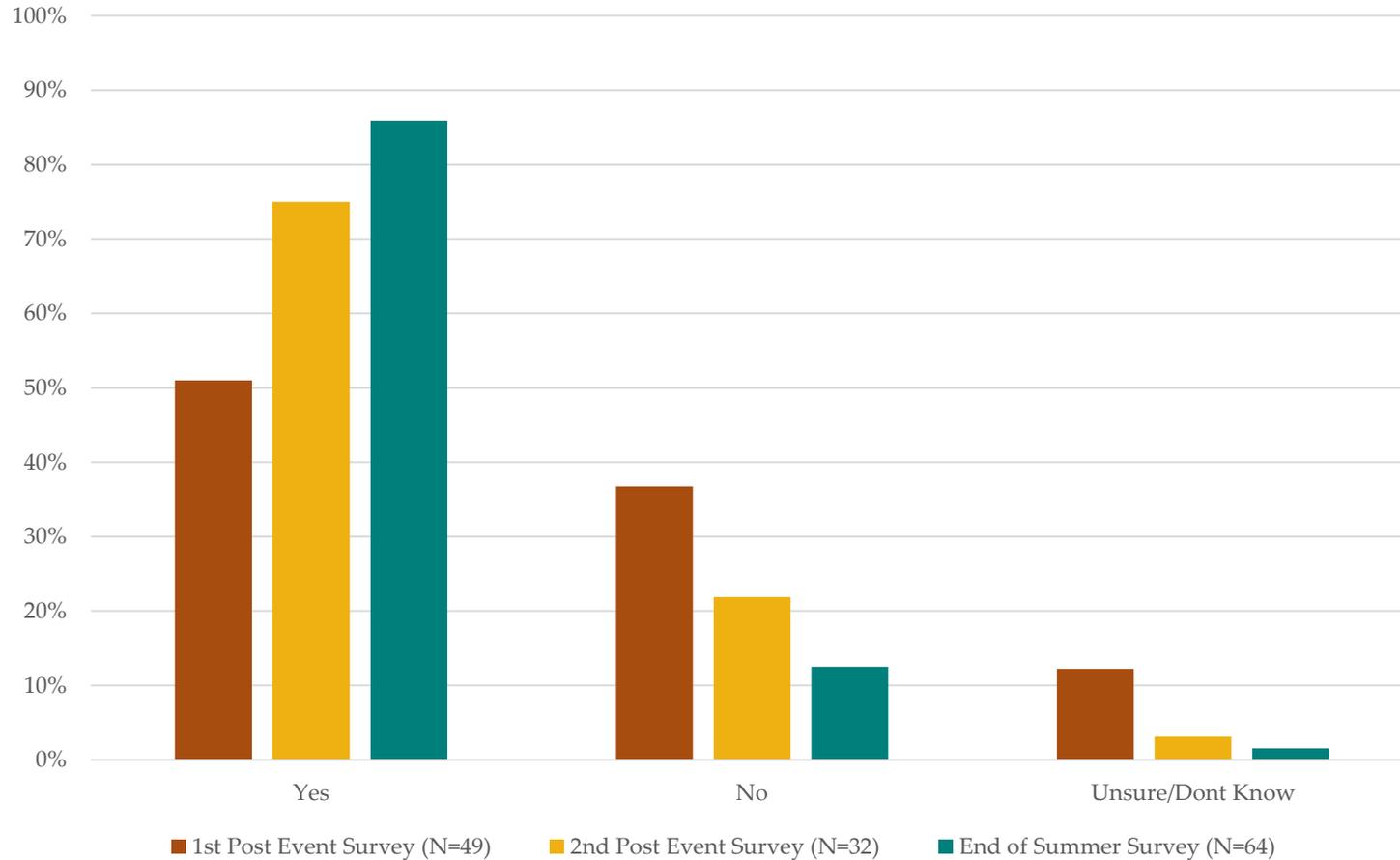
What actions, if any, did you take to reduce your electricity use on the Conservation Day?

» The most popular form of electricity conservation, during events throughout the summer, was to reduce use of appliances and energy intensive devices



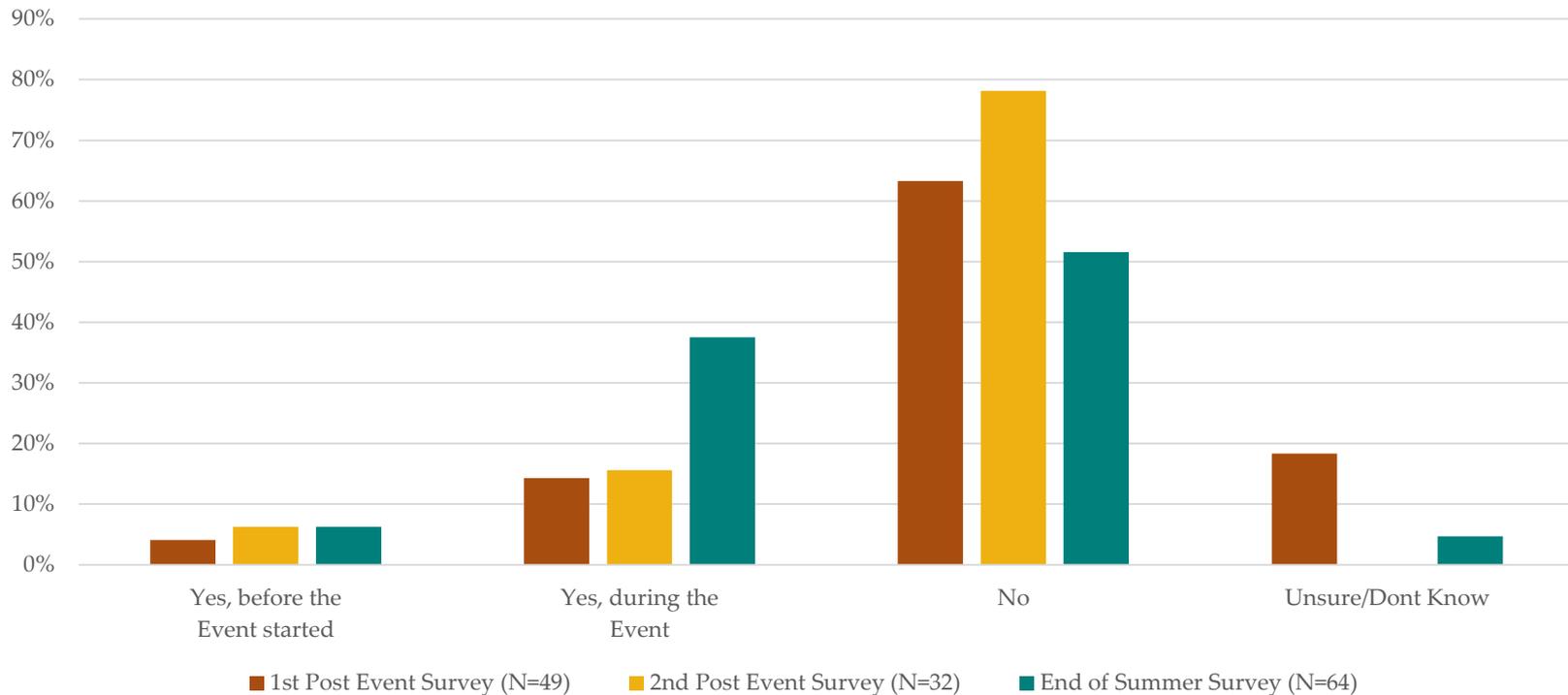
Did you, or the other family member present during the Conservation Day's Peak Event hours, notice a change in temperature in your home during Peak Event hours?

» As the program and summer progressed more participants noticed a change in temperature in their home during events



At any point before or during the Peak Event hours, did you press the override button on your thermostat to prevent or stop the program from adjusting your thermostat remotely?

» As the program and summer progressed more Level 3 and Level 4 respondents chose to override their PCT

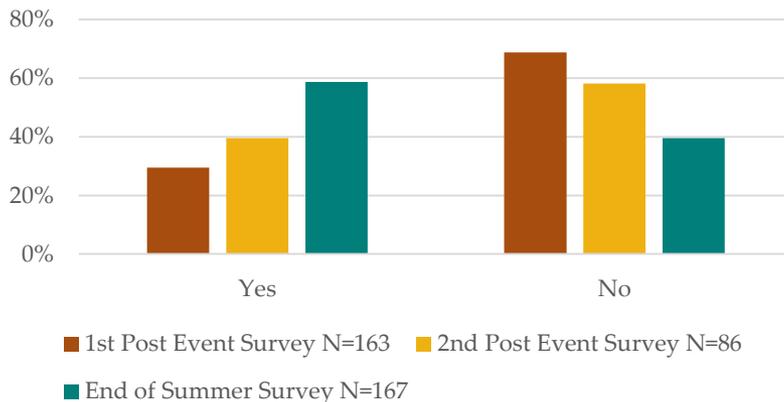


Customers have conflicting perceptions on Digital Picture Frame use

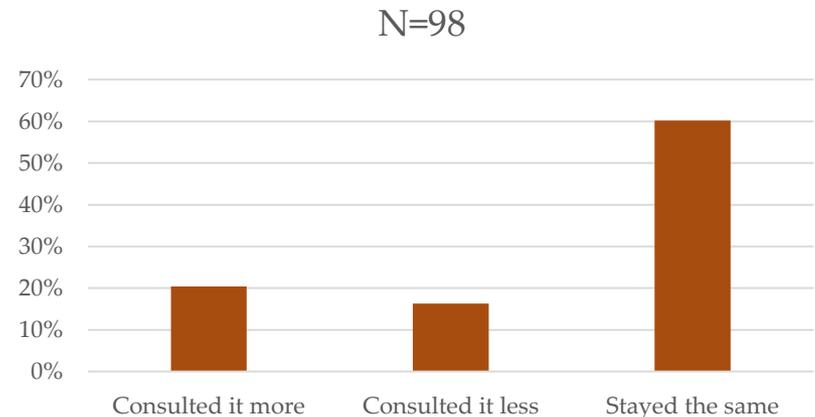
- » The 3 surveys asked customers if they consulted their Digital Picture Frame during peak events.
- » Results show that 59% of customers looked at the device by the end of the summer compared to 29% at the beginning of summer.

- » The End of Summer Survey asks customers to assess how their Digital Picture Frame use changed over the summer.
- » 60% of customers said they did not change how often they used the device.

Did you refer to your Digital Picture Frame at any point during the Peak Event hours to check your electricity consumption?



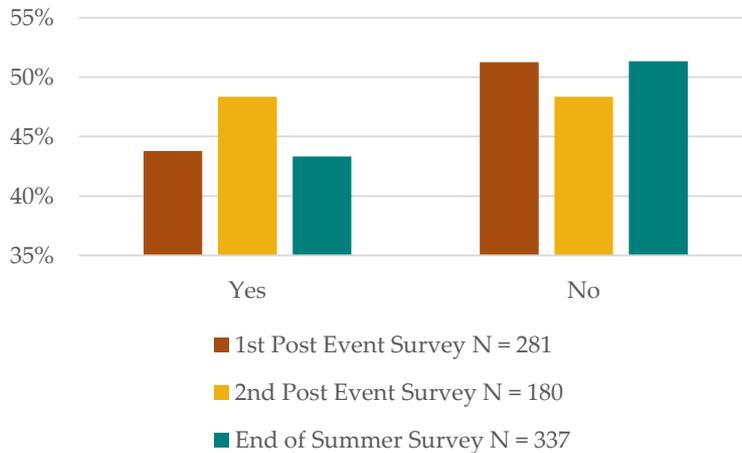
Did you find you looked at the Digital Picture Frame more often at the end of the summer than at the beginning, less than at the beginning, or no change?



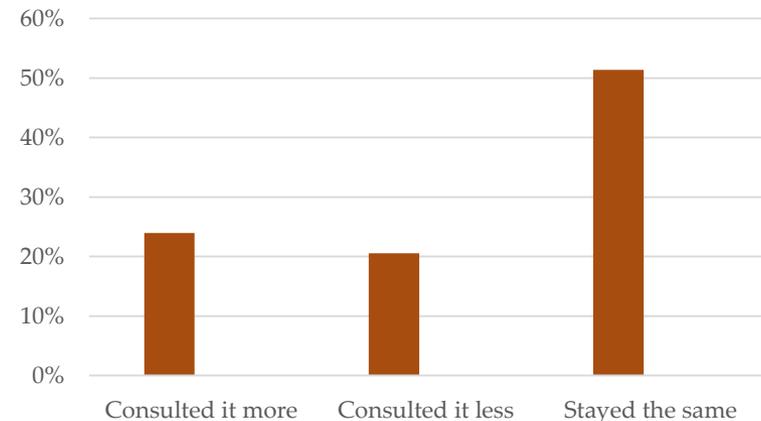
Customers have consistent perceptions on WorcesterSmart Customer Portal use

- » The 3 surveys asked customers if they consulted WorcesterSmart Customer Portal during peak events.
- » Customers reported rather consistent use of the Portal, between 43% and 48%
- » The End of Summer Survey asks customers to assess how their WorcesterSmart Customer Portal use changed over the summer.
- » About 50% of customers said they did not change how often they used the device.

Did you refer to your WorcesterSmart Customer Portal at any point during the Peak Event hours to check your electricity consumption?

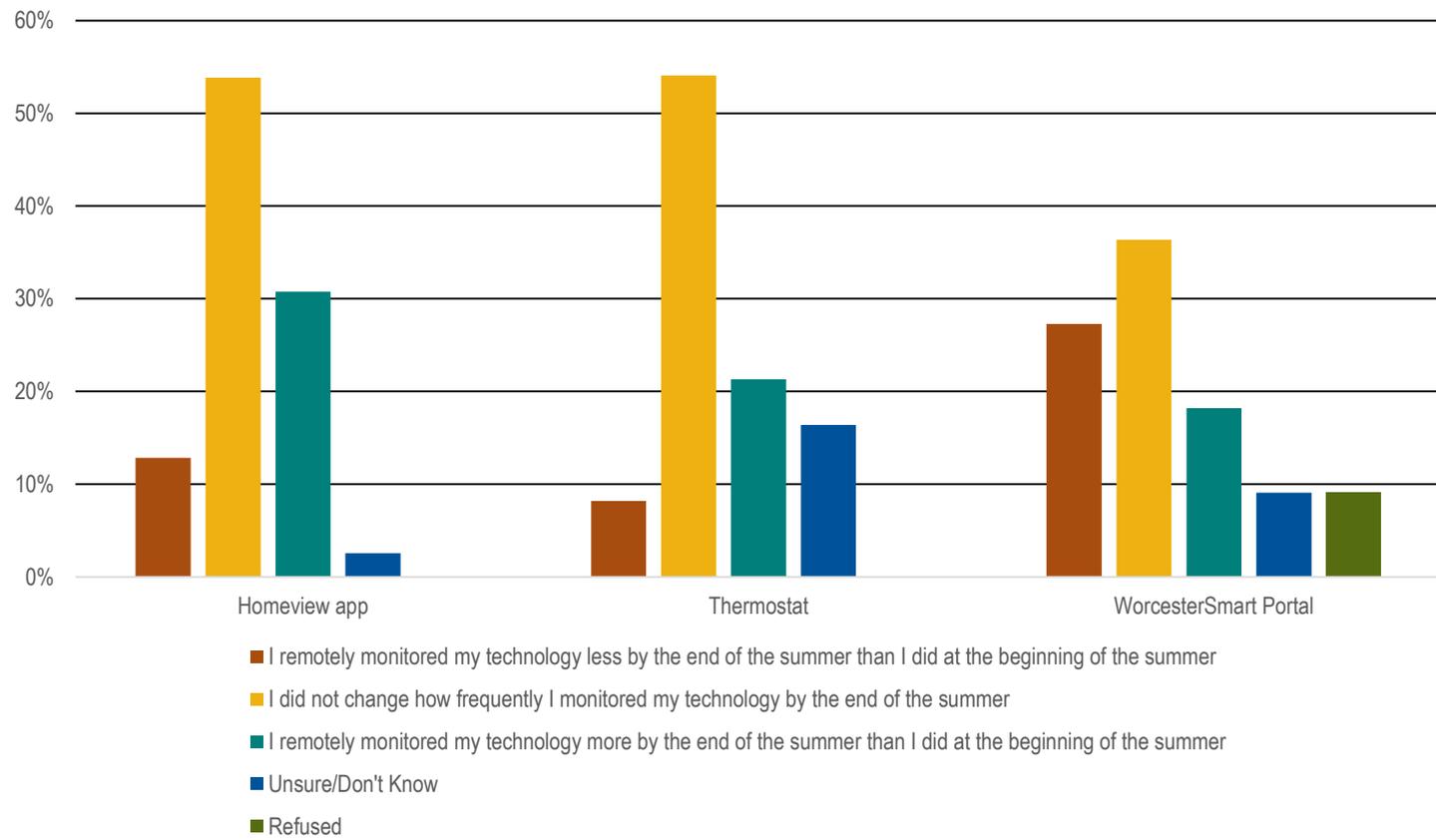


Did you find you looked at the WorcesterSmart Customer Portal more often at the end of the summer than at the beginning, less than at the beginning, or no change?



Did you change how often you remotely monitored your technology at the end of the summer compared to the beginning of the summer?

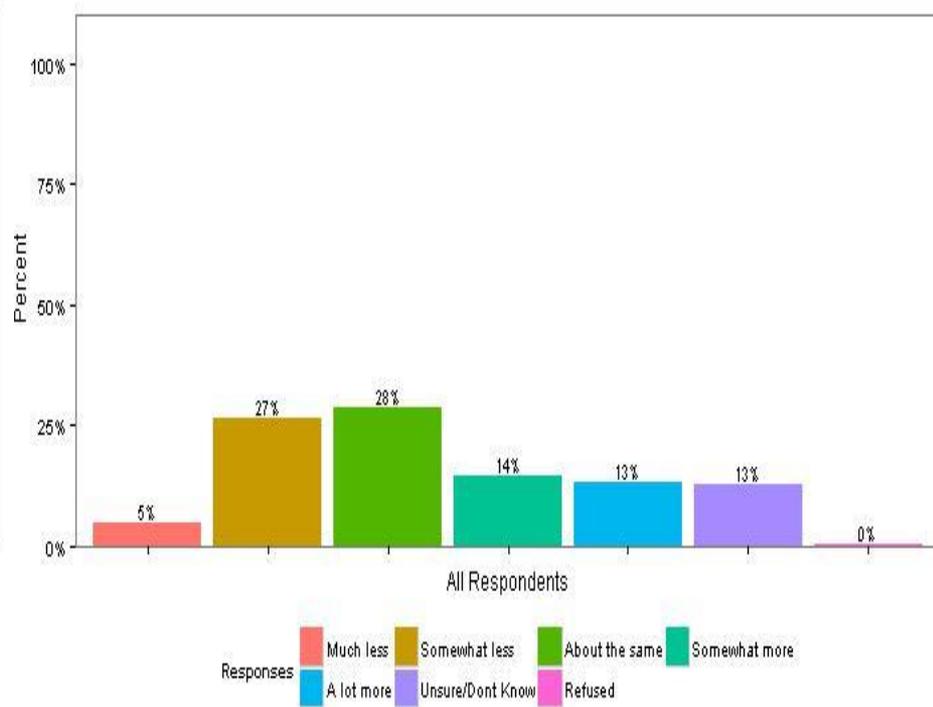
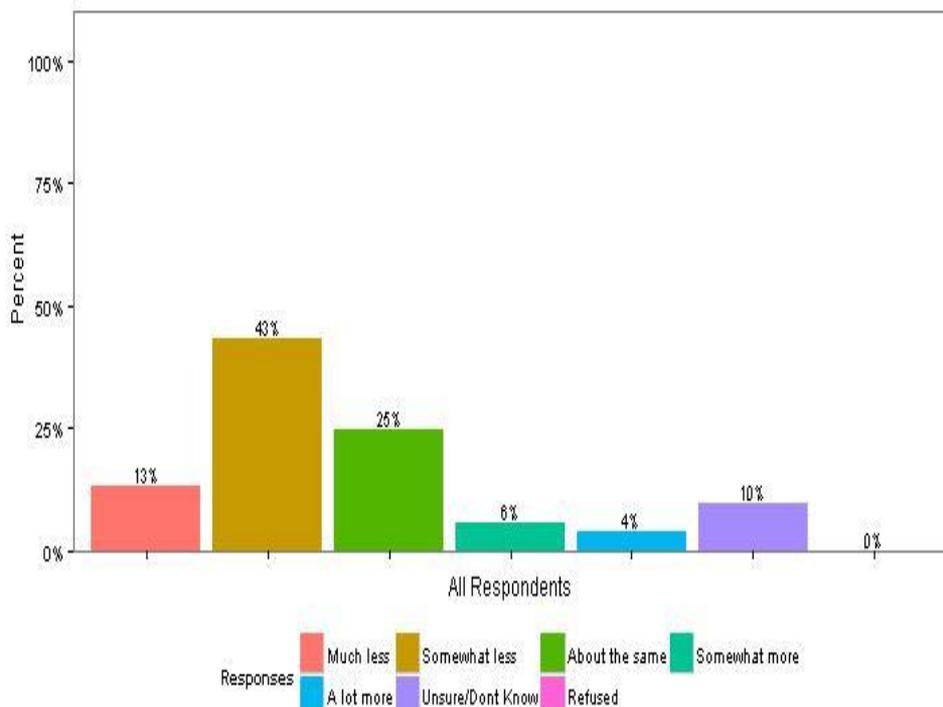
- » 30% of Homeview app users increased their usage of the technology, while almost 30% of WorcesterSmart users decreased their usage of the portal.
- » 75% of thermostat users did not change or increased their remote monitoring.



Although customers felt their electricity use decreased this summer, many felt their bills increased

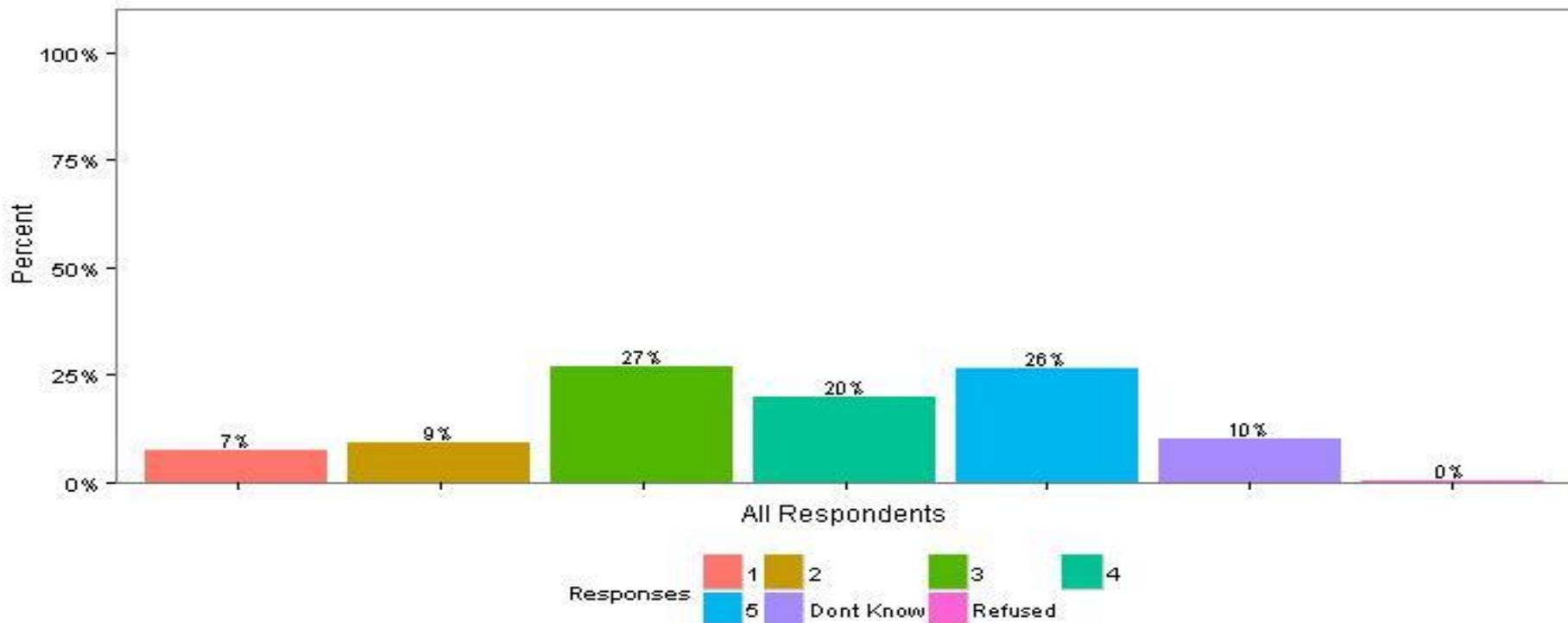
How, if at all, has the amount of electricity your household uses changed this summer compared to a normal summer?

How, if at all, has your household electric bill changed this summer compared to a normal summer?

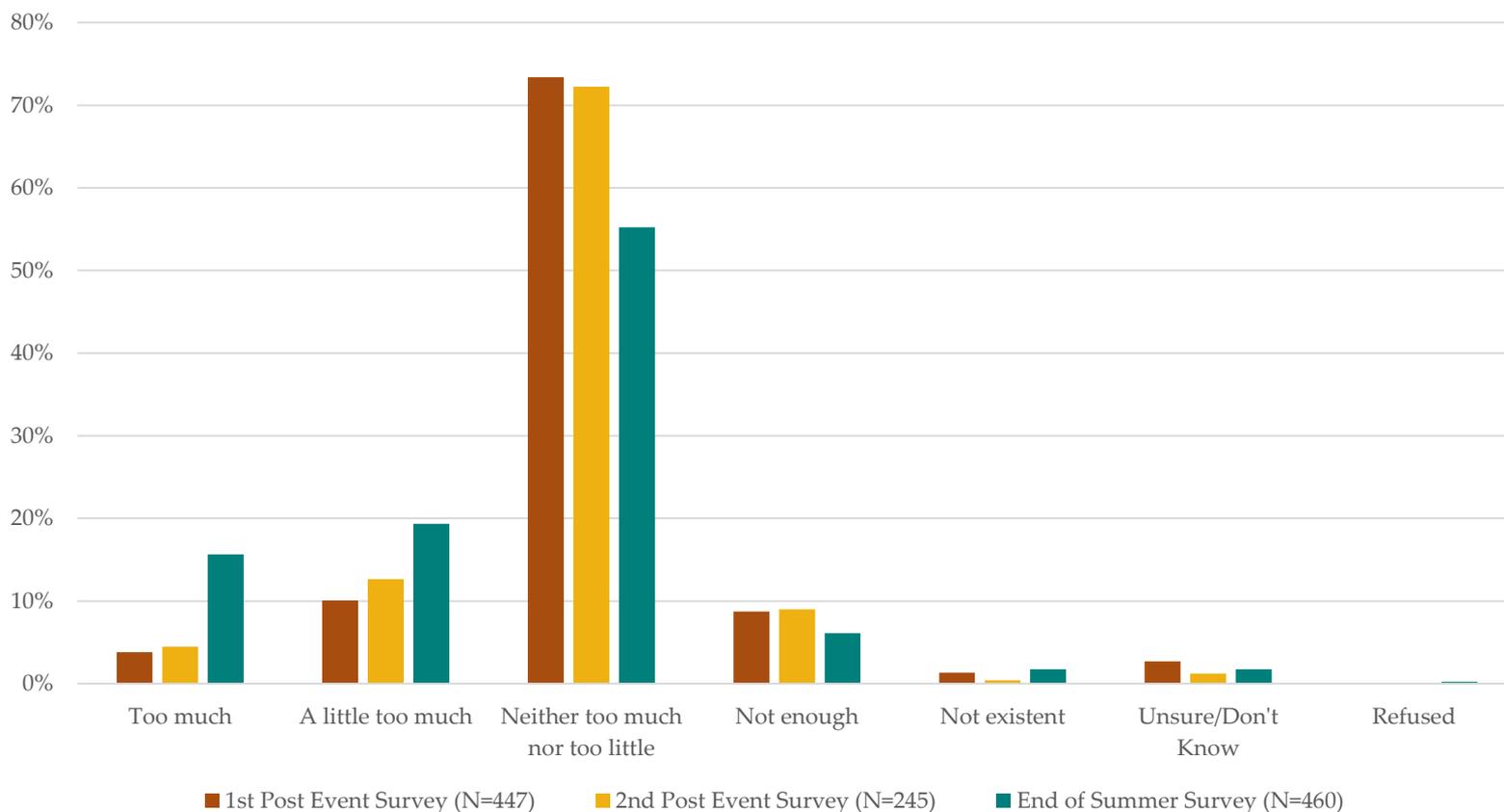


On a scale of 1 to 5, where 1 is "no effect" and 5 is "large effect", how much of the change you noticed (in previous slide) was attributed to the Smart Energy Solutions program?

- » 73% of customers felt that SES had a medium ("3") to large effect ("5") on their bill.



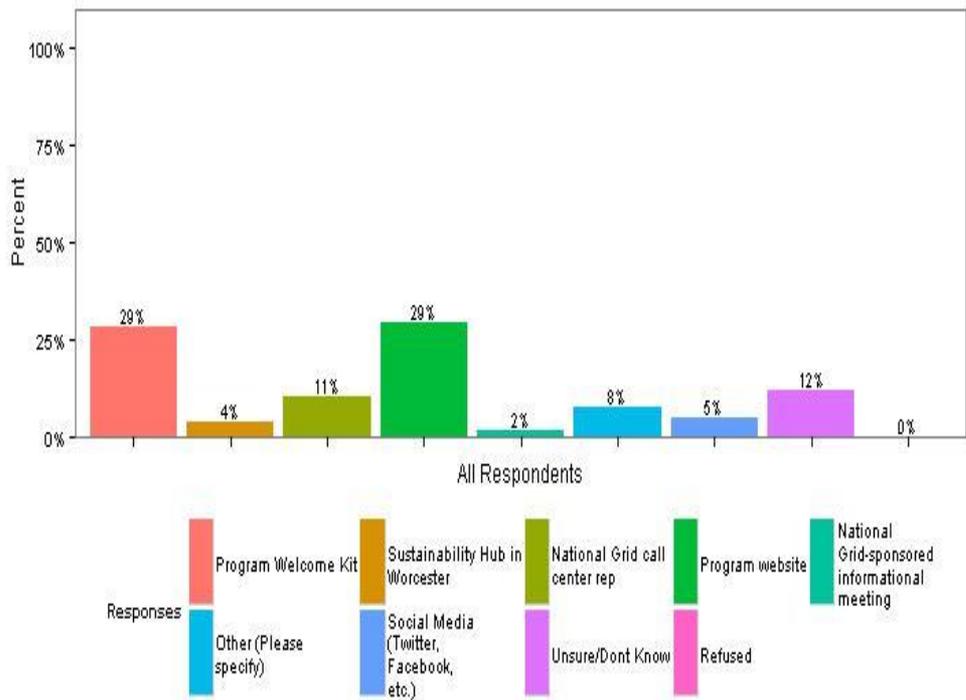
- » According to the End of Summer Survey, 35% of customers felt they received too much information from National Grid about the Conservation day; verbatim responses reflect this sentiment.



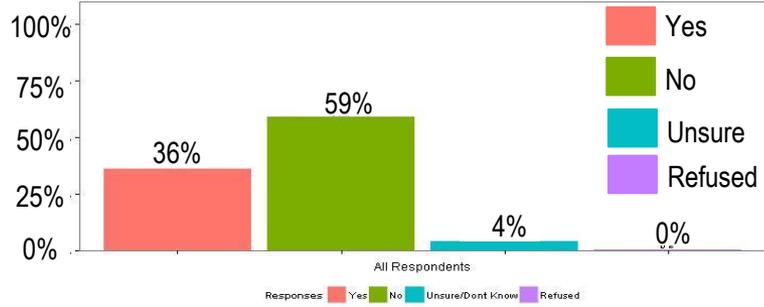
Customers would like to receive more information, preferably by email or mail

The most useful sources to date are the Welcome Kit and program website.

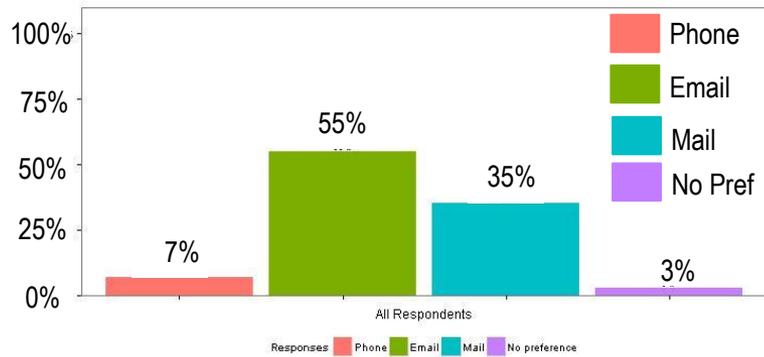
» What sources of information were most useful to you in learning about Conservation Days?
 N= 469



» A. Would you like to receive additional information on SES or conservation days?
 N = 506

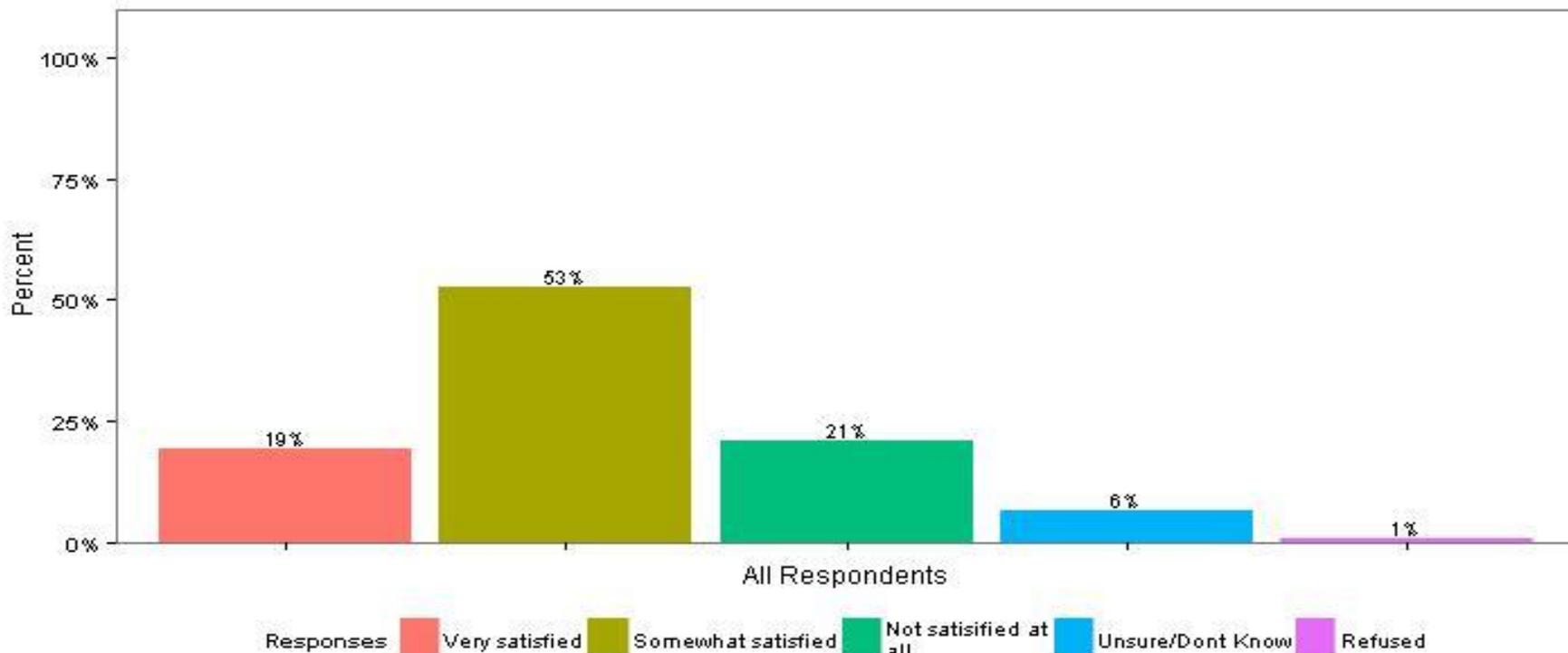


» B. How you like to receive this information?
 N = 204



How would you rate your overall satisfaction with the Smart Energy Solutions program?

» 72% of customers were at least somewhat satisfied with the program.



Why did you rate your satisfaction as...

- » Customer feedback at the end of the summer ranged from satisfied to not satisfied for a variety of reasons, depending on customer experience and perception of savings, event notification, and interest in energy usage.

Satisfied

“I became much more aware of my energy usage.” – Many customers felt more aware of their electricity usage as a result of the program

“Helped me save money.” – Many respondents felt they saved money as a result of the program

Somewhat Satisfied

“I like and agree with the concept of the program and we made a tremendous effort to bring down our bill and possibly win an incentive gift. But it became impossible to tell what was going on without some ongoing live feedback that was aligned with activities in the home, so we just kept doing what we always do. That is to try to save any way we can. Knowing that we would actually gain by doing that is very satisfying.”

“Too many peak events lasting too late into the evening, not enough rewards to counter that.” – Many respondents thought the peak events lasted too late into the day. It seems they expected them to end by 6 PM.

Not Satisfied

“Because my electric bill has only gone up despite the fact that I have lived like a caveman all summer.” – Many respondents felt their bills went up as a result of the program

“I got too many phone calls that were interrupting my work day.” – Many respondents felt there were too many phone calls

What additional or different information would make it easier for you to save electricity as a participant in the Smart Energy Solutions program?

- » Customers need pricing program information, how technology can be used, conservation tips, and advanced notifications.

Energy Usage, Tips and Suggestions	Pricing Program Information	Technology Information or Upgrades
<p>“A breakdown of where the energy is being used.”</p>	<p>“A flat rate would be nice.”</p>	<p>“Could tell me how to get some free stuff like light bulbs, new stove. If I could get information on how to get free stuff that would be cool.”</p>
<p>“I would say charting my usage during non peak day against the people in my community during that non peak day. I would be able to see if I was doing better against the other people in the community.”</p>	<p>“Comparison vs. regular rates on bill.”</p>	<p>“It would be nice if the there was a cutoff on the smart energy thermostat. During the first few days, I had raised my thermostat 4 degrees before I left home. And then during the peak hours, National Grid raised it another 4 degrees, so my house was extremely warm when I got home.”</p>
<p>“I've been running around my house unplugging stuff all summer and hanging out in the dark. One more step and I'll be Amish.”</p>	<p>“More rebates or discounted items.”</p>	
<p>“Bullet suggestions of ways to save energy.”</p>	<h3>Conservation Day Notification</h3>	<p>“Give us more than 20 hours advance notice that an event is going to happen... Only finding out about them in the middle of the afternoon the day before was not enough lead time. Also, if you're going to have 4 or 5 in a row, can you just notify us all at once? For each single event, I get a phone call and an email the day before, then a phone call and an email the day of. Now think about getting that 4 or 5 days in a row. It obnoxious!”</p>

Is there anything specific that the Smart Energy Solutions program could be doing better or differently to improve the experience for you?

- » Customers want lower rates, shorter peak event time frames, fewer peak events, and additional information about their usage.
- » Customers prefer text or email notifications over phone and voicemail.
- » Customers want notifications to include future events.

Conservation Day Notification	Peak Events	Usage Information
"One mode of communication."	"Shorten the time frames on event days, 8 hours is a long time to shutdown AC, etc."	"I want a screen that tells me my real time usage. That's very important. My whole family can be involved with this program if they could see what impact their daily activities have on our bill."
"Stop calling and leaving a million voicemails."	"Don't run a peak event past 5 pm."	"Don't double the rates and simply educate your customers on how important it is to save energy. Use social media platforms and smart energy campaigns to get your customers involved. Don't just decide to test us and make us pay more."
"Make it easier to opt out of the phone calls."	"Charge lower peak rates."	"I do most of all the suggestions they recommend and yet my bill is high. Other than going out and buying all new appliances which would cost me a fortune to save maybe \$10 a month, I don't know what else to do."
"Make it easier to opt out of the phone calls."	"Not having 3 days in a row, maybe reducing the number of hours."	
	"The peak events go too late into the evening, 6:00 PM should be the cutoff."	

National Grid Smart Energy Solutions Post-Event Survey 2016 (WAVE-2 occurring Thursday, 7/28, 11:00am-7:00pm)

UPDATED LOW INCOME TABLE: Source MA Dept Housing, April 2016

[INSERTS FOR CONTACT_NAME, PSEUDO ID NUMBER WILL COME FROM NATIONAL GRID-SUPPLIED SAMPLE], INSERT EVENT DATE = Thursday, July 28th INSERT HOURS OF EVENT 11:00am through 7:00pm

Basic Customer Data: (To be provided by National Grid)

- Name (Adult Customer of Record or Spouse)
- Date Survey Completed (To be completed by Bellomy Research)
- Property Address
- Phone number
- Email Address
- IDNUM

Sample Variables:

1. *IHDflag: 1 = Respondent has in-home picture frame display provided through pilot, 0 = no IHD*
2. *TSTAT 1= Respondent has thermostat, 0=no thermostat*
3. *DLCflag: 1 = Respondent is on Direct Load Control pilot, 0 = non-DLC*
4. *Plug control: 1 = Respondent has a load control plug, 0= no plug*
5. *Account: 1 = Respondent has My National Grid account, 0 = no account*
6. *Rate Type: 1 = Respondent is on Smart Rewards Pricing.*
7. *Rate Type: 2 = Respondent is on Conservation Day Rate*
8. *DATE = Date of Conservation Day Peak Event - Programmed by Bellomy each event*
9. *HOURS OF EVENT = START AND END TIME (e.g. 2PM-5pm) - Programmed by Bellomy each event*

[INTRO WHEN SURVEY TAKEN ONLINE]

Thank you for responding to Bellomy Research's email invitation on behalf of National Grid's Smart Energy Solutions program to provide feedback on your experience with the recent Conservation Day on [INSERT EVENT DATE]. ***If you qualify and complete the entire survey we will send you a \$10 check.***

Your feedback will help us make this program the best possible experience for you and other participating customers. We appreciate your time and insights.

Please be aware that after you have entered a response and have chosen to move forward to the next question, you may not be able to return to the previous page of the survey. *Please review each question and your responses carefully before proceeding.* Please use the arrow at bottom left of the screen to advance the survey. Do NOT use your browser's BACK button.

[THIS QUESTION TO BE ASKED OF ALL RESPONDENTS – EMAIL AND PHONE]

1a. Would you please confirm that you are the person in your household who is most knowledgeable about National Grid's Smart Energy Solutions program? You may also know the Smart Energy Solutions program as National Grid's "Smart Grid pilot program." This program recently installed advanced electric meters in your area that provide customers with more information and control of their energy usage.

1. I am the most knowledgeable [SKIP TO Q1]
2. Another person is most knowledgeable but I can answer questions about the event [SKIP TO Q1]
3. Another person is most knowledgeable
98. Don't know [THANK AND TERMINATE]
99. I prefer not to answer [THANK AND TERMINATE]

[IF 1A = 3, CONTINUE. OTHERWISE, SKIP TO Q1]

1b. What is that person's name and contact information?

1. Name _____
2. Email Address _____
3. Phone Number _____

1bb. Is that person able to continue this survey? If so, please have them come to the computer/mobile device.

1. Yes, continue [GO TO INTRO]
2. No/Prefer not to answer [THANK AND TERMINATE]

Conservation Day Awareness (ASK ALL RESPONDENTS)

[IF RATE TYPE = 1, SAY]

1. According to our records, you are participating in the Smart Energy Solutions program on the Smart Rewards Pricing Plan. Is that correct?

With Smart Rewards Pricing, you pay less than the basic service rate for your electricity usage during the daytime, and even lower rates during weekday nights, weekends, and holidays. During Peak Event hours on Conservation Days-your rates will increase, but you can minimize this increase by saving electricity during the specified Peak Event hours. The program is also known as National Grid's Smart Grid Pilot Program or the WorcesterSmart Grid Pilot Program. Does that sound familiar to you?"

1. Yes [SKIP TO Q3]
2. No [THANK AND TERMINATE]
98. Unsure/Don't Know [SKIP TO Q3]
99. I prefer not to answer [THANK AND TERMINATE]

[IF RATE TYPE = 2, SAY]

2. According to our records, you are participating in the Smart Energy Solutions program with the Conservation Day Rebate plan. Is that correct?

On the Conservation Day Rebate plan you pay the basic service electric rate, but if you reduce energy use during Peak Event hours on a Conservation Day, you will receive a credit on your electric bill in the month after Conservation Day. The program is also known as National Grid's Smart Grid Pilot Program or the WorcesterSmart Grid Pilot Program. Does that sound familiar to you?"

1. Yes [CONTINUE]
2. No [THANK AND TERMINATE]

98. Unsure/Don't Know [CONTINUE]
99. I prefer not to answer [THANK AND TERMINATE]
3. As part of National Grid's Smart Grid Smart Energy Solutions program, National Grid will call Conservation Days. Were you aware that a Conservation Day occurred on [INSERT EVENT DATE], with specific Peak Event hours between [INSERT HOURS OF EVENT]?
1. Yes [CONTINUE]
 2. No [THANK AND TERMINATE]
98. Unsure/Don't Know [THANK AND TERMINATE]
99. I prefer not to answer [THANK AND TERMINATE]
4. How did you become aware that a Conservation Day was going to occur? *Select all that apply.*
1. Automated Phone Message
 2. E-Mail
 3. SMS Text Message
 4. CEIVA Digital Picture Frame [DISPLAY IF IHDFLAG = 1]
 5. Smart Thermostat [DISPLAY IF TSTAT = 1]
 6. Homeview app on Smartphone [DO NOT DISPLAY IF IHDFLAG = 1, TSTAT = 1, DLCFLAG = 1, AND PLUGCONTROL = 1]
 10. Sustainability Hub visit
 11. Sustainability Hub via Facebook
 12. Sustainability Hub via Twitter
 13. Sustainability Hub via Instagram
 7. Was not notified [SKIP TO Q6]
 8. Other (Please specify)
98. Unsure/Don't Know
99. I prefer not to answer
5. Did the notification give you sufficient information about the Conservation Day that was set to occur?
1. Yes
 2. No
98. Unsure/Don't Know
99. I prefer not to answer
- 5a. How do you feel about the amount of notification you received regarding the Conservation Day? Would you say it was...? *Select one answer only.*
- [RANDOMIZE]
1. Just right
 2. Too much
 3. Too little
6. On the Conservation Day that occurred on [INSERT EVENT DATE], the Peak Event hours occurred between [INSERT HOURS OF EVENT]. Were you or another family member home during the Peak Event hours that occurred on [INSERT EVENT DATE]? *Select one answer only.*
1. Yes [SKIP TO Q9]
 2. Yes, but only for part of the time [SKIP TO Q9]
 3. No [CONTINUE]

4. No, but I was remotely monitoring my Smart Thermostat, National Grid App, or Smart Plug [CONTINUE]
98. Unsure/Don't Know [THANK AND TERMINATE]
99. I prefer not to answer [THANK AND TERMINATE]

[IF Q6 = 3 OR 4, ASK]

7. Even though you were not home during the Peak Event hours, did you take any actions to decrease your electricity usage during the Peak Event hours?
 1. Yes [CONTINUE]
 2. No [IF TSTAT = 1, ASK Q16-Q18, THEN IF PLUG CONTROL = 1, CONTINUE]
98. Unsure/Don't Know [IF TSTAT = 1, ASK Q16-Q18, THEN IF PLUG CONTROL = 1, CONTINUE]
99. I prefer not to answer [THANK AND TERMINATE]

[IF Q7 = 1, ASK Q8, THEN ASK Q11/11a, THEN IF TSTAT = 1, ASK Q16-Q18, THEN IF PLUG CONTROL = 1, ASK Q21]

[IF Q7 = 2 OR 98 AND IF TSTAT = 1, ASK Q16-Q18, THEN IF PLUG CONTROL = 1, CONTINUE]

8. What actions did you take? *Select all that apply.*
 1. Adjusted thermostat for higher (warmer) temperatures before or during the Event
 8. Pre-cooled the house before leaving the house
 2. Adjusted thermostat remotely using the National Grid app
 3. Adjusted thermostat for lower (cooler) temperatures after the Event
 4. Shut off or unplugged appliances
 5. Closed curtains or drapes
 6. Other (Please specify)
 7. None
 98. Unsure/Don't Know
 99. I prefer not to answer

9. What actions, if any, did you take to reduce your electricity use on [INSERT EVENT DATE], when a Conservation Day occurred? *Select all that apply.*
 1. Discussed energy conservation strategies with my family [SKIP TO Q11A]
 2. Pre-cooled my home during morning off-peak hours [SKIP TO Q11A]
 3. Changed the temperature setting on my central air conditioning system to a warmer setting during peak hours [SKIP TO Q11]
 4. Sought activities outside of the home [SKIP TO Q11]
 5. Avoided use of certain appliances or electricity intensive devices during critical peak hours [CONTINUE]
 6. Other (Please specify) [SKIP TO Q11A]
 7. None [SKIP TO Q11A]
 98. Unsure/Don't Know [SKIP TO Q11A]
 99. I prefer not to answer [SKIP TO Q11A]

[IF Q9 = 5, CONTINUE.]

10. What items specifically did you avoid using to save energy during the Conservation Day? *Select all that apply.*

1. Lighting
2. Oven
3. Range/Cooktop
4. Microwave
5. Dishwasher
6. Clothes washer/Clothes dryer
7. Central AC
8. Room AC/Window AC
9. Fans
10. Television
11. DVD/Blu-Ray Player
12. Cable Box
13. Video game console
14. Computer
15. Humidifier/Dehumidifier
17. Pool pump
18. Electric hot water heater
16. Other high energy use appliances (Please specify)
98. Unsure/Don't Know
99. I prefer not to answer

[IF Q9 = 3, 4, OR 5, CONTINUE. OTHERWISE SKIP TO Q11A]

11. During which hours did you take these actions?

1. Starting hour: _____ (RESPONSE REQUIRED IN HH:MM FORMAT)
2. Ending hour: _____ (RESPONSE REQUIRED IN HH:MM FORMAT)

[PROGRAMMER INCLUDE DON'T KNOW CHECKBOX.]

11a. Compared to 2015 Conservation Days, have you made any changes in 2016 in the actions you take in response to Conservation Days?

1. Yes **[CONTINUE TO Q11B]**
2. No **[CONTINUE TO Q12]**
3. Was not in program in 2015 **[CONTINUE TO Q12]**
98. Don't know **[ASK Q11AA IF OUTBOUND PHONE, OTHERWISE, SKIP TO Q12]**
99. I prefer not to answer **[CONTINUE TO Q12]**

[IF Q11A = 1, CONTINUE. OTHERWISE SKIP TO Q12]

11b. What changes have you made?

[OPEN-END]

[PROGRAMMER INCLUDE DON'T KNOW AND I PREFER NOT TO ANSWER CHECKBOXES.]

Thermostat Usage (TSTAT = 1)

[IF TSTAT = 1, CONTINUE. OTHERWISE SKIP TO Q21]

12. Did you, or the family member present during the Conservation Day's Peak Event hours, notice a change in the temperature in your home on **[INSERT EVENT DATE]** between the Peak Event hours of **[INSERT HOURS OF EVENT]**?

1. Yes
2. No **[SKIP TO Q15]**
98. Unsure/Don't Know **[SKIP TO Q15]**
99. **I prefer not to answer** **[SKIP TO Q15]**

[IF Q12 = 1, CONTINUE. OTHERWISE SKIP TO Q15]

13. Did you observe the actual temperature in your home during the Peak Event hours **[INSERT HOURS OF EVENT]**? You might have looked at your thermostat or an indoor thermometer.

1. Yes
2. No **[SKIP TO Q15]**
98. Unsure/Don't Know **[SKIP TO Q15]**
99. **I prefer not to answer** **[SKIP TO Q15]**

[IF Q13 = 1, CONTINUE. OTHERWISE SKIP TO Q15]

14. Approximately how many degrees did the temperature in your home rise during the Peak Event hours? *If you are unsure, your best guesstimate will be okay.*

1. 0-2 degrees Fahrenheit
2. 2-4 degrees Fahrenheit
3. 4-6 degrees Fahrenheit
4. More than 6 degrees Fahrenheit
98. Unsure/Don't Know
99. **I prefer not to answer**

15. During the Event, how would you describe your comfort compared to a typical afternoon with similar outdoor temperatures? Would you say it was...? *Select one answer only.*

5. **Very comfortable**
6. **Much more Comfortable**
7. **Somewhat more comfortable**
1. About the same
2. Somewhat less comfortable
3. Much less comfortable, or
4. Very uncomfortable
98. Unsure/Don't Know
99. **I prefer not to answer**

Thermostat Override

16. At any point before or during the Peak Event hours, did you press the override button on your thermostat to prevent or stop the program from adjusting your thermostat remotely?

1. Yes, before the Event started
2. Yes, during the Event
3. No [SKIP TO Q21-Q19]
98. Unsure/Don't Know [SKIP TO Q21-Q19]
99. I prefer not to answer [SKIP TO Q21-Q19]

[IF Q16 = 1 OR 2, CONTINUE. OTHERWISE SKIP TO Q21-Q19]

17. Why did you use the override button? *Select all that apply.*

1. Did not want house to get too warm/uncomfortable
2. Someone in the home needed the temperature cooler for health reasons
3. Someone in the home wanted the temperature cooler
4. Was too uncomfortable during previous Events
5. Other (Please specify)
98. Unsure/Don't Know
99. I prefer not to answer

18. Were there any other reasons for overriding the temperature settings during the Peak Event hours?

_____ [OPEN-END]

19. How satisfied were you with the performance of the Smart Thermostat during the Peak Event hours? Were you...? *Select one answer only.*

1. Very satisfied [SKIP TO Q21]
2. Satisfied [SKIP TO Q21]
3. Neutral [SKIP TO Q21]
4. Dissatisfied
5. Very dissatisfied
98. Unsure/Don't Know [SKIP TO Q21]
99. I prefer not to answer [SKIP TO Q21]

[IF Q19 = 4 OR 5, CONTINUE.]

20. Why weren't you satisfied with the Smart Thermostat performance during the Peak Event hours?

_____ [OPEN-END]

[PROGRAMMER INCLUDE DON'T KNOW AND I PREFER NOT TO ANSWER CHECKBOXES.]

Smart Plug

[IF PLUG CONTROL = 1, CONTINUE. OTHERWISE SKIP TO Q27]

21. According to our records National Grid provided you with a Smart Plug into which you could plug household lamps or small appliances so they could be remotely controlled by National Grid on Conservation Days during Peak Event hours. Is that correct?

1. Yes
2. No [SKIP TO Q27]
98. Unsure/Don't Know [SKIP TO Q27]
99. I prefer not to answer [SKIP TO Q27]

22. During the Peak Event hours, what household item, such as a lamp or appliance, was plugged into the Smart Plug? *Select one answer only.*

1. Lamp or other light fixture (It's not recommended to plug into a light because there are little savings that way.)
2. Refrigerator or freezer (It's not recommended to plug into a refrigerator or freezer.)
3. Small appliance, electronics, or TV
4. Room air conditioner, dehumidifier
5. Other large appliance, like a clothes washer or dryer
6. Other (Please specify)
7. Not plugged in [SKIP TO Q27]
98. Unsure/Don't Know [SKIP TO Q25]
99. I prefer not to answer [SKIP TO Q25]

23. Did you control the [INSERT HOUSEHOLD ITEM PROVIDED IN Q22] during the entire Peak Event or only during part of the event?

1. Controlled for the entire Event [IF Q6 ≠ 3, 4, SKIP TO Q25. OTHERWISE, SKIP TO Q27]
2. Controlled for part of the Event [IF Q6 ≠ 3, 4, SKIP TO Q25. OTHERWISE, SKIP TO Q27]
3. Did not control at all during the Event [CONTINUE]
98. Unsure/Don't Know [IF Q6 ≠ 3, 4, SKIP TO Q25. OTHERWISE, SKIP TO Q27]
99. I prefer not to answer [SKIP TO Q25]

[IF Q22 < 7, ASK]

23a. As stated, anything attached to the Smart Plug during Conservation Day Peak Event hours will be remotely controlled by National Grid. But you also have the ability to opt out of the Event or override the Smart Plug. Did you opt out or override the Smart Plug during all or any part of the Peak Event hours on this Conservation Day? *Select one answer only.*

1. Opted out for the entire Event [CONTINUE]
2. Overrode for the entire Event [CONTINUE]
3. Opted out for part of the Event [CONTINUE]
4. Overrode for part of the Event [CONTINUE]
5. Did not opt out or override at all during the Event, let National Grid control the lamp or appliance [SKIP TO Q25]
98. Unsure/Don't Know [SKIP TO Q25]
99. I prefer not to answer [SKIP TO Q25]

[IF Q23A < 5, CONTINUE. OTHERWISE SKIP TO Q25]

24. Why did you opt out or override the **[HOUSEHOLD ITEM PROVIDED IN Q22]** during Peak Event hours? *Select one answer only.*

1. Didn't work **[CONTINUE]**
2. Forgot about it **[CONTINUE]**
3. I needed it functioning as usual **[CONTINUE]**
4. Other (Please specify) **[CONTINUE]**
98. Unsure/Don't Know **[CONTINUE]**
99. I prefer not to answer **[CONTINUE]**

25. How satisfied were you with the performance of the Smart Plug during the Peak Event hours? Were you...? *Select one answer only.*

1. Very satisfied **[SKIP TO Q27]**
2. Satisfied **[SKIP TO Q27]**
3. Neutral **[SKIP TO Q27]**
4. Dissatisfied **[CONTINUE]**
5. Very dissatisfied **[CONTINUE]**
98. Unsure/Don't Know **[SKIP TO Q27]**
99. I prefer not to answer **[SKIP TO Q27]**

[IF Q25 = 4 OR 5, CONTINUE. OTHERWISE, SKIP TO Q27]

26. Why weren't you satisfied with the Smart Plug performance during the Peak Event hours?

_____ **[OPEN-END]**
[PROGRAMMER INCLUDE DON'T KNOW AND I PREFER NOT TO ANSWER CHECKBOXES.]

IHD Module

[IF IHDFLAG = 1 AND Q6 ≠ 3, 4 CONTINUE. OTHERWISE SKIP TO Q30]

27. Did you refer to your Digital Picture Frame at any point during the Peak Event hours to check your electricity consumption?

1. Yes
2. No **[SKIP TO Q30]**
98. Unsure/Don't Know **[SKIP TO Q30]**
99. I prefer not to answer **[SKIP TO Q30]**

[IF Q27 = 1, CONTINUE. OTHERWISE SKIP TO Q30]

28. How **helpful** was the Digital Picture Frame in making decisions about how to conserve energy during the Peak Event hours? Would you say it was...? *Select one answer only.*

1. Very helpful
2. Somewhat helpful
3. Neutral, neither helpful nor not helpful
4. Somewhat not helpful
5. Not at all helpful
98. Unsure/Don't Know
99. I prefer not to answer

[IF Q28 < 98, CONTINUE. OTHERWISE SKIP TO Q30]

29. Why do you say that the Digital Picture Frame was **[INSERT Q28 ANSWER]** in making decisions about how to conserve energy during the Peak Event hours?

[OPEN-END]

National Grid's WorcesterSmart Customer Portal

[IF ACCOUNT = 1, CONTINUE. OTHERWISE SKIP TO Q34A]

30. According to our records, you have an online account for National Grid's WorcesterSmart Customer Portal. Are you aware that you have access to the WorcesterSmart Customer Portal?

1. Yes **[CONTINUE]**
2. No **[SKIP TO Q34A]**
98. Unsure/Don't know **[SKIP Q34A]**
99. I prefer not to answer **[SKIP TO Q34A]**

[IF Q30 = 1, CONTINUE. OTHERWISE SKIP TO Q34A]

40N1. How often do you consult the WorcesterSmart (PRONOUNCED WUSS-TER SMART) Customer Portal? Do you consult it...? *Select one answer only.*

1. Never **[SKIP TO Q40N6]**
2. Very rarely
3. Only on Conservation Days
4. About once a week
5. Several times a week
98. Unsure/Don't Know
99. I prefer not to answer

[IF Q40N1 = 1, SKIP TO Q34A. OTHERWISE, CONTINUE]

40N2. When you access the WorcesterSmart Customer Portal, what information do you normally seek? *Select all that apply.*

1. Information on my energy use
2. Information on performance from previous Conservation Days
3. How I compare to other customers
4. Earning points and redeeming rewards
5. Energy efficiency tips and savings strategies
6. Other (Please specify)
98. Unsure/Don't Know
98. I prefer not to answer

[RELOCATED THIS QUESTION FROM 2015]

31a. Did you access the WorcesterSmart Customer Portal before, during or after Peak Event hours on **[INSERT EVENT DATE]**? *Select all that apply.*

1. Yes, before the Event
2. Yes, during the Event
3. Yes, after the Event
4. No, did not access **[SKIP TO Q40N6]**
98. Unsure/Don't Know **[SKIP TO Q40N6]**
99. I prefer not to answer **[SKIP TO Q40N6]**

[RELOCATED THIS QUESTION FROM 2015]

[IF 31A = 1, 2, OR 3, CONTINUE. OTHERWISE, SKIP TO Q40N6]

32a. How helpful was your WorcesterSmart Customer Portal account in making decisions about how to conserve energy during Peak Event hours? Would you say it was...? *Select one answer only.*

- 1. Very helpful
- 2. Somewhat helpful
- 3. Neutral, neither helpful nor not helpful
- 4. Somewhat not helpful
- 5. Not at all helpful
- 98. Unsure/Don't Know
- 99. I prefer not to answer

[RELOCATED THIS QUESTION FROM 2015]

[IF Q32A < 98 CONTINUE. OTHERWISE SKIP TO Q40N6]

33a. Why do you say that the WorcesterSmart Customer Portal account was **[INSERT Q32A ANSWER]** in making decisions about how to conserve energy during Peak Event hours?

[OPEN-END]

40N6. Are you aware of the WorcesterSmart Rewards platform?

- 1. Yes
- 2. No **[ASK Q40N6A]**
- 98. Don't know
- 99. I prefer not to answer

40N6a. National Grid has set up a Rewards platform on the WorcesterSmart Customer Portal through which customers can earn redeemable points for a number of actions, including saving energy daily and completing energy efficiency tips. When you accumulate points you are eligible to redeem a rewards gift card to a number of national and local retailers or make donations to charities. You can learn more about this by signing on to the WorcesterSmart Customer Portal.

- 1. Continue

[IF Q40N6 = 1, CONTINUE. OTHERWISE SKIP TO 34A]

40N7. Have you redeemed points for a gift card or charitable gift? *Select all that apply.*

- 1. Redeemed for a gift card
- 2. Redeemed for a charitable gift
- 3. Did not redeem any points **[EXCLUSIVE]**
- 98. Unsure/Don't Know
- 99. I prefer not to answer

40N8. On a scale of 1 through 5, where 1 is "not influenced at all" and 5 is "very much influenced", how much would you say the Rewards platform has influenced you to take energy efficiency actions?

Not influenced at all				Very much influenced	Don't know	I prefer not to answer
1	2	3	4	5	98	99

40N9. The Home Energy Profile is a tool on the WorcesterSmart Customer Portal that creates a confidential look at how your home's energy use compares to similar households and provides recommendations about ways to increase your home's energy efficiency. Have you completed the Home Energy Profile tool on the WorcesterSmart portal at www.WorcesterSmart.com?

1. Yes [SKIP TO 34A]
2. Partially completed [CONTINUE]
3. No [CONTINUE]
98. Don't know [SKIP TO 34A]
99. I prefer not to answer [SKIP TO 34A]

[IF Q40N9 = 2 OR 3, ASK]

40N10. Why did you not complete the profile? *Select all that apply.*

1. Took too long/ran out of time
2. I got bored by the questions
3. Wanted to finish it all at once
4. Concerned about my privacy
5. Didn't understand what it was for
6. Other (Please specify)
98. Unsure/Don't Know
99. I prefer not to answer

Information

34a. How helpful was the information that you received from National Grid about the Conservation Day and steps you could take to reduce electricity use during the Peak Event hours? Would you say it was...? *Select one answer only.*

1. Very helpful
2. Somewhat helpful
3. Neutral, neither helpful nor not helpful
4. Somewhat not helpful
5. Not at all helpful
98. Unsure/Don't Know
99. I prefer not to answer

35a. How do you feel about the amount of information that you received from National Grid about the Conservation Day? Would you say it was...? *Select one answer only.*

1. Too much
2. A little too much
3. The right amount
4. Not enough, or
5. Non-existent
98. Unsure/Don't Know
99. I prefer not to answer

36a. What additional or different information provided by National Grid would make it easier for you to save electricity as a participant in the Smart Energy Solutions program?

[OPEN-END]

37a. National Grid uses the following means to educate and inform customers about Conservation Days
Which of these was the most helpful to you? *Select all that apply.*

[RANDOMIZE]

- 1. Program Welcome Kit
- 2. Sustainability Hub in Worcester
- 3. National Grid call center representative
- 4. Program website
- 5. Blank
- 11. Monthly and quarterly reports and newsletters
- 12. Social media (Facebook, Twitter, Instagram)
- 13. Direct interaction with National Grid staff, in person or by telephone
- 6. Other (Please specify)
- 14. None of the above
- 98. Unsure/Don't Know
- 99. I prefer not to answer

[IF IHDFLAG, TSTAT, DLC FLAG OR PLUG CONTROL = 1, ASK]

38a. During the Conservation Day, did you have a problem with any of the equipment National Grid installed in your home?

- 1. Yes [CONTINUE TO Q39A]
- 2. No [SKIP TO Q39B]
- 98. Unsure/Don't Know [SKIP TO Q39B]
- 99. I prefer not to answer [SKIP TO Q39B]

[IF Q38A = 1, CONTINUE. OTHERWISE, SKIP TO Q39B]

39a. Please describe the problem you had.

[OPEN-END]

39b. Is there anything specific that the Smart Energy Solutions program could be doing better or differently to improve the experience for you?

[OPEN-END]

39c. Based on your experience to date, would you take the same actions during future Conservation Days or would you make some changes? *Select one answer only.*

- 1. Would do the same things
- 2. Would make some changes (Please specify)
- 98. Unsure/Don't Know
- 99. I prefer not to answer
- 100.

[Q39D & 39E WERE REMOVED]

39cc. Overall, how would you rate your satisfaction with the Smart Energy Solutions program so far, on a scale of 1 through 7, where 1 is "completely dissatisfied" and 7 is "completely satisfied"?

Completely dissatisfied						Completely Satisfied	Don't know	I prefer not to answer
1	2	3	4	5	6	7	98	99

[IF Q39CC = NE 98 OR 99, ASK]

39ccc. Why do you give the program that rating?

[OPEN-END]

39g. We are almost done. National Grid would like you to receive a \$10 honorarium for taking your time to complete this survey. The check is authorized by National Grid; it will be issued by Bellomy Research and will be mailed to your home. This survey and the \$10 honorarium are not any sort of sales promotion or other commercial venture. You are not being asked or obligated to take any further action beyond completing this survey.

Once you have provided us with your most current phone number, email address and mailing address so that we can mail you your \$10 gratuity, there are a few follow-up questions for classification purposes only that must be answered. So please don't close your browser or the survey until you have answered these additional questions. *Please update your current phone number, email address and mailing address if necessary.*

1. Phone (Please specify)
2. Email (Please specify)
3. Mailing address (Please specify) [DO NOT PRE-POPULATE.]
4. Contact First Name (Please specify)
5. Contact Last Name (Please specify)

[PROGRAMMER: PLEASE PIPE IN PHONE, EMAIL ADDRESS, AND NAME FROM SAMPLE]

Demographics

[PROGRAMMER: PLEASE CHECK CUSTOMER'S IDNUM FOR EXISTING DEMOGRAPHIC DATA.]

[IF DEMOGRAPHIC DATA EXISTS ALREADY, SKIP TO CLOSE. OTHERWISE, CONTINUE.]

[IF NO IDNUM EXISTS, CONTINUE.]

(Note: for convenience, demographic question numbers have been changed to match up with the demographic questions from previous national grid studies. (BRI 15337b, 15337c, 14292, 14447, 14210.)

[ASK Q31 TO EVERYONE, EVEN IF PREVIOUSLY COMPLETED DEMO/FIRMO.]

31. Are you or is anyone in your household a National Grid employee?

1. Yes
2. No
98. Don't Know
99. I prefer not to answer

32. Now we would like to turn to several questions about your household.

Which one of these options best describes this residence? *Select one answer only.*

1. Single-family detached house
2. Townhouse, duplex, or row house (shares common wall with neighboring unit from basement to roof)
3. Apartment (either rent or own) (2-4 units)

4. Apartment (either rent or own) (5 or more units)
5. Mobile home or trailer ("manufactured home")
6. Other (Please Specify)
98. Don't Know
99. I prefer not to answer

33. Which one of these options best describes this residence? *Select one answer only.*

1. This is my permanent year-round residence
2. This is my partial-year or seasonal residence
3. This is my vacation home and generally used only by my family
4. This is a vacation rental home
5. Other (Please Specify)
98. Don't Know
99. I prefer not to answer

34. Which one of these options best describes the exterior of this residence? *Select one answer only.*

1. Wood
2. Cement
3. Aluminum siding
4. Stucco
5. Brick
7. Vinyl / Vinyl siding
6. Other (Please Specify)
98. Don't Know
99. I prefer not to answer

[IF Q33 = 2, 3, OR 4 CONTINUE, OTHERWISE SKIP TO Q36]

35. Please tell me the months this partial-year or vacation home is typically occupied by your family and/or renters. *Select all that apply.*

1. Jan
2. Feb
3. Mar
4. Apr
5. May
6. Jun
7. Jul
8. Aug
9. Sep
10. Oct
11. Nov
12. Dec
98. Don't Know
99. I prefer not to answer

36. How many square feet of living space are there in this residence, including bathrooms, foyers, and hallways? Please exclude unheated rooms and garages. If you live in an apartment building, please answer for the living space considered "your home." *Select one answer only.*

1. Less than 500
2. 500-999
3. 1,000 – 1,499
4. 1,500 – 1,999
5. 2,000 – 2,499
6. 2,500 – 2,999
7. 3,000 – 3,499
8. 3,500 – 3,999
9. 4,000 – 4,999
10. Greater than 5,000
98. Don't Know
99. I prefer not to answer

37. How many rooms are in this residence? Please exclude bathrooms, halls, pantries, unheated rooms, and garages. *Please use "98" for don't know and "99" for refused.*

_____ [ENTER # OF ROOMS]

38. Approximately what year was this residence built? *Please use "9998" for don't know and "9999" for refused.*

_____ [ENTER YEAR. DO NOT ALLOW GREATER THAN 2015.]

38_CODE. [PROGRAMMER: PLEASE AUTO PUNCH Q38_CODE WITH THE FOLLOWING CODES BASED ON THE ANSWER AT Q38.]

1. Before 1930
2. 1930-1939
3. 1940-1949
4. 1950-1959
5. 1960-1969
6. 1970-1979
7. 1980-1989
8. 1990-1999
9. 2000-2002
10. 2003-2004
11. 2005-2006
12. 2007 or after
98. Don't Know
99. I prefer not to answer

[IF Q33 = 1 CONTINUE, OTHERWISE SKIP TO Q40]

39. How long has this been your permanent, year-round residence? *Select one answer only.*

1. Less than 1 year
2. 1-3 years
3. 4-10 years
4. 11-20 years
5. Over 20 years
98. Don't Know
99. I prefer not to answer

40. What age is the head of household? If two share this role, please use the average. *Select one answer only.*

1. Under 30 years
2. 30-39 years
3. 40-49 years
4. 50-59 years
5. 60-69
6. 70-74
7. 75-80
8. 81+
98. Don't Know
99. I prefer not to answer

[ASK Q40A TO EVERYONE, EVEN IF PREVIOUSLY COMPLETED DEMO/FIRMO.]

40a. How many people, including yourself, live in your home full-time at least six months of the year? Please use "98" for don't know and "99" if refused.

_____ RECORD NUMBER

[IF Q40a = 98 OR 99, SKIP TO Q41. OTHERWISE, CONTINUE.]

43. For the following age groups, please tell me how many people, including you, normally live in your home at least six months of the year. *Please record the appropriate answer for each age range.*

[PROGRAMMER: CAN EACH AGE CATEGORY BE AUTO FILLED TO "0"?]

FOR EACH HOUSEHOLD MEMBER, UP TO 10 MEMBERS, INCREMENT THE HOUSEHOLD COUNT IN EACH OF THE FOLLOWING AGE RANGES:

1. _____ [ENTER #] Infant (less than 1 year old)
2. _____ [ENTER #] 1-6 years old
3. _____ [ENTER #] 7-18 years old
4. _____ [ENTER #] 19-24 years old
5. _____ [ENTER #] 25-34 years old
6. _____ [ENTER #] 35-44 years old
7. _____ [ENTER #] 45-54 years old
8. _____ [ENTER #] 55-59 years old
9. _____ [ENTER #] 60-64 years old
10. _____ [ENTER #] 65-69 years old
11. _____ [ENTER #] 70 -74
12. _____ [ENTER #] 75 -79
13. _____ [ENTER #] 80+

[CALCULATE TOTAL NUMBER RESIDENTS IN HOUSEHOLD. CANNOT BE > Q40a.]

[PROGRAMMER: PLEASE ADD A "REFUSED" CHECKBOX. SOME RESPONDENTS ARE REFUSING THIS INFO.]

41. Please select the range that best describes this household's gross income for 2015 (before adjustments for taxes and credits). Please include all sources of income such as salaries, wages, rent, interest, dividends, pensions, and social security. *Select one answer only.*

1. Less than \$10,000
2. \$10,000 to less than \$18,000

3. \$18,000 to less than \$30,000
4. \$30,000 to less than \$50,000
5. \$50,000 to less than \$75,000
6. \$75,000 to less than \$100,000
7. \$100,000 to less than \$150,000
8. More than \$150,000
98. Don't Know
99. I prefer not to answer

USING NUMBER IN HOUSEHOLD AND LOOKUP TABLE ASK: IS YOUR TOTAL ANNUAL HOUSEHOLD INCOME LESS THAN \$ _____ (TABLE CAN HAVE 60% MEDIAN OR 200% FPL) SEE BELOW

[ASK Q41A AND Q41B AND Q41C TO EVERYONE, EVEN IF PREVIOUSLY COMPLETED DEMO/FIRMO.]

41a. The next one or two questions will ask if your income is below a specific amount. The amount is computer generated and bears no reflection on any income range you may have provided us with previously. These questions are for research only and are completely confidential.

Was your total 2015 household income before taxes below [INCOME_THRESHOLD_200% FPL]?

1. Yes
2. No
98. Don't Know
99. I prefer not to answer

[ASK IF Q41a = 2]

41b. Was your total 2015 household income before taxes below [INCOME_THRESHOLD_60% Median]?

1. Yes
2. No
98. Don't Know
99. I prefer not to answer

Income Threshold Table

Reference: Q40a (# People in HH)	ITH_200FPL – label in data file INCOME_THRESHOLD_200% FPL	ITH_MED – label in data file INCOME_THRESHOLD_60% Median (FY2015)
1	\$ 23,540	\$ 33,126
2	\$ 31,860	\$ 43,319
3 or DK/REF	\$ 40,180	\$ 53,511
4	\$ 48,500	\$ 63,704
5	\$ 56,820	\$ 73,897
6	\$ 65,140	\$ 84,089
7	\$ 73,460	\$ 86,000
8	\$ 81,780	\$ 87,912
9	\$ 89,823	\$ 89,823
10	\$ 91,734	\$ 91,734
11	\$ 93,645	\$ 93,645
12	\$ 95,556	\$ 95,556

[IF 41A OR 41B = 1, ASK. OTHERWISE, SKIP TO Q42.]

41c. To get some deeper understanding of how this pilot has gone, National Grid has asked us to conduct a focus group at the end of summer and we are developing a preliminary list for those groups. Would you be interested in participating in a paid focus group that would ask for your thoughts about the program so far? This is not an invitation yet. Right now we're just trying to get an idea about how many people are interested. Saying yes at this moment does not commit you to participate. We will make formal invitations later this summer.

1. Yes
2. Maybe
3. No
99. I prefer not to answer

42. What is the highest level of education completed by any head of household in this residence? *Select one answer only.*

1. Elementary (Grades 1-8)
2. Some high school (Grades 9-12)
3. High School Graduate
4. Some College/Trade/Vocational School
5. College Graduate
6. Postgraduate College
98. Don't Know
99. I prefer not to answer

[ASK Q44 TO EVERYONE, EVEN IF PREVIOUSLY COMPLETED DEMO/FIRMO.]

44. Does anybody in this residence require electricity to operate critical medical equipment, such as breathing machines, kidney or dialysis pumps, or other medically prescribed devices?

1. Yes
2. No

- 98. Don't Know
- 99. I prefer not to answer

[ASK Q44A TO EVERYONE, EVEN IF PREVIOUSLY COMPLETED DEMO/FIRMO.]

44a. Does anyone in this residence require electricity for any other essential appliance or equipment? By "essential" I mean some electric appliance or equipment, not including your refrigerator, that you must have operable all the time? If you do, please tell me what that appliance or equipment is?

- 1. Yes (Please record other essential appliance/equipment? _____)
- 2. No
- 98. Don't Know
- 99. I prefer not to answer

45. What is the primary language spoken in this residence? *Select one answer only.*

[ALPHABETIZE LIST]

- 1. English **[FIXED]**
- 2. Russian
- 3. French
- 4. Portuguese
- 5. Spanish
- 6. Vietnamese
- 7. Chinese
- 8. Italian
- 9. Other (Please Specify) **[FIXED]**
- 98. Don't Know **[FIXED]**
- 99. I prefer not to answer **[FIXED]**

[CLOSE]

Thank you for participating in this survey; your feedback on National Grid's Smart Energy Solutions program is extremely valuable. Have a wonderful day!

(Note to BRI – Project to reference for Demographics: 14292, 14210, 14447, 15337, 15337B, 15337A.)
Questions in RED were added for 14447 and were not in previous studies. Q41C added for 15337B and 15337A ONLY.)



SMART ENERGY SOLUTIONS 2016 – FIRST POST-EVENT

PREPARED FOR NATIONAL GRID

AUGUST 2, 2016

NAVIGANT

SURVEY RESPONDENT CHARACTERIZATION

Technology Type	Number of Respondents	Percent of Total
Total	563	
IHD	180	32%
Thermostat	56	10%
Smart Plug	49	9%
No Technology	376	67%

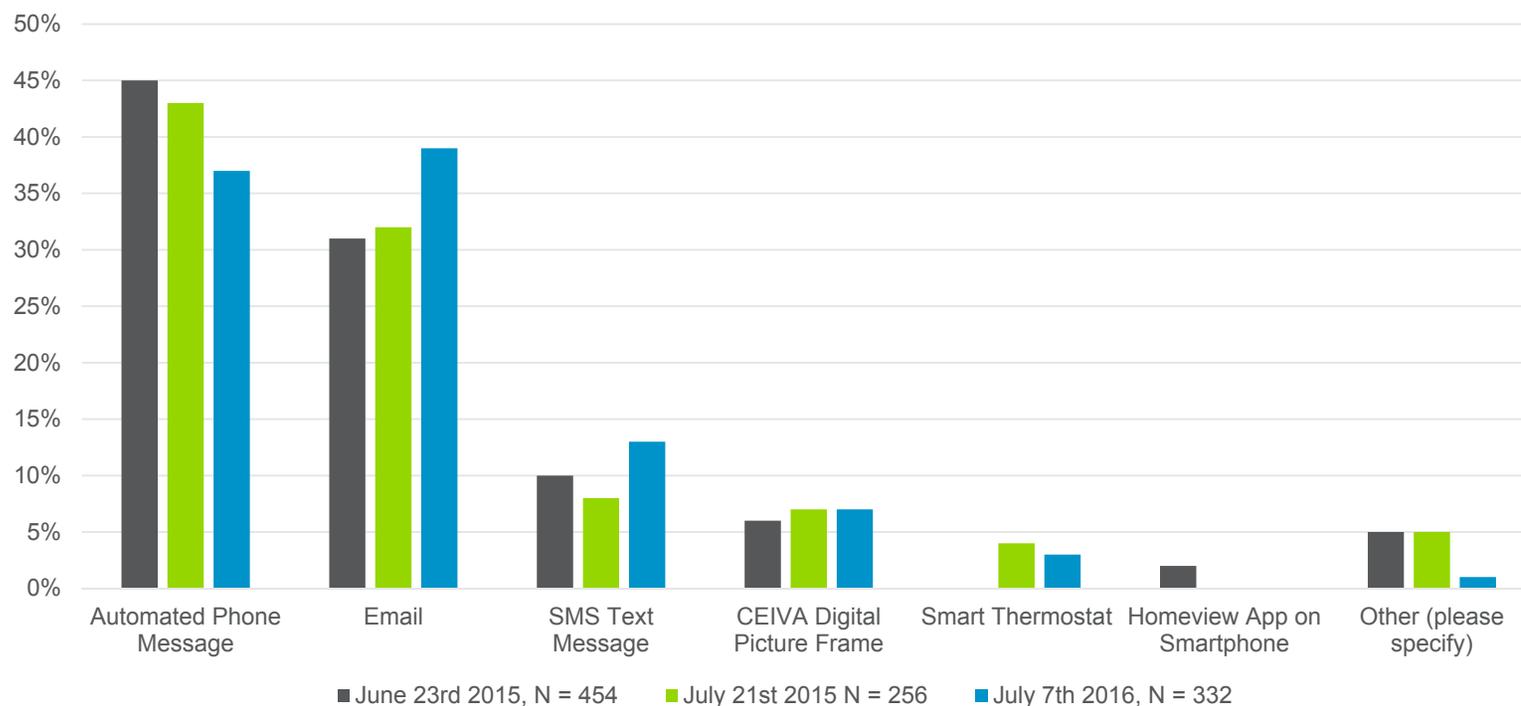
HIGHLIGHTS

- More people became aware of the Conservation Day through email and text message this summer as compared to last summer.
- More people pre-cooled their homes during morning off-peak hours, discussed energy conservation strategies with their families and sought activities outside of the home this year as compared to last. In addition, fewer people took 'no action' to reduce electricity use on the Conservation Day.
- Frequency of pressing the override button was similar this summer as compared to last summer.

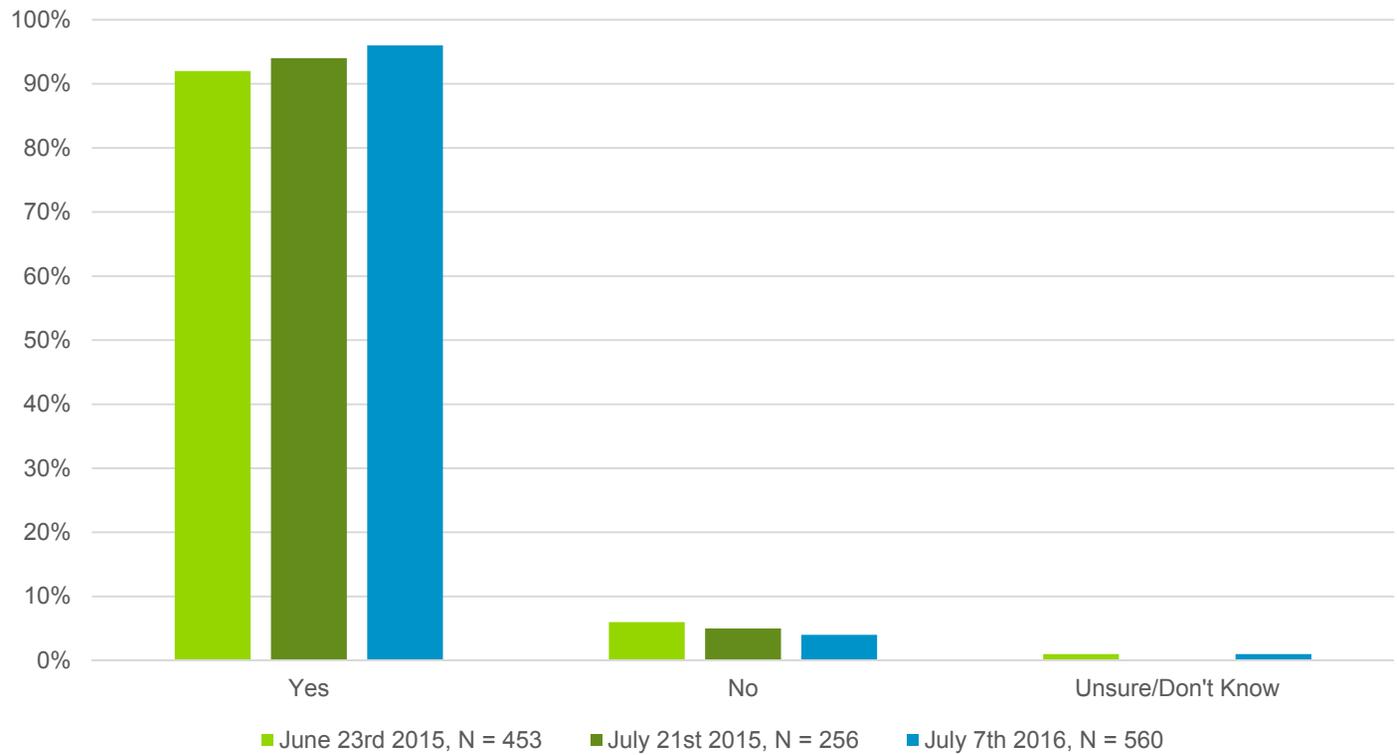
HIGHLIGHTS CONTINUED

- Over 70% of respondents were aware of the WorcesterSmart Rewards platform; however, over 80% of these respondents did not redeem any points.
- In 2015, just under 20% of respondents were “very satisfied” with SES and just over 20% of customers were “not satisfied at all.”
- In 2016, over 50% of respondents rated their satisfaction with the program as a ‘6’ or ‘7’ (high satisfaction). 12% of respondents rated their satisfaction as a ‘3’ or lower.

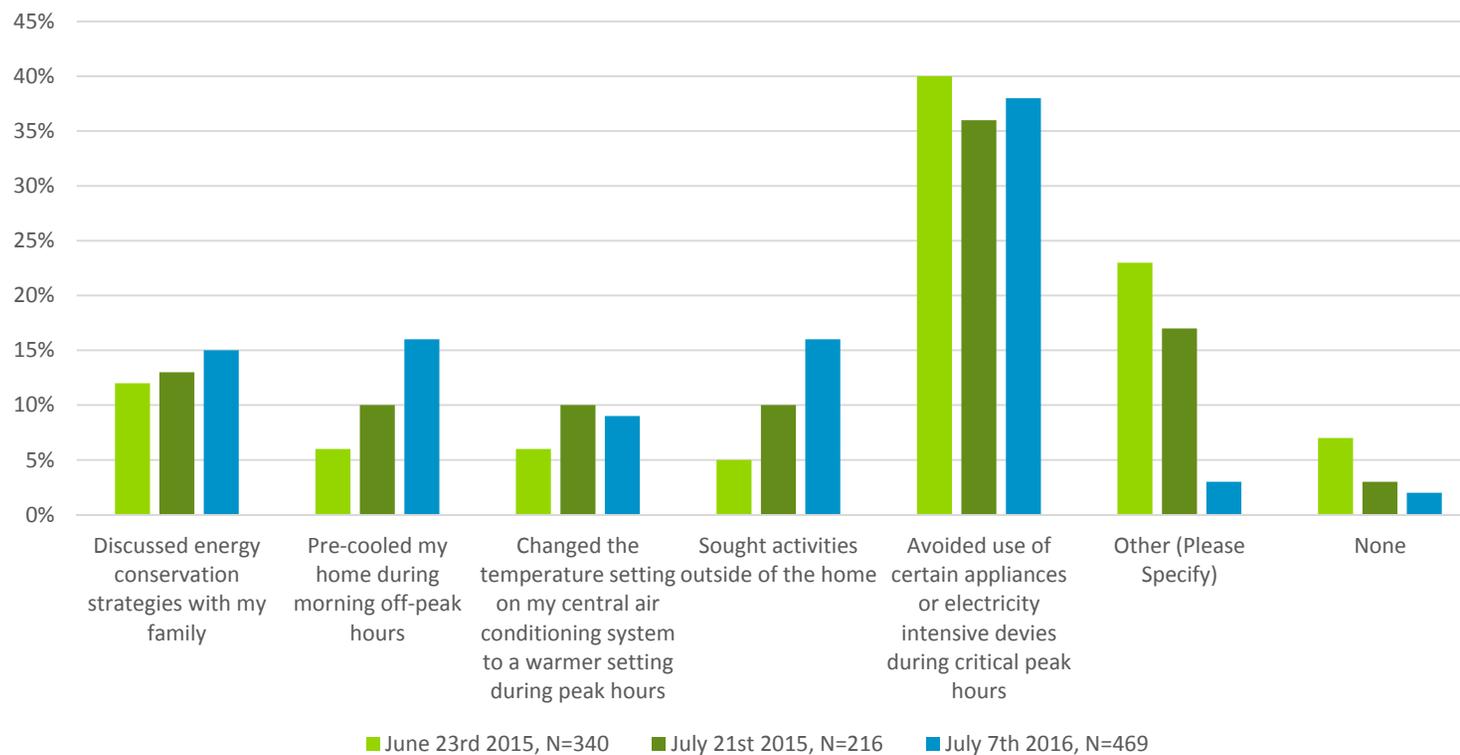
Q4. How did you become aware that a Conservation Day was going to occur?



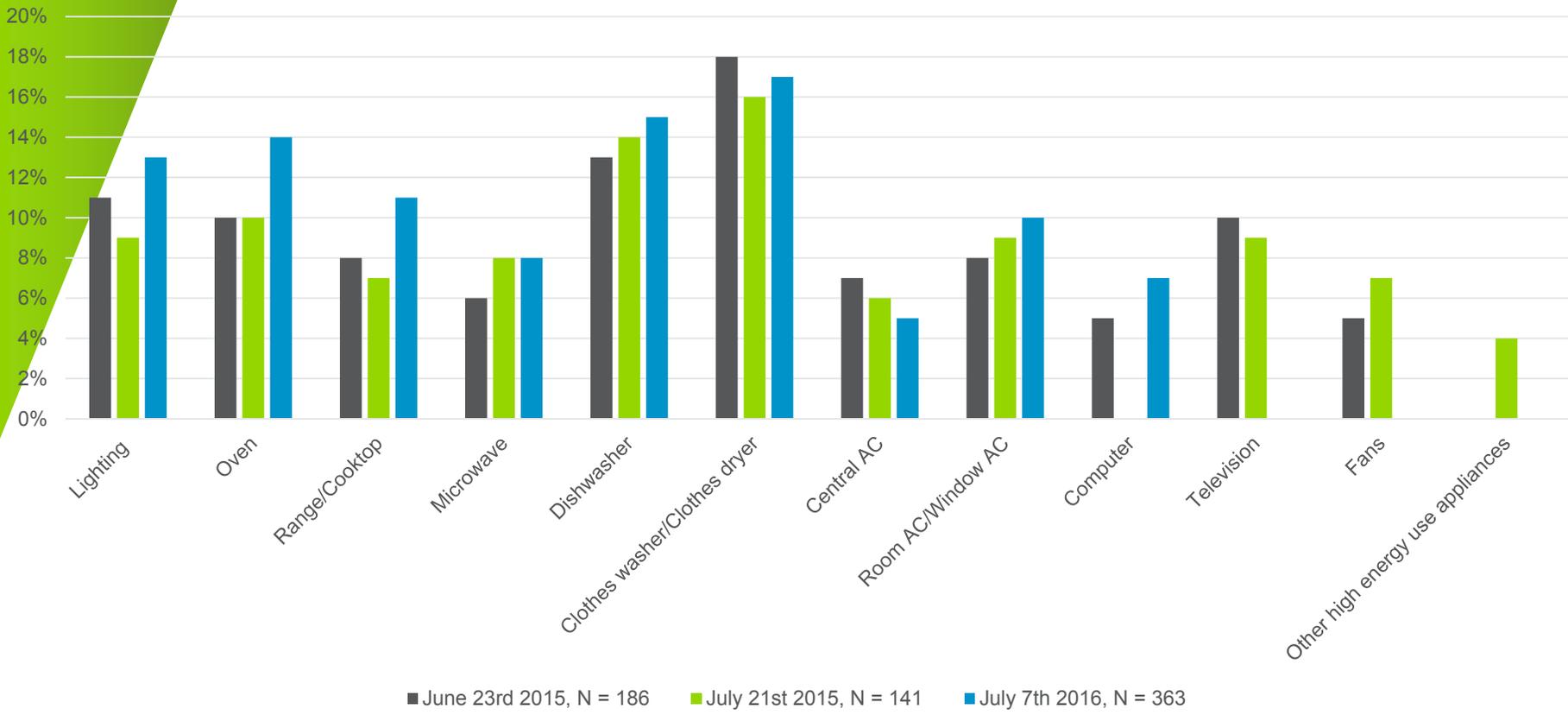
5. Did the notification give you sufficient notice and information about the Conservation Day that was set to occur?



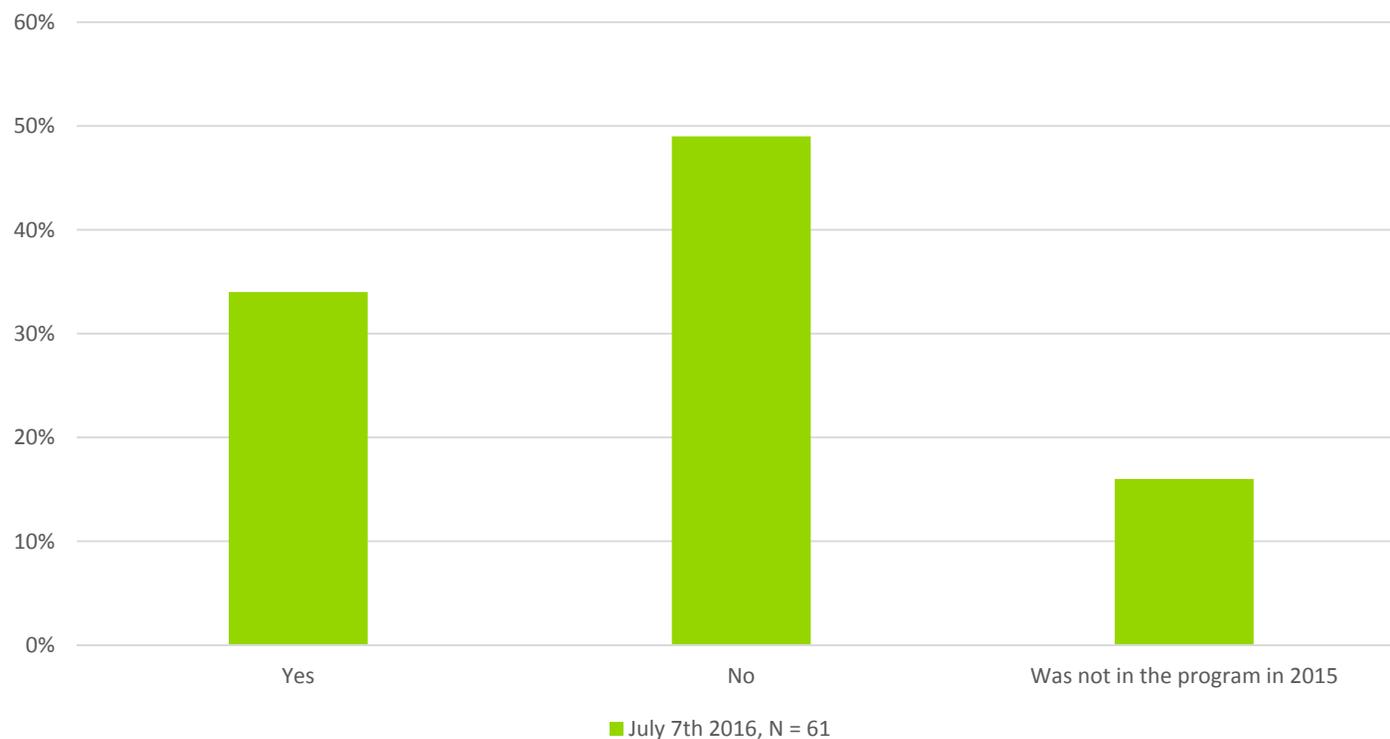
9. What actions, if any, did you take to reduce your electricity use on the Conservation Day?



10. What items specifically did you avoid using to save energy during the Conservation Day?



11A. Compared to 2015 Conservation Days, have you made any changes in 2016 in the actions you take in response to conservation days?



Q11. What changes have you made? N = 18

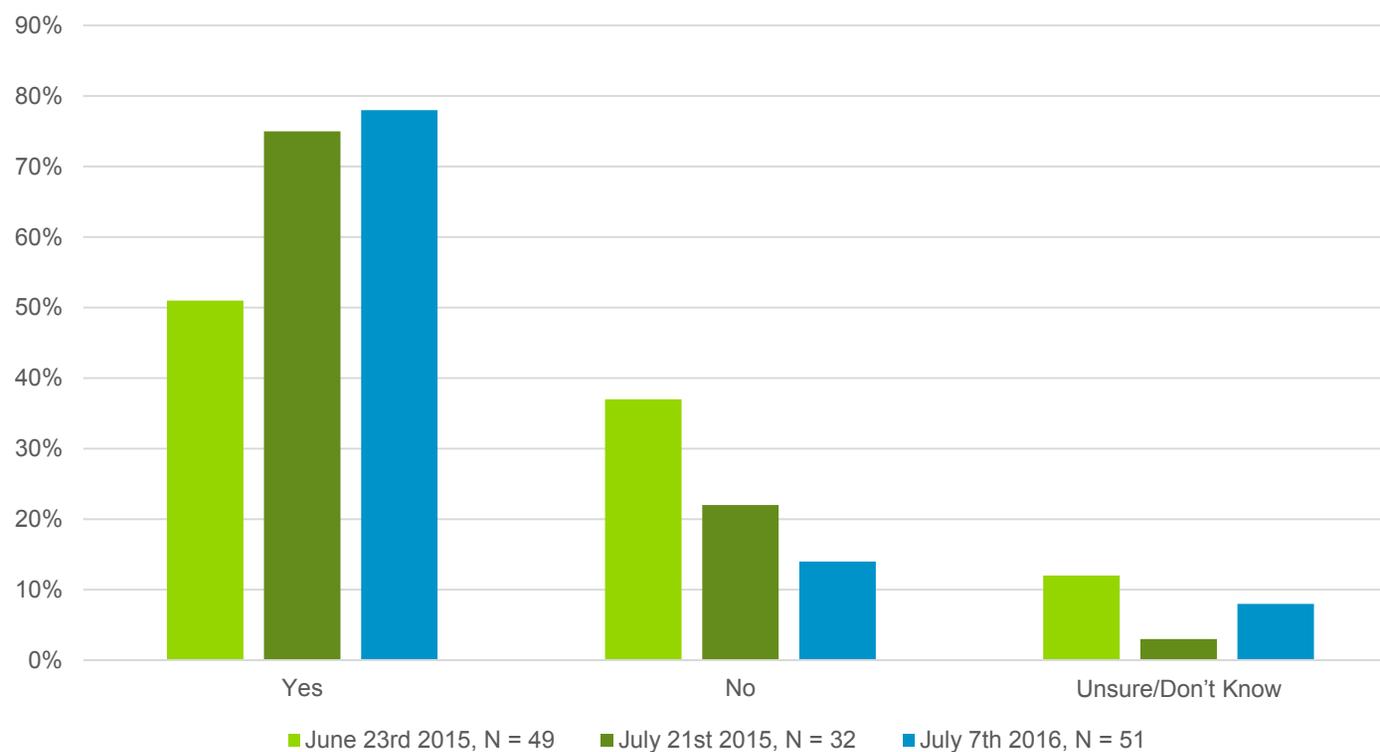
“Better planning as far as utilizing the air conditioner and fans to pre-cool the house.”

“More proactive than in the past.”

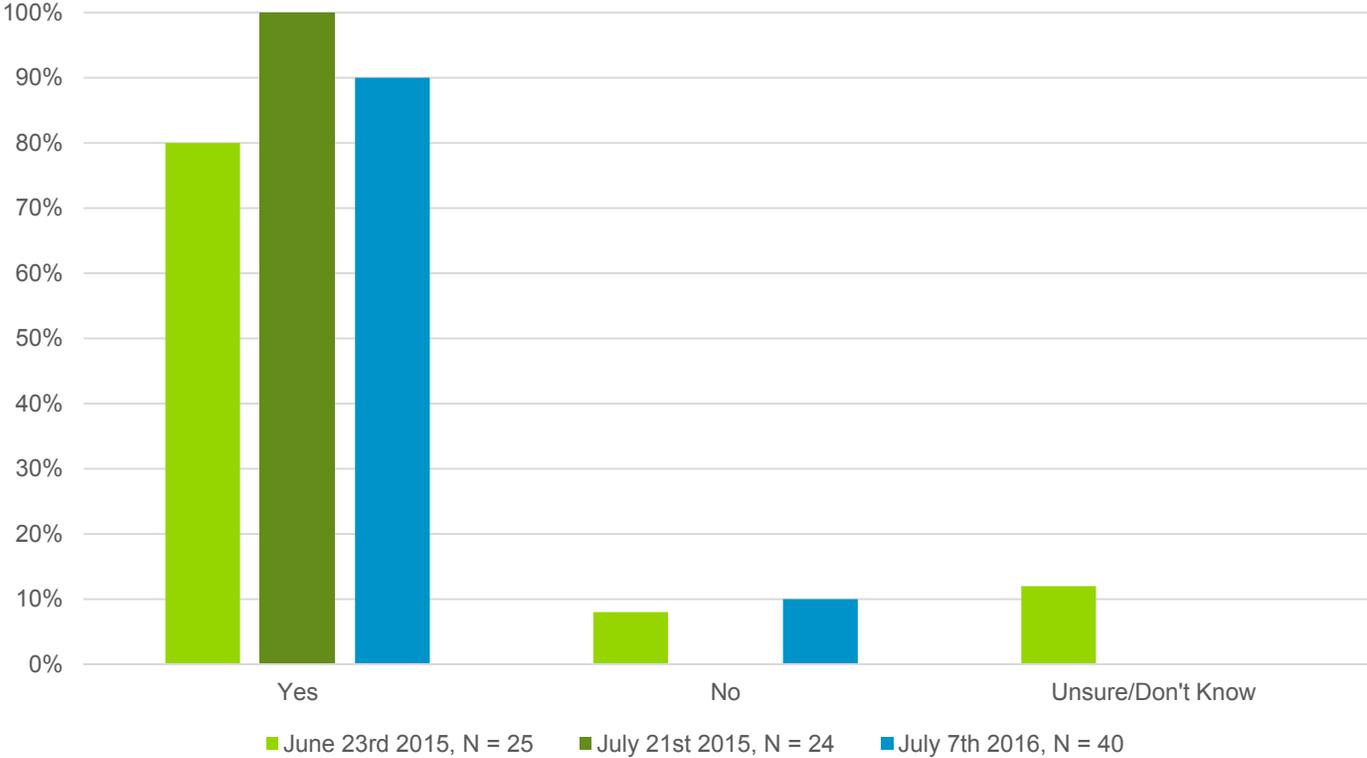
“Unplug electronics, shades drawn, less cooking during peak hours.”

“Tried not to use as much electricity and go outside more.”

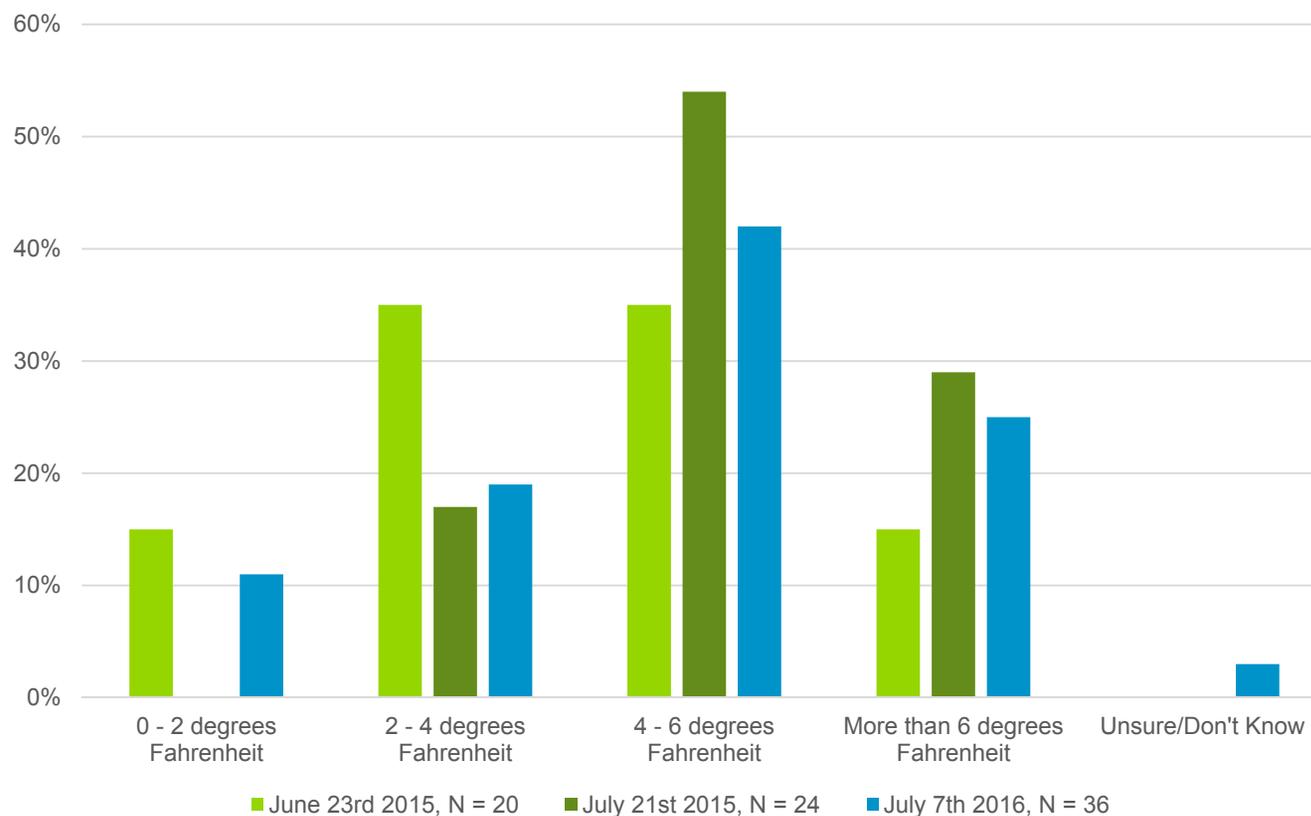
12. Did you, or the family member present during the Conservation Day's Peak Event hours, notice a change in temperature in your home during the Peak Event hours?



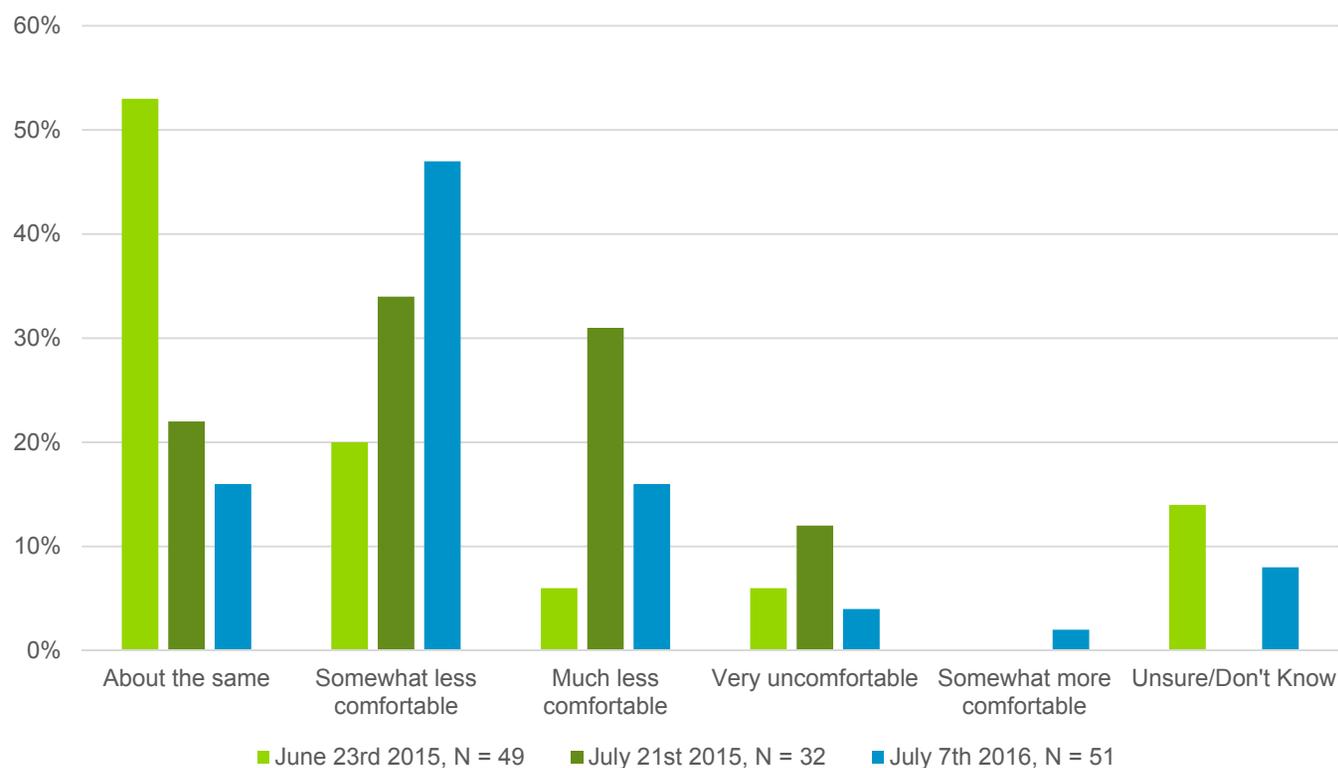
13. Did you observe the actual temperature in your home during the Peak Event hours?



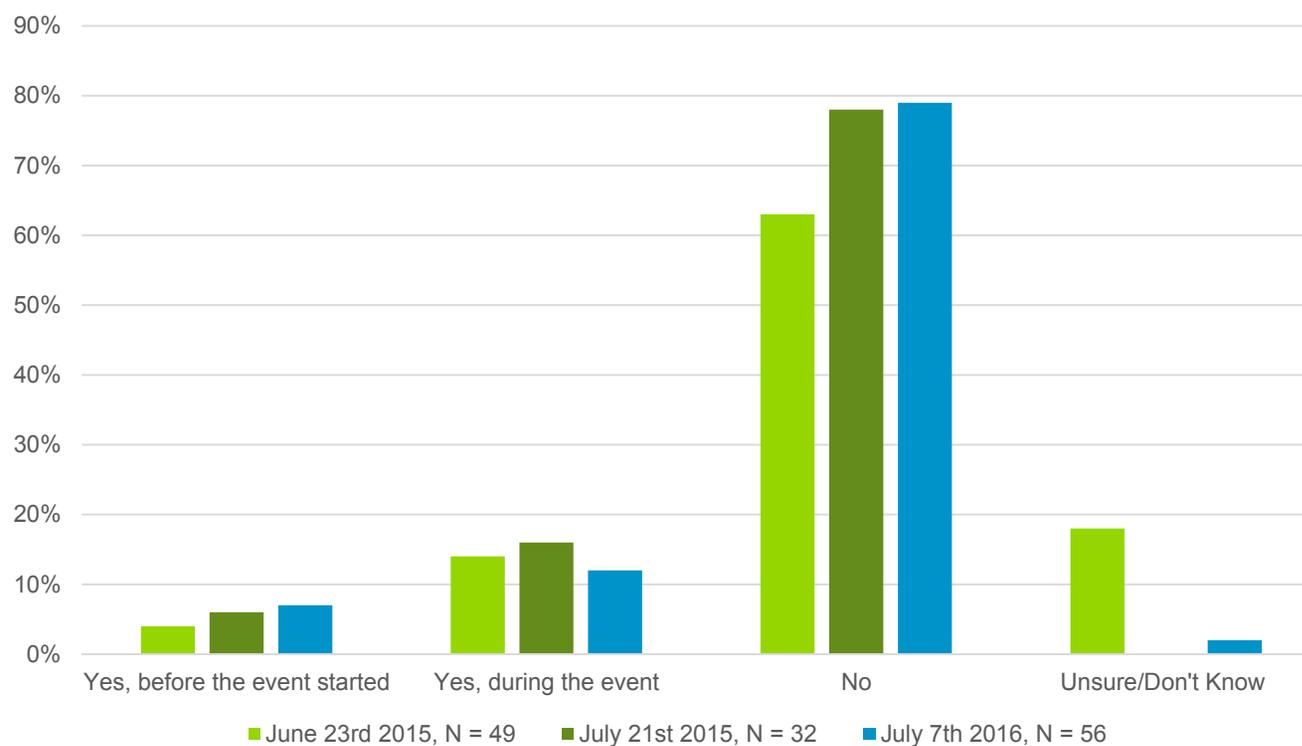
14. Approximately how many degrees did the temperature in your home rise during the Peak Event hours?



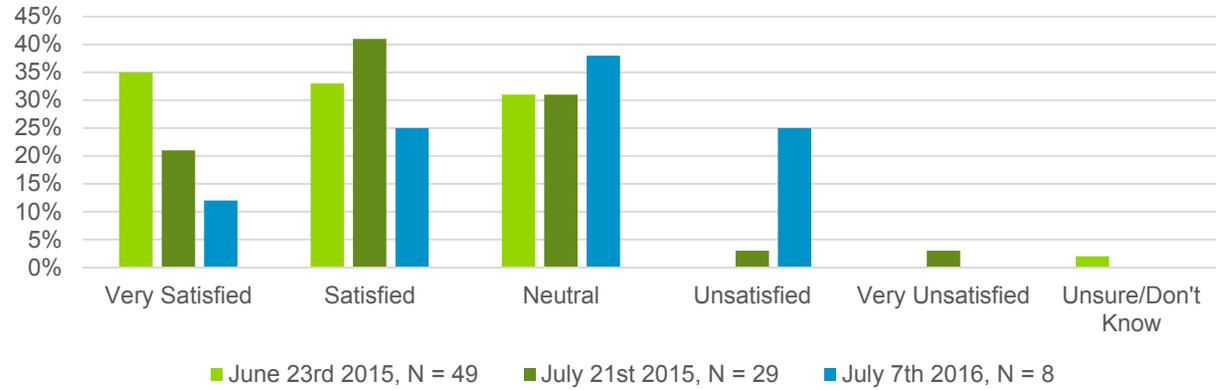
15. During the Event, how would you describe your comfort compared to a typical afternoon with similar outdoor temperatures?



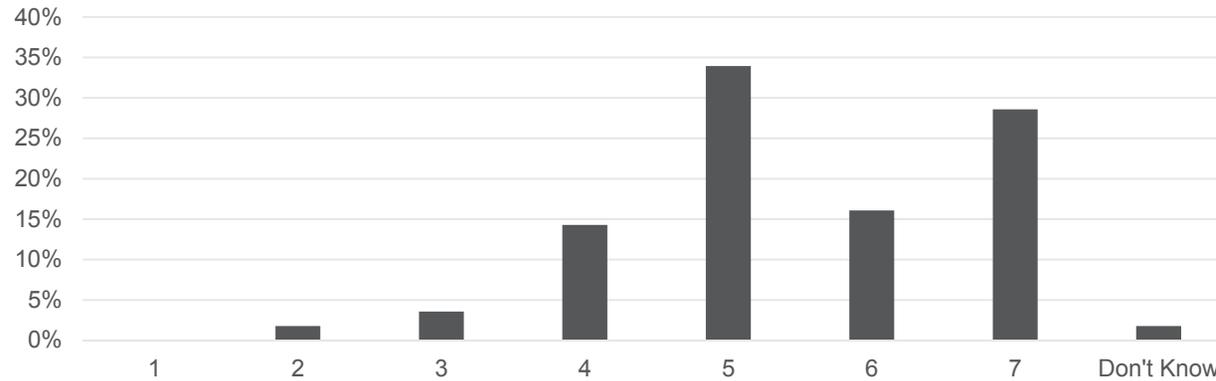
16. At any point before or during the Peak Event hours, did you press the override button on your thermostat to prevent or stop the program from adjusting your thermostat remotely?



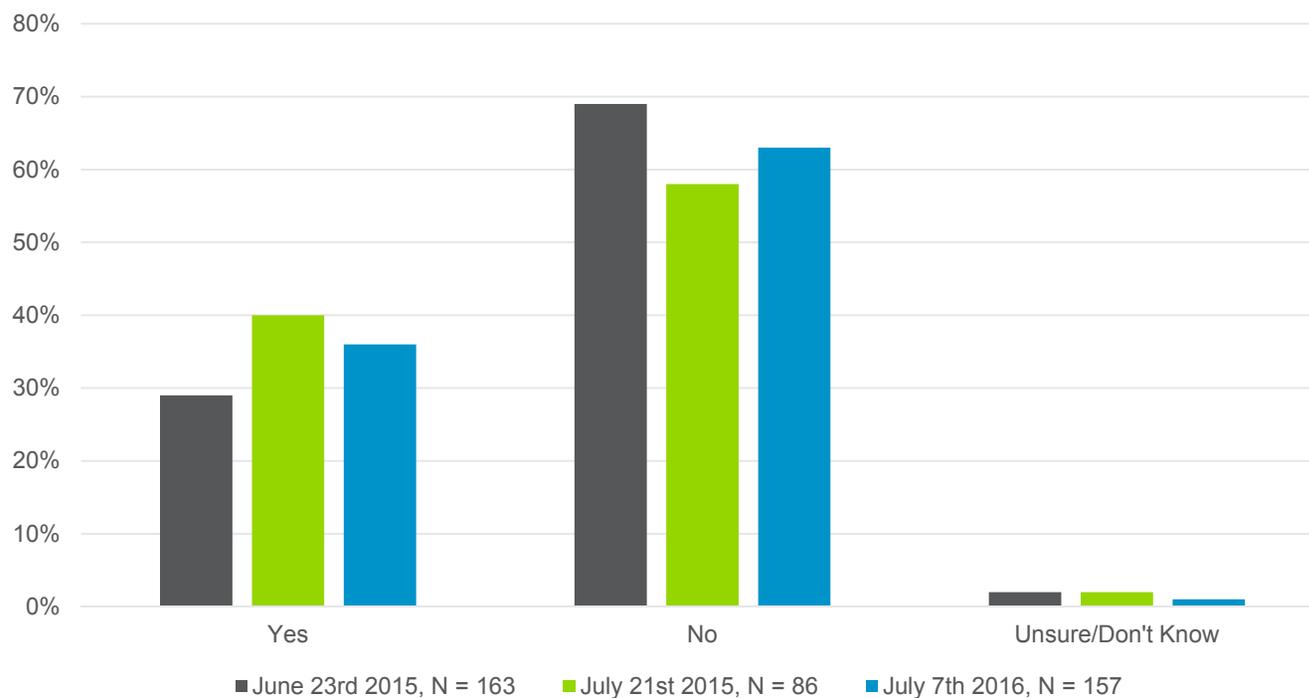
19. How satisfied were you with the performance of the Smart Thermostat during the Peak Event hours?



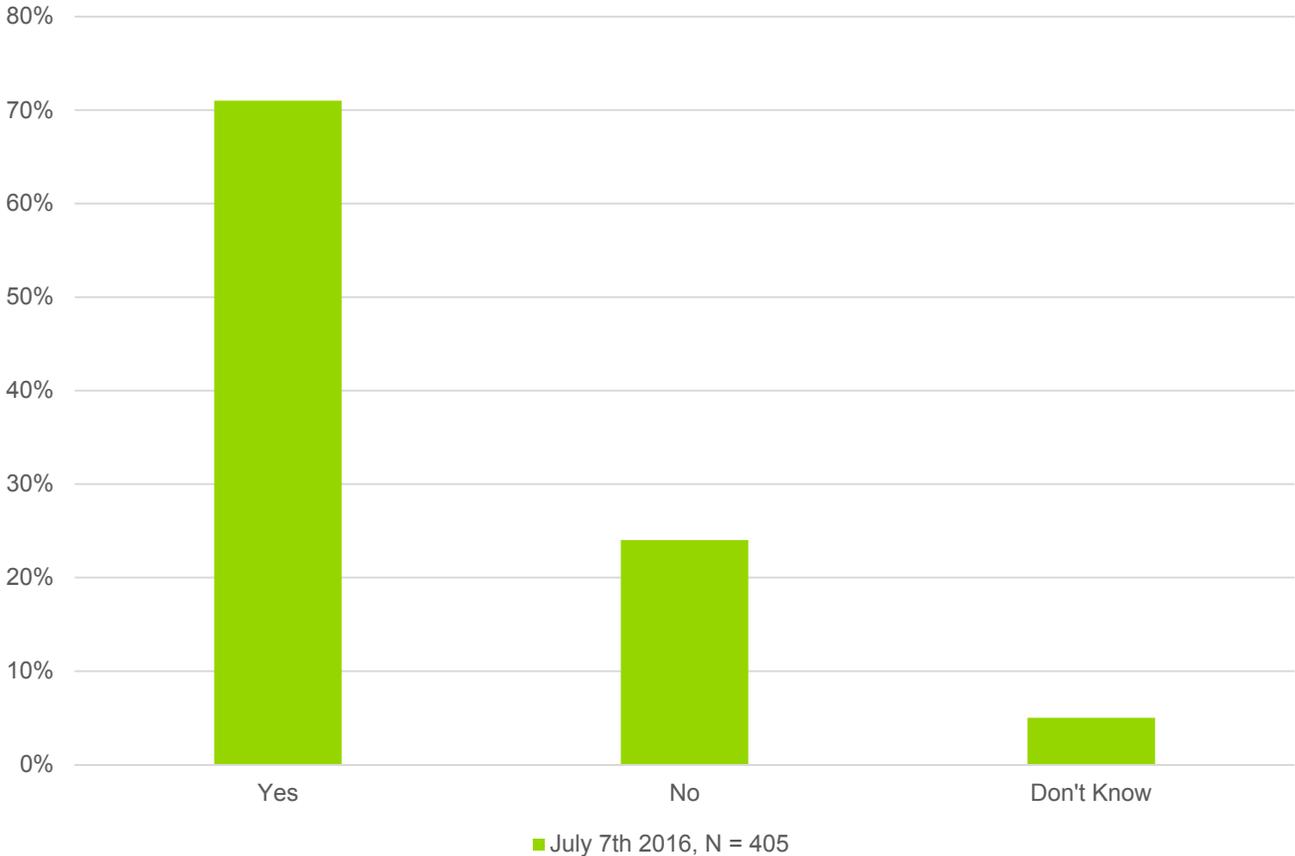
July 2016 Thermostat Respondents satisfaction with SES Program, N = 56



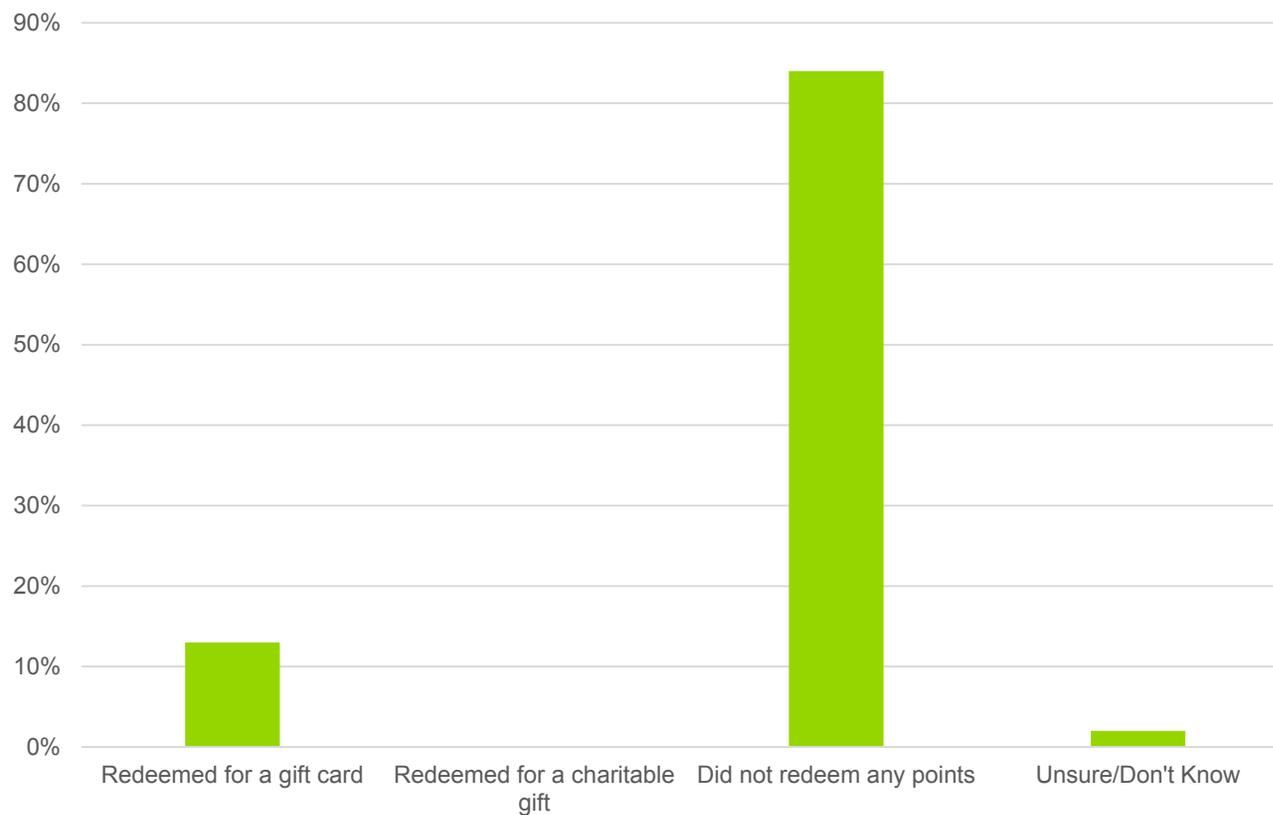
27. Did you refer to your Digital Picture Frame at any point during the Peak Event hours to check your electricity consumption?



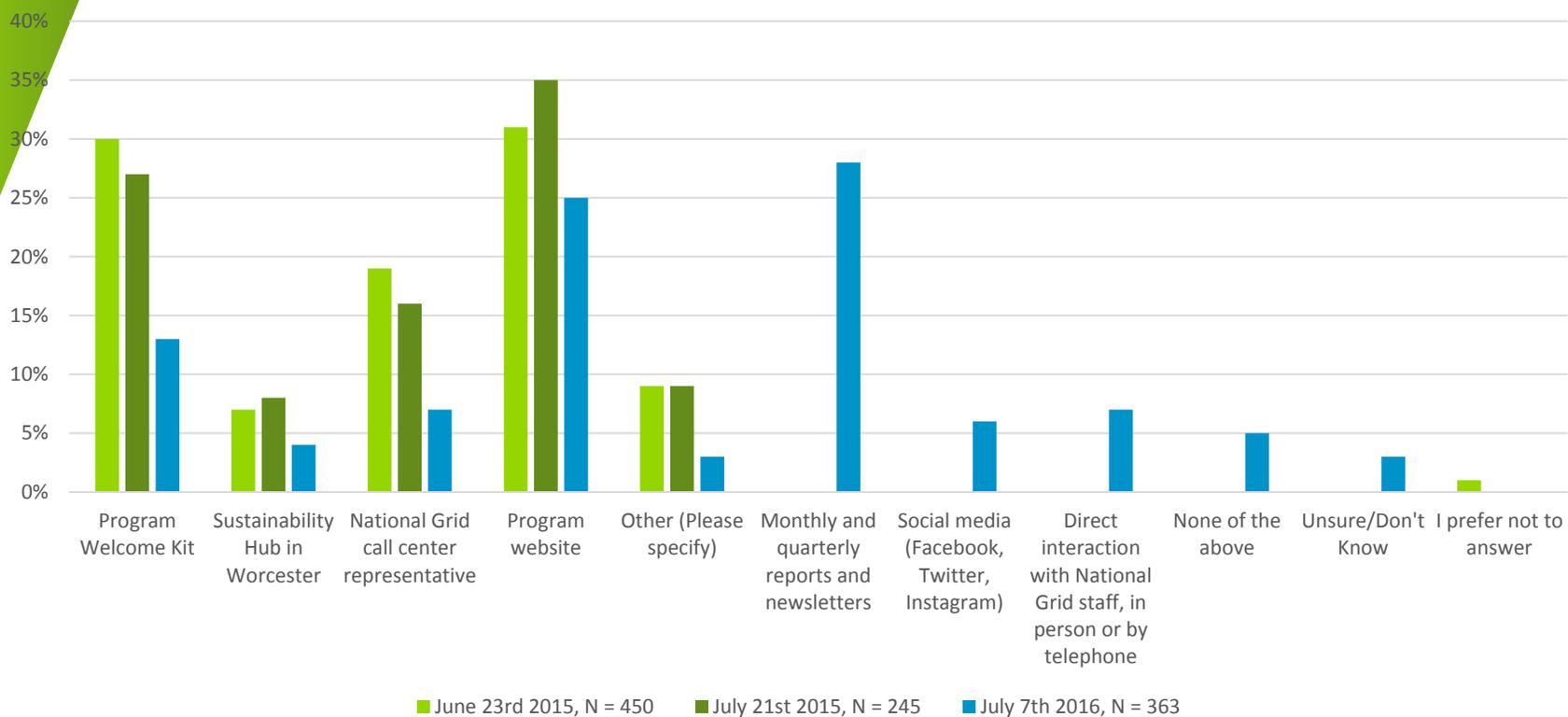
40N6. Are you aware of the WorcesterSmart Rewards platform?



40N7. Have you redeemed points for a gift card or charitable gift?

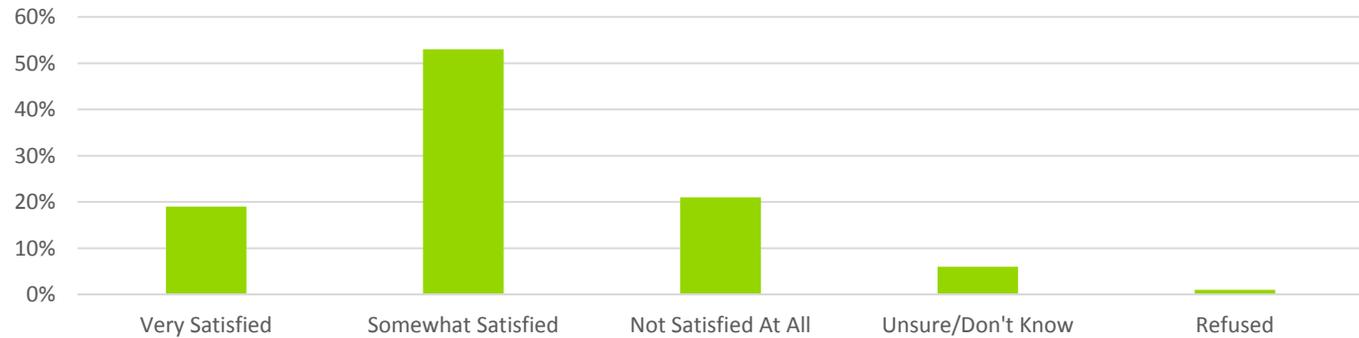


37A. What sources of information were most useful to you in learning about Conservation Days?



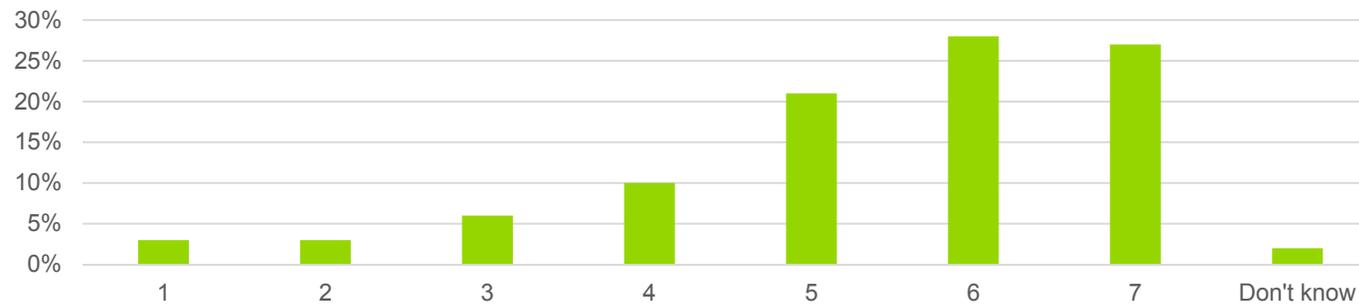
SATISFACTION IN 2015 COMPARED TO 2016

2015 Satisfaction
End of Summer Survey



2016 Satisfaction

39CC. Overall, how would you rate your satisfaction with the Smart Energy Solutions Program so far, on a scale of 1-7 (Where 1 is "Completely Dissatisfied" and 7 is "Completely Satisfied")



36a. What additional or different information provided by National Grid would make it easier for you to save electricity as a participant in the Smart Energy Solutions program? N = 560

“You should have a dedicated page of information on the average hourly usage of products around the home (i.e. refrigerator average x kw an hour). During peak events, the customer can make the decision to turn off additional products and have a general idea of the potential savings. This information is useful for non conservation days as well. I received a paper brochure after my energy assessment; but it is not as easily available as if it were online.”

“Whenever I see a forecast for temps in the 90's, I know a conservation day will be called. I can't believe that you expect a person 65 years of age with diabetes to shut off her air conditioner when temps are that high.”

“When there are consecutive conservation days it makes it hard to do laundry and cook for my family. Also, for those of us who are disabled and cannot change our schedule easily, the conservation days are a hindrance.”

Many respondents said none/don't know or that the information they've received is enough.

“I feel the information provided is enough. But as a senior citizen, either I can't take on some of the suggestions right now because of other projects (even with low rates available), or to try and stay without a/c on such stifling days for the full conservation period. Could be medically detrimental.”

“I would like to see a list of what amount of electricity each appliance uses.”

39b. Is there anything specific that the Smart Energy Solutions program could be doing better or differently to improve the experience for you? N = 560

“You guys are doing a good job”
“No, the program is fantastic!”
--many such responses
In addition, many respondents
couldn't think of anything

“Find a way to charge less.
Conservation is great but I think
your price is just too high.”

“I don't like that every report that I
received tells me that I use way
more energy/electricity than my
neighbors.”
--several people were annoyed by
their comparison to neighbors and
didn't think comparisons were
accurate

“Less phone calls.”
“Less mail and emails.”

While others say, “More
notification”

“Not sure. Elderly should be
considered.”



SMART ENERGY SOLUTIONS 2016 SECOND POST EVENT MINI ANALYSIS

PREPARED FOR NATIONAL GRID

AUGUST 23, 2016

NAVIGANT

2016 POST- EVENT SURVEYS' RESPONDENT CHARACTERIZATION

Technology Type	First Post Event Survey		Second Post Event Survey	
	Number of Respondents	Percent of Total	Number of Respondents	Percent of Total
Total	563		495	
IHD	180	32%	166	33.5%
Thermostat	56	10%	58	12%
Smart Plug	49	9%	49	10%
No Technology	376	67%	325	66%

HIGHLIGHTS

2016 Results Compared to 2015 Results:

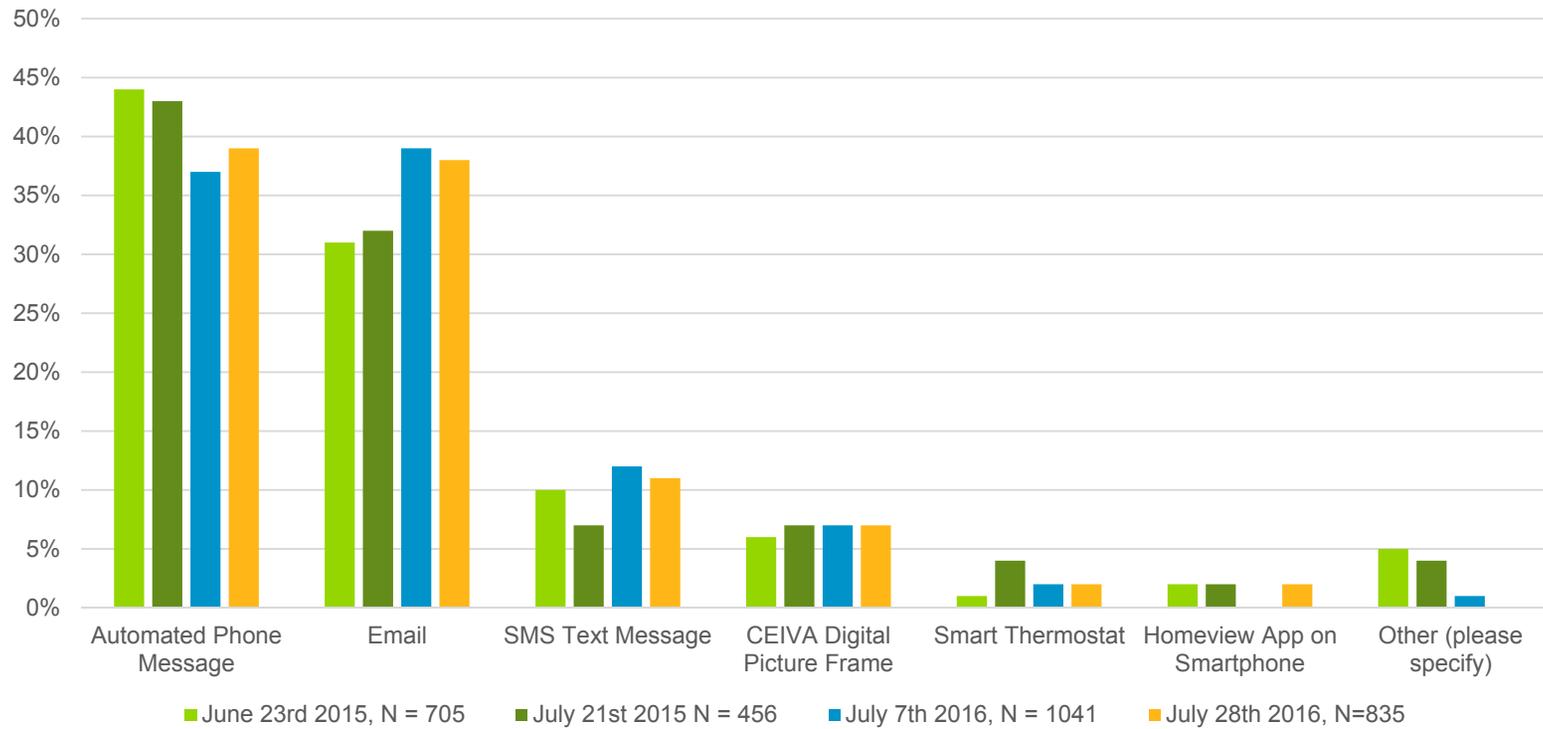
- Event awareness through phone messages down from 2015, awareness through emails and text message up from 2016.
- In both summers, avoiding appliance use is the most cited form of electricity reduction. Precooling, family discussion and seeking activity outside the home increased in 2016.
- Doubled use of IHD from 1st 2015 event to 2nd 2016 event (29% to 59%).
- The program welcome kit became a less popular form of learning about Conservation Days in 2016 as compared to 2015. In 2016 the monthly and quarterly reports and newsletters were a popular form of teaching people about Conservation Days.
- Program satisfaction remained high across the two years.

HIGHLIGHTS CONTINUED

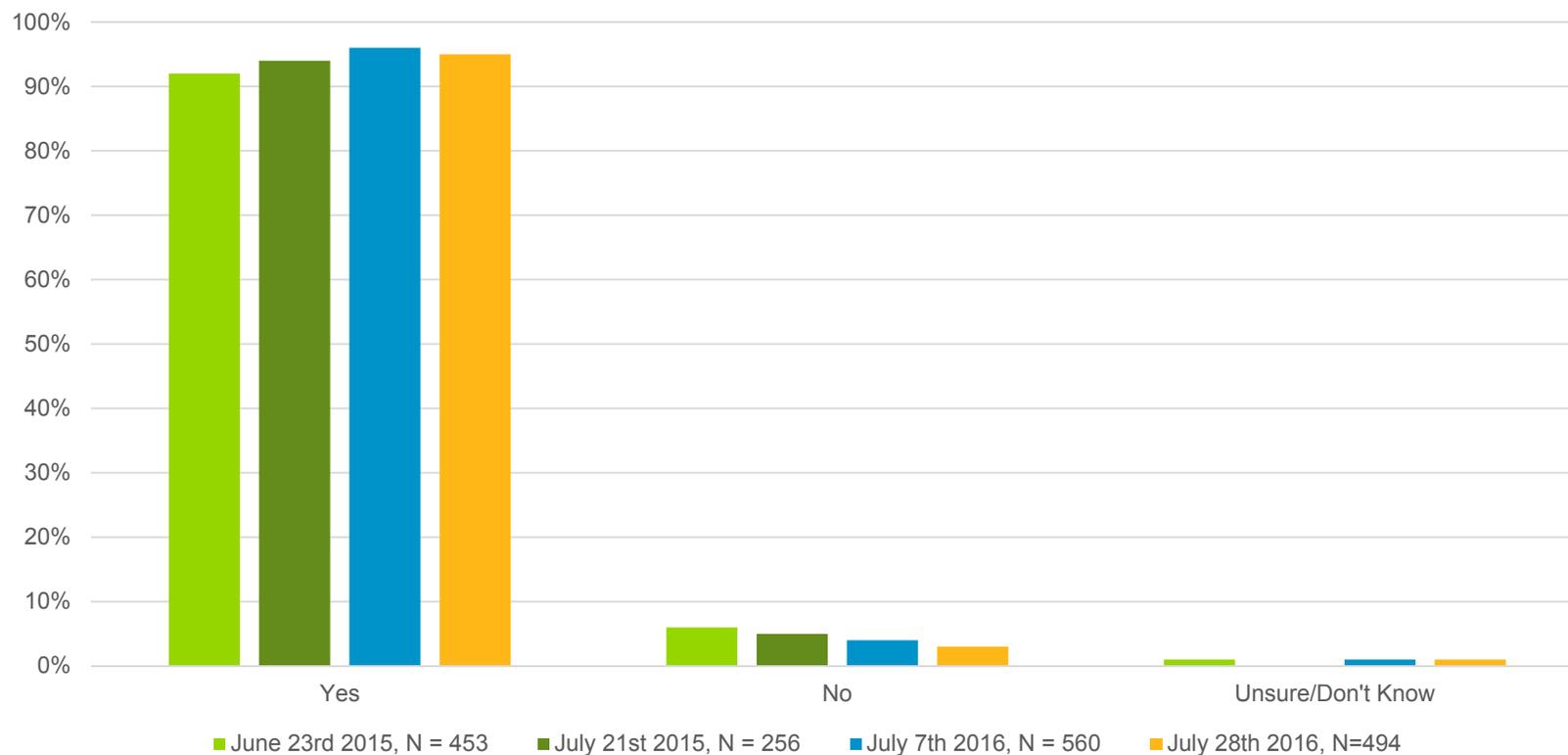
Comparison of 2016 1st and 2nd Post-Event Surveys

- More respondents reported discomfort compared to a typical afternoon on July 28 than July 7.
- Slightly more respondents reported overriding their thermostat during this event than July 7.
- 23% more respondents checked their digital picture frame during this event than on July 7.
- Awareness of WorcesterSmart Rewards platform decreased from 71% on July 7 to 62% on July 28.
- Overall Satisfaction decreased from July 7 (76%) to July 28 (69%), using ratings of '5' or higher.

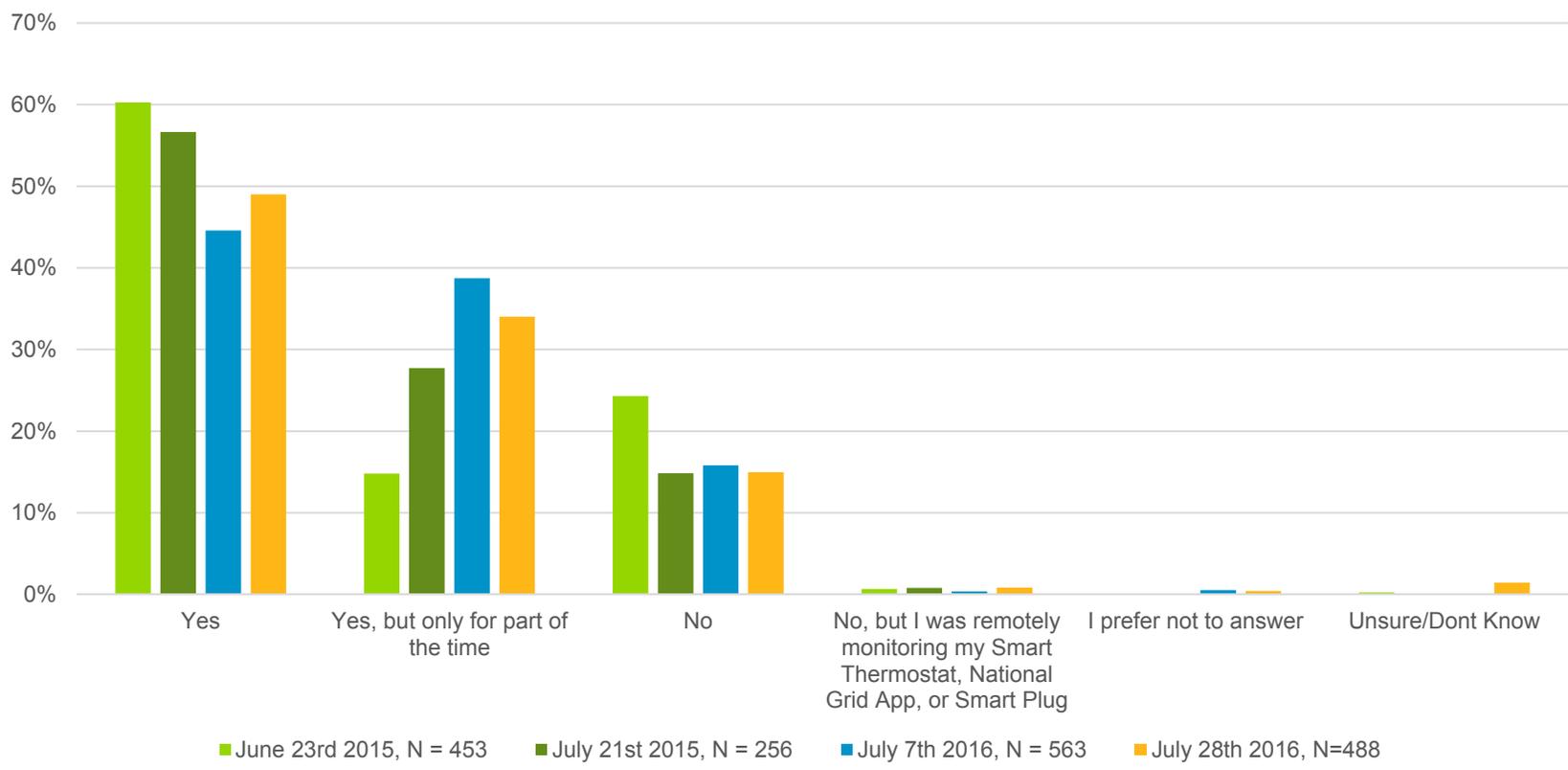
Q4. How did you become aware that a Conservation Day was going to occur?



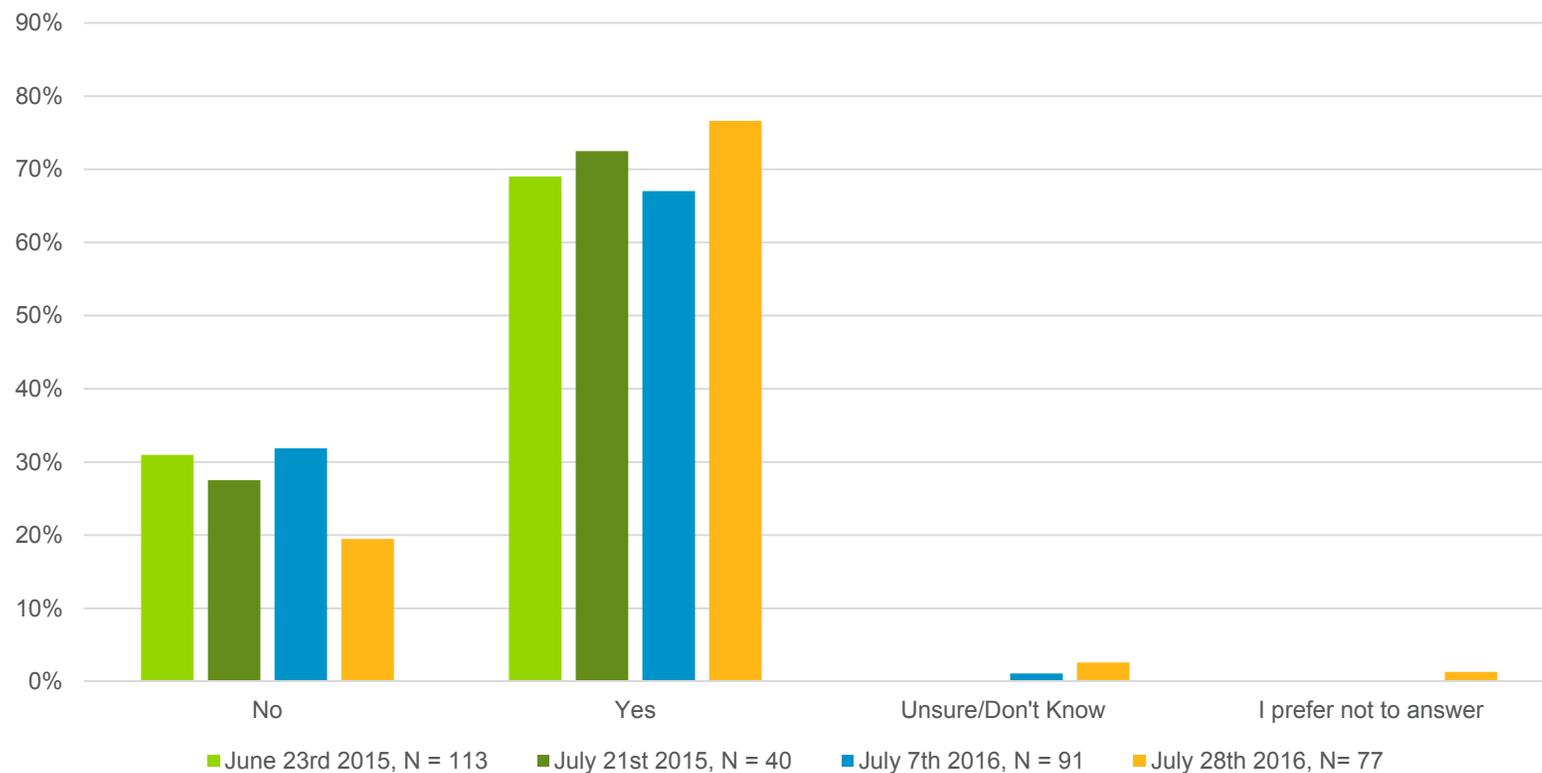
Q5. Did the notification give you sufficient notice and information about the Conservation Day that was set to occur?



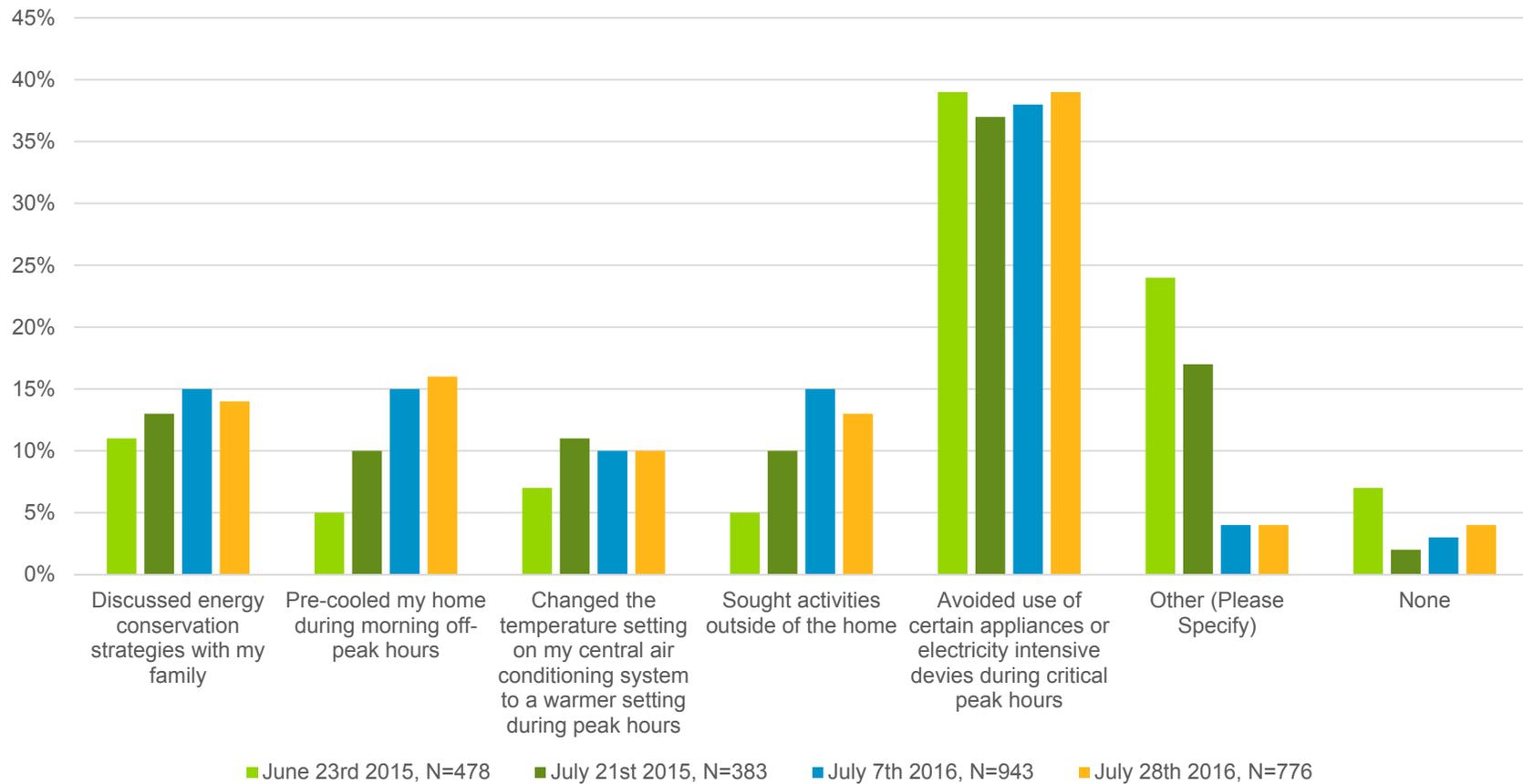
Q6. Were you or another family member home during the Peak Event hours that occurred on the Conservation Day?



Q7. Even though you were not home during the Peak Event hours, did you take any actions to decrease your electricity usage during the Peak Event hours?

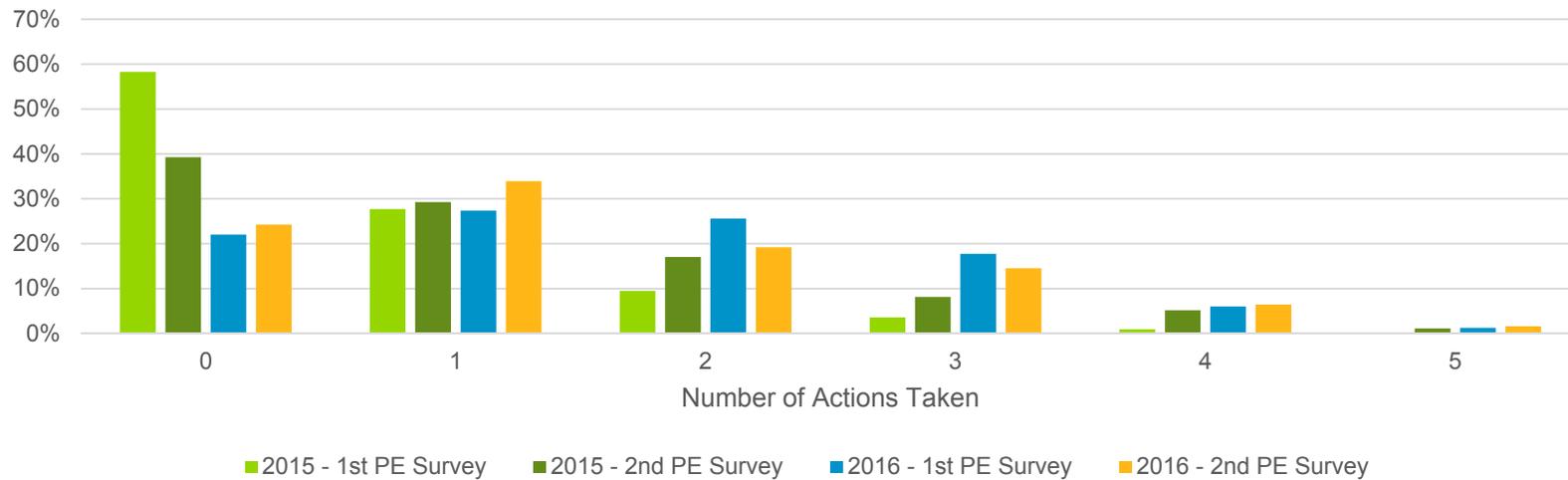


Q9. What actions, if any, did you take to reduce your electricity use on the Conservation Day?



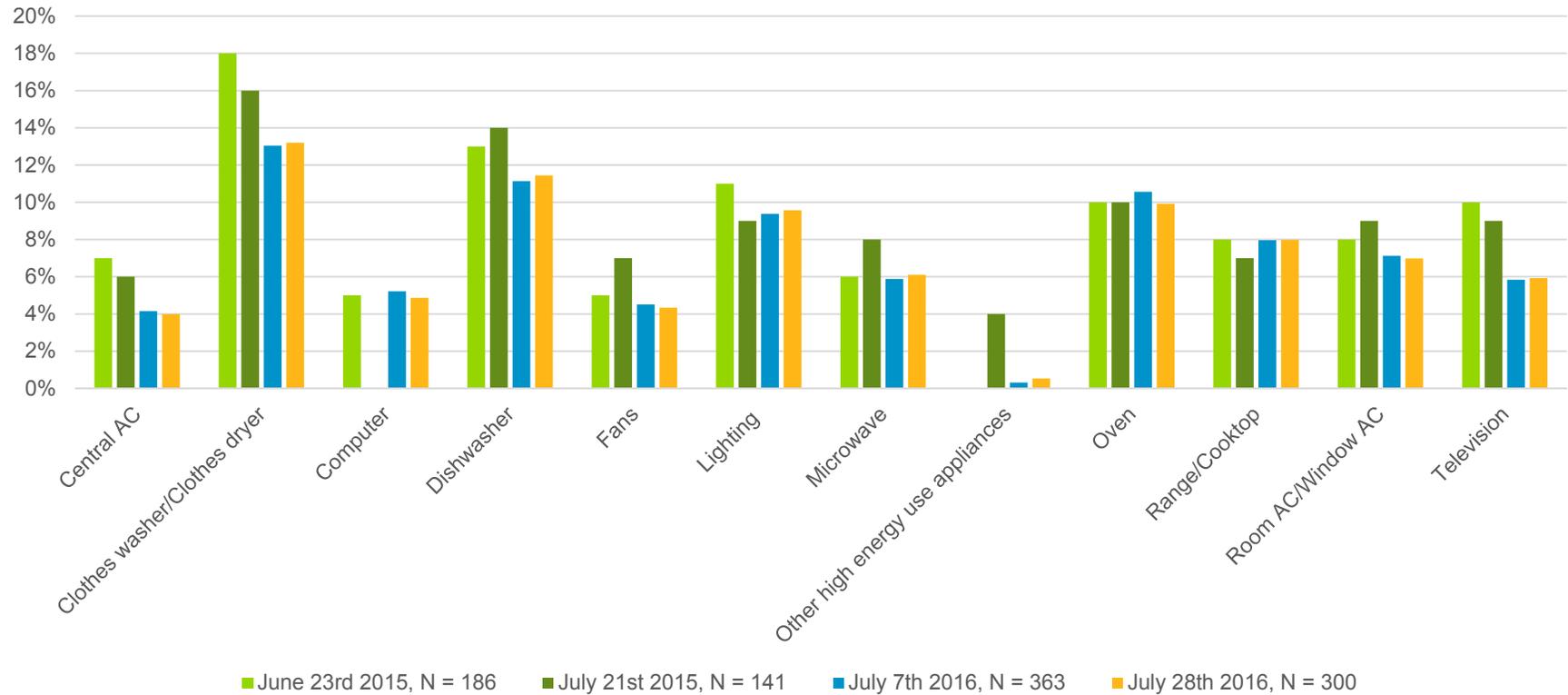
9. What actions, if any, did you take to reduce your electricity use when a Conservation Day occurred?

Action Intensity

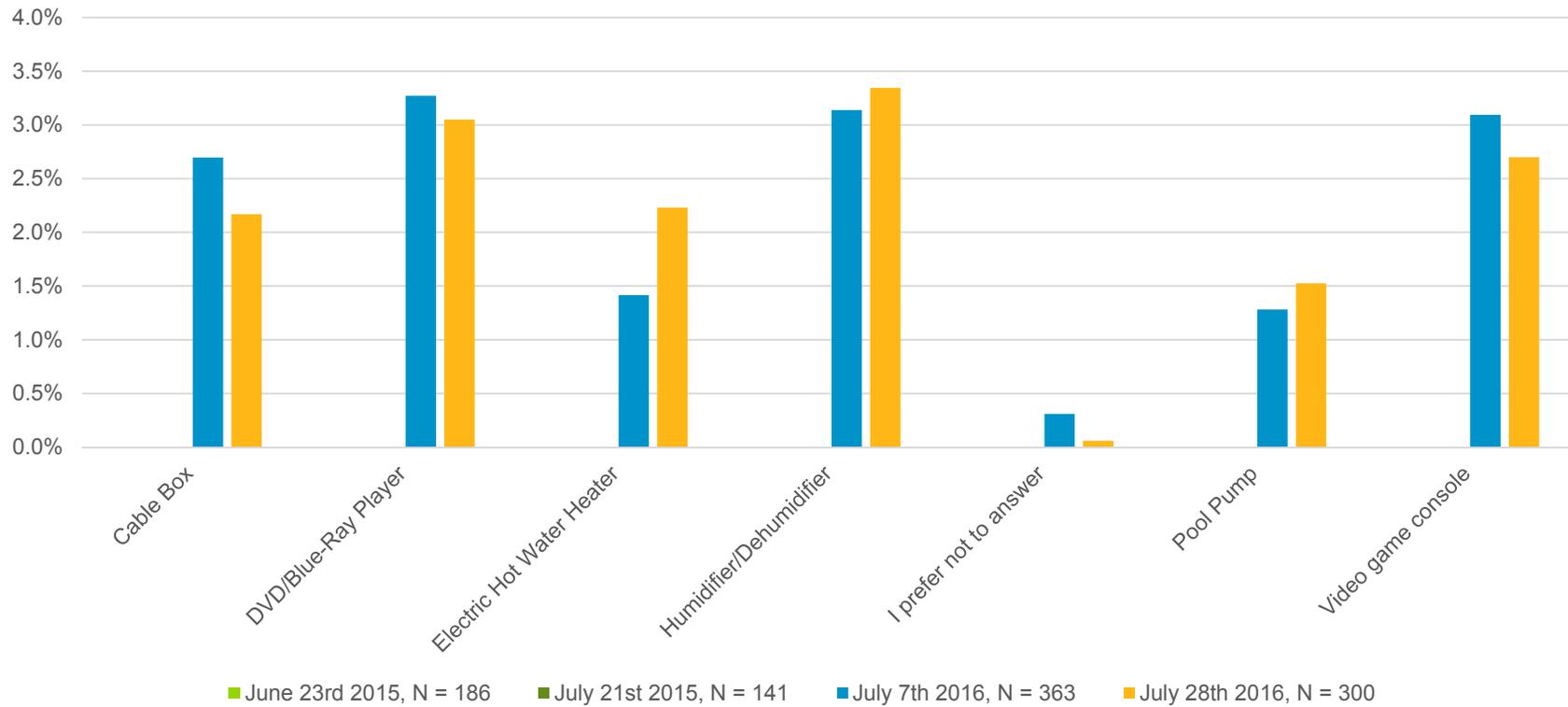


Mean 2015 - 1st PE Survey	0.612903
Mean 2015 - 2nd PE Survey	1.140741
Mean 2016 - 1st PE Survey	1.650854
Mean 2016 - 2nd PE Survey	1.725926

Q10. What items specifically did you avoid using to save energy during the Conservation Day?

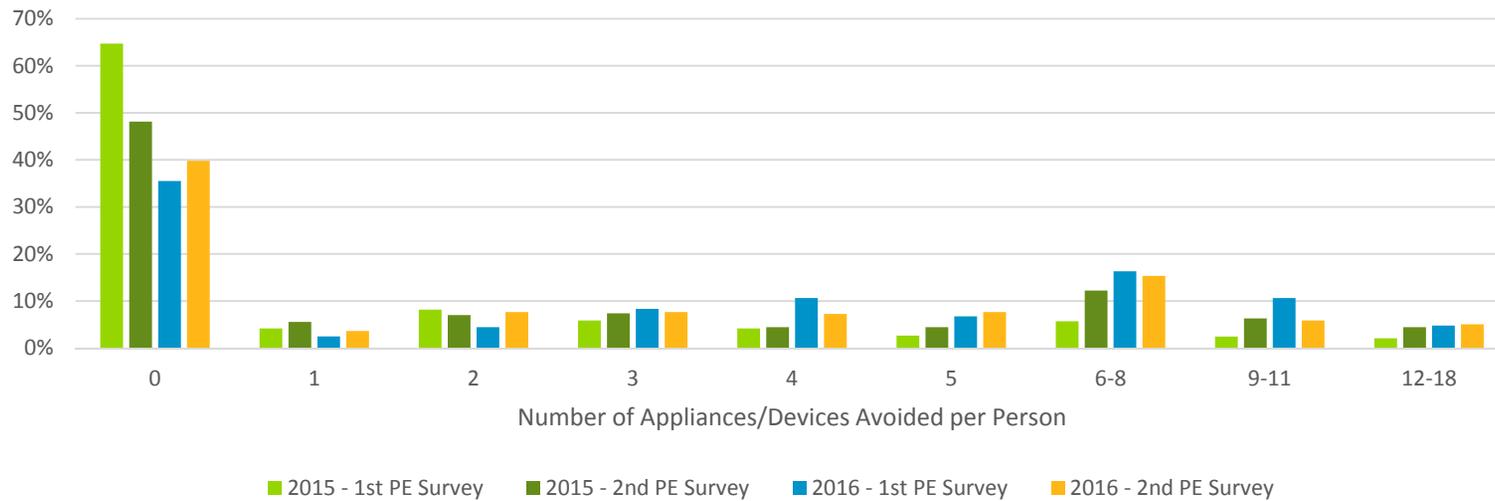


Q10. What items specifically did you avoid using to save energy during the Conservation Day?



Q10. What items specifically did you avoid using to save energy during the Conservation Day?

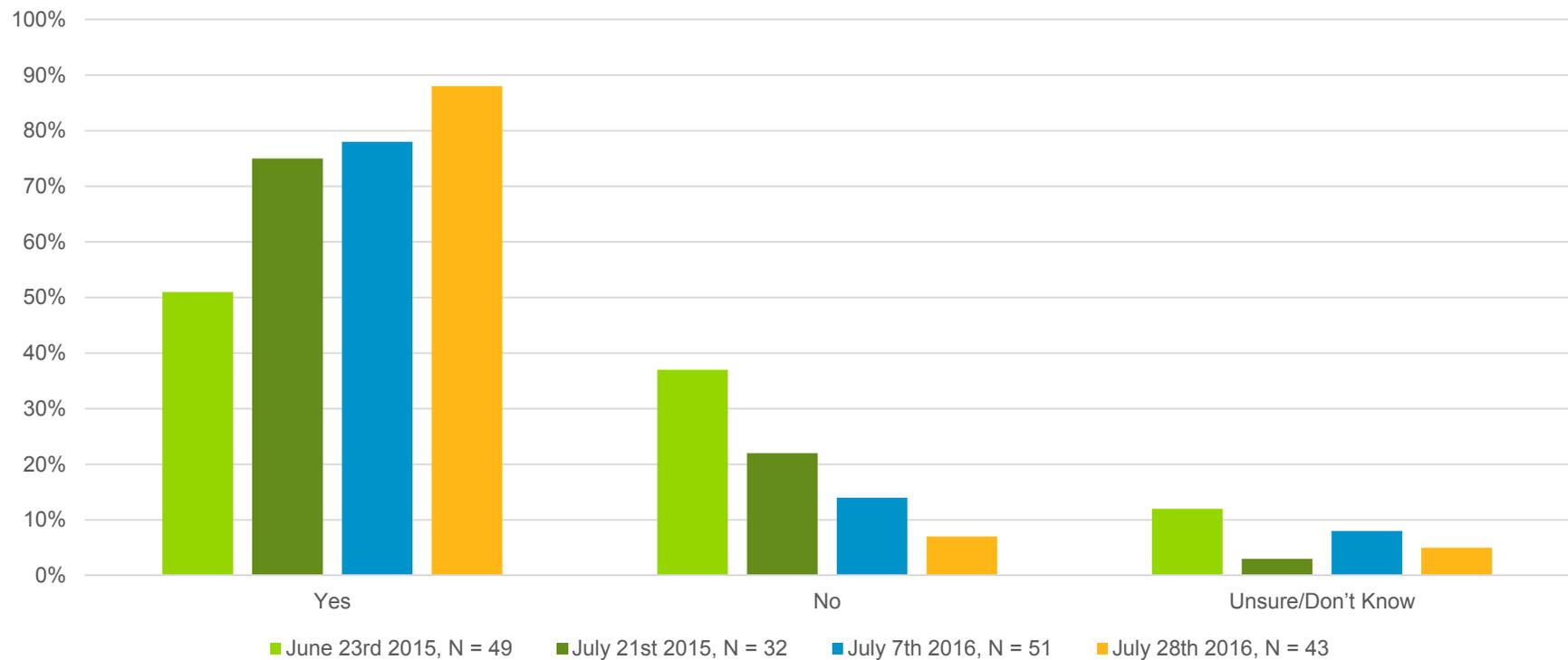
Action Intensity



Mean 2015 - 1st PE Survey	1.595825
Mean 2015 - 2nd PE Survey	2.911111
Mean 2016 - 1st PE Survey	4.017762
Mean 2016 - 2nd PE Survey	3.438384

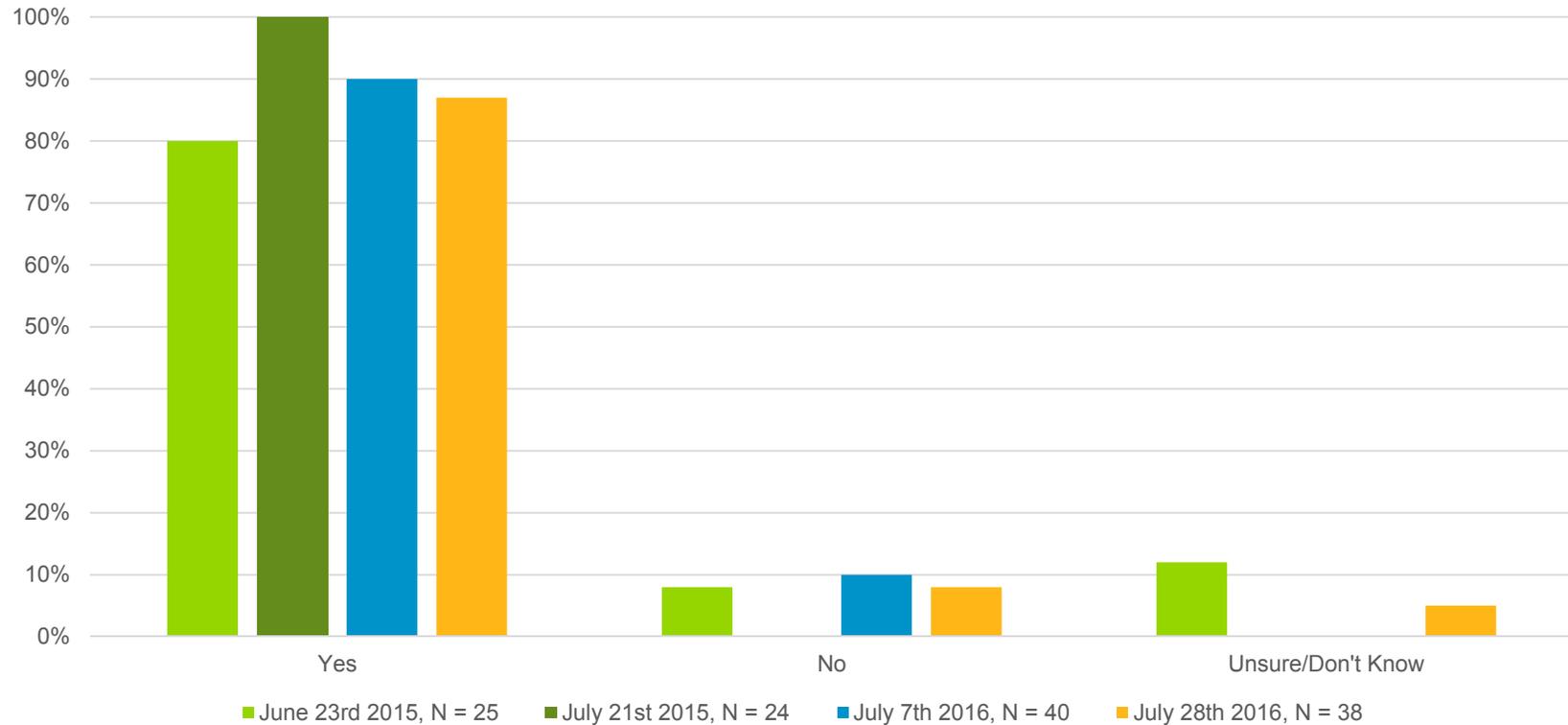
Thermostat Respondents

Q12. Did you, or the family member present during the Conservation Day's Peak Event hours, notice a change in temperature in your home during the Peak Event hours?



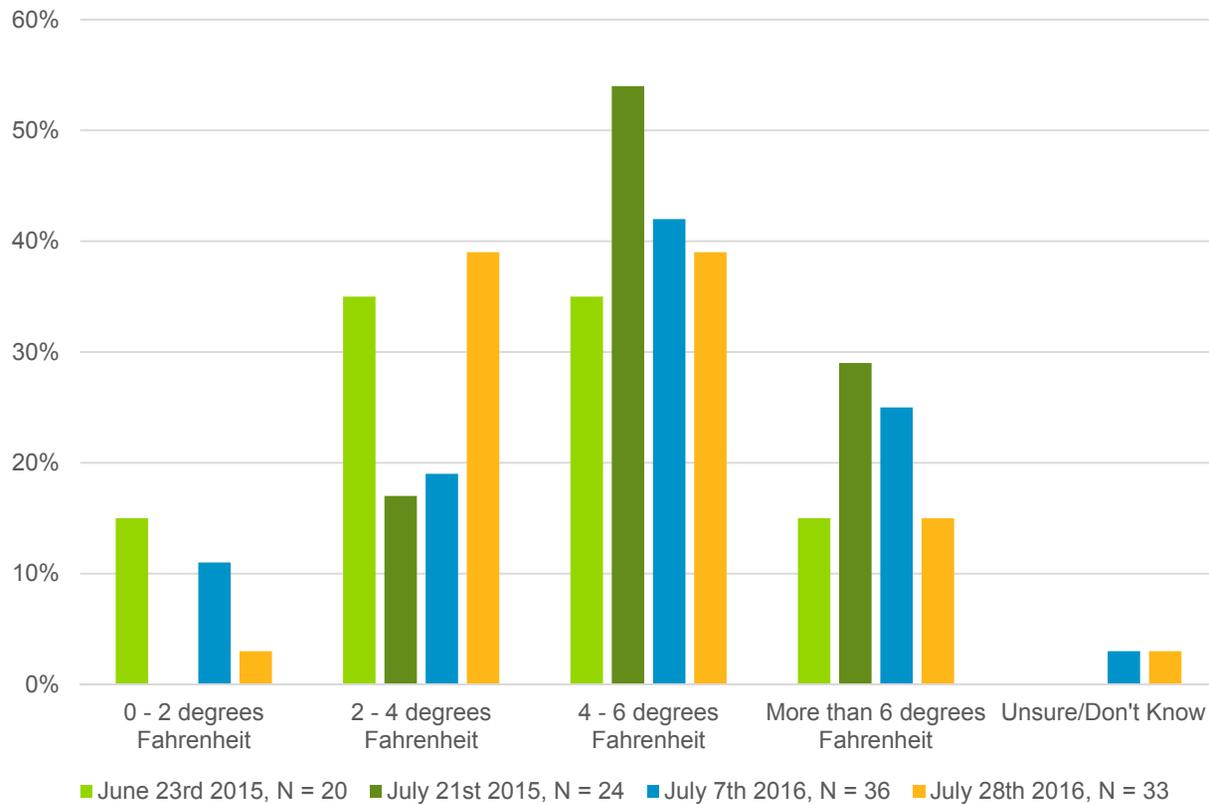
Thermostat Respondents

Q13. Did you observe the actual temperature in your home during the Peak Event hours?



Thermostat Respondents

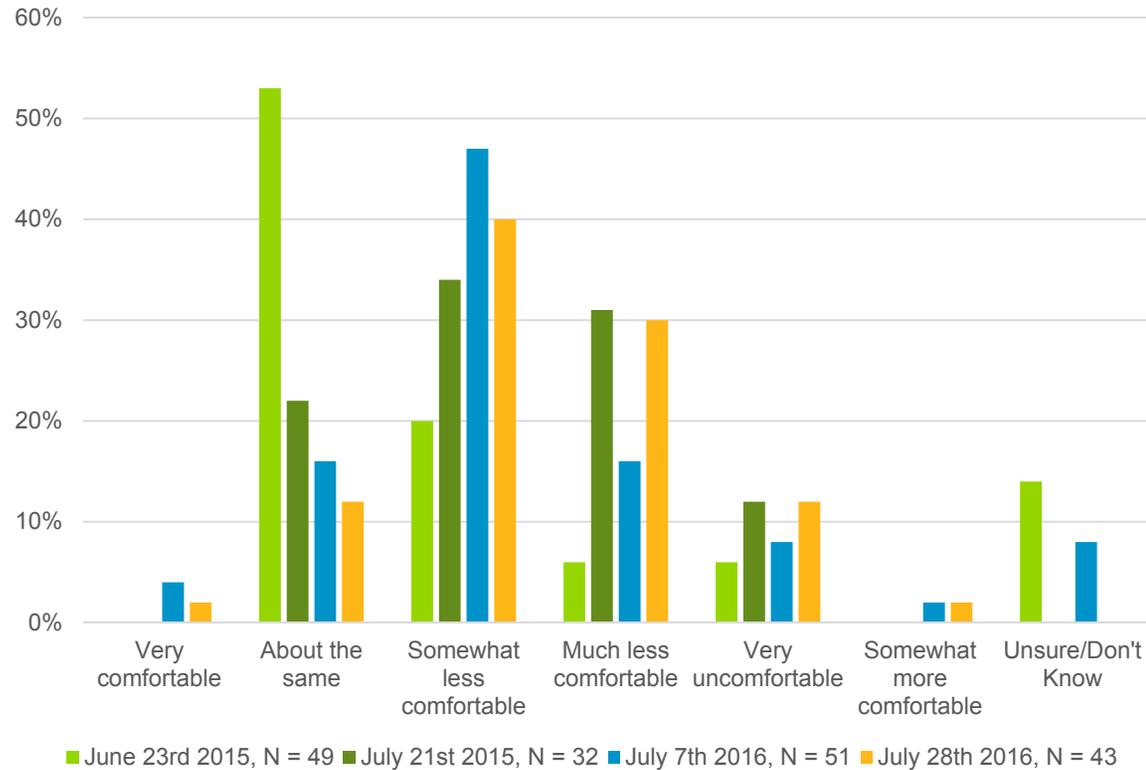
Q14. Approximately how many degrees did the temperature in your home rise during the Peak Event hours?



	Temperature Setback (Degrees Fahrenheit)
June 23, 2015	4
July 21, 2015	3
July 7, 2016	3
July 28, 2016	2

Thermostat Respondents

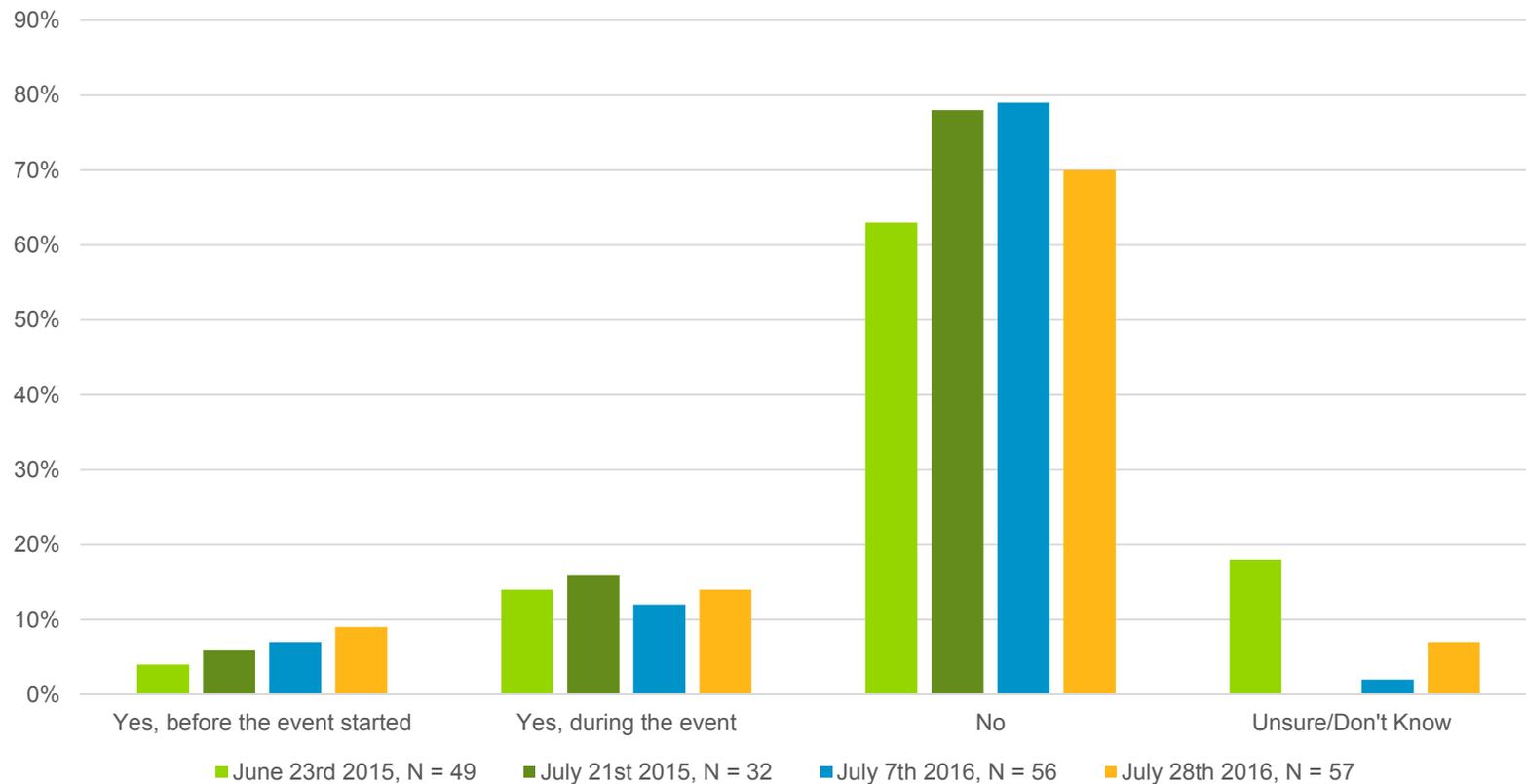
Q15. During the Event, how would you describe your comfort compared to a typical afternoon with similar outdoor temperatures?



	Temperature Setback (Degrees Fahrenheit)
June 23, 2015	4
July 21, 2015	3
July 7, 2016	3
July 28, 2016	2

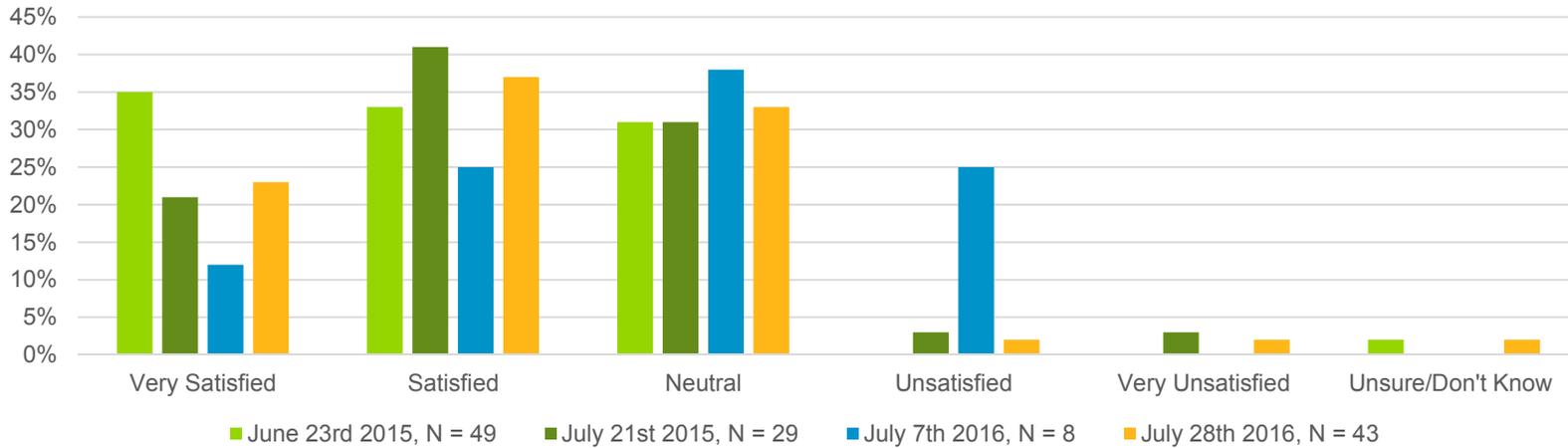
Thermostat Respondents

Q16. At any point before or during the Peak Event hours, did you press the override button on your thermostat to prevent or stop the program from adjusting your thermostat remotely?

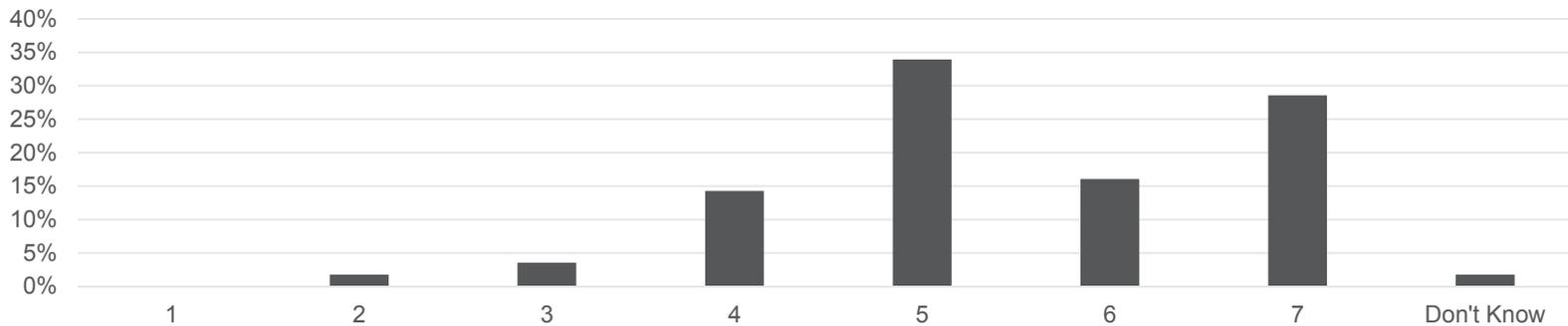


Thermostat Respondents

Q19. How satisfied were you with the performance of the Smart Thermostat during the Peak Event hours?

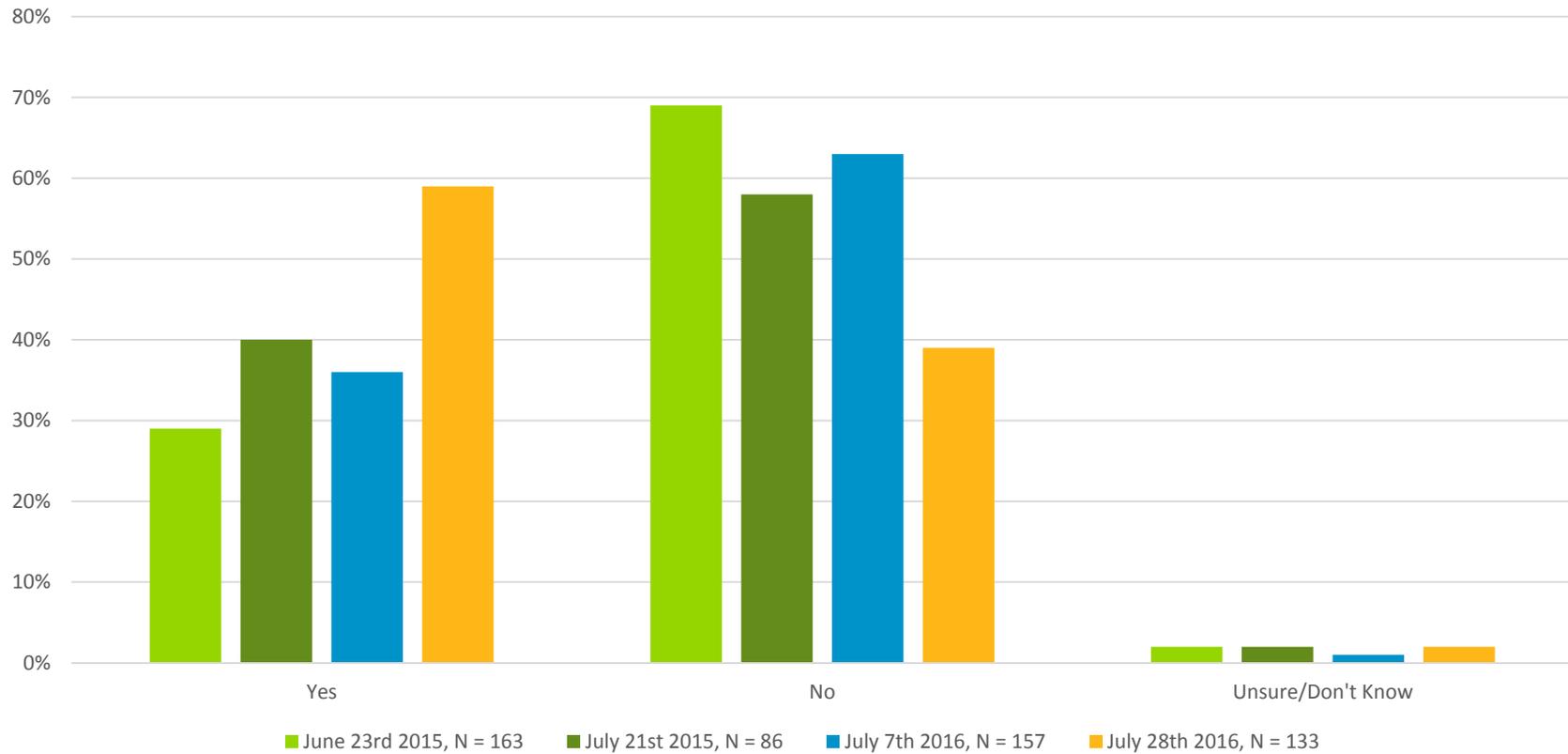


July 7th 2016 Thermostat Respondents satisfaction with SES Program, N = 56

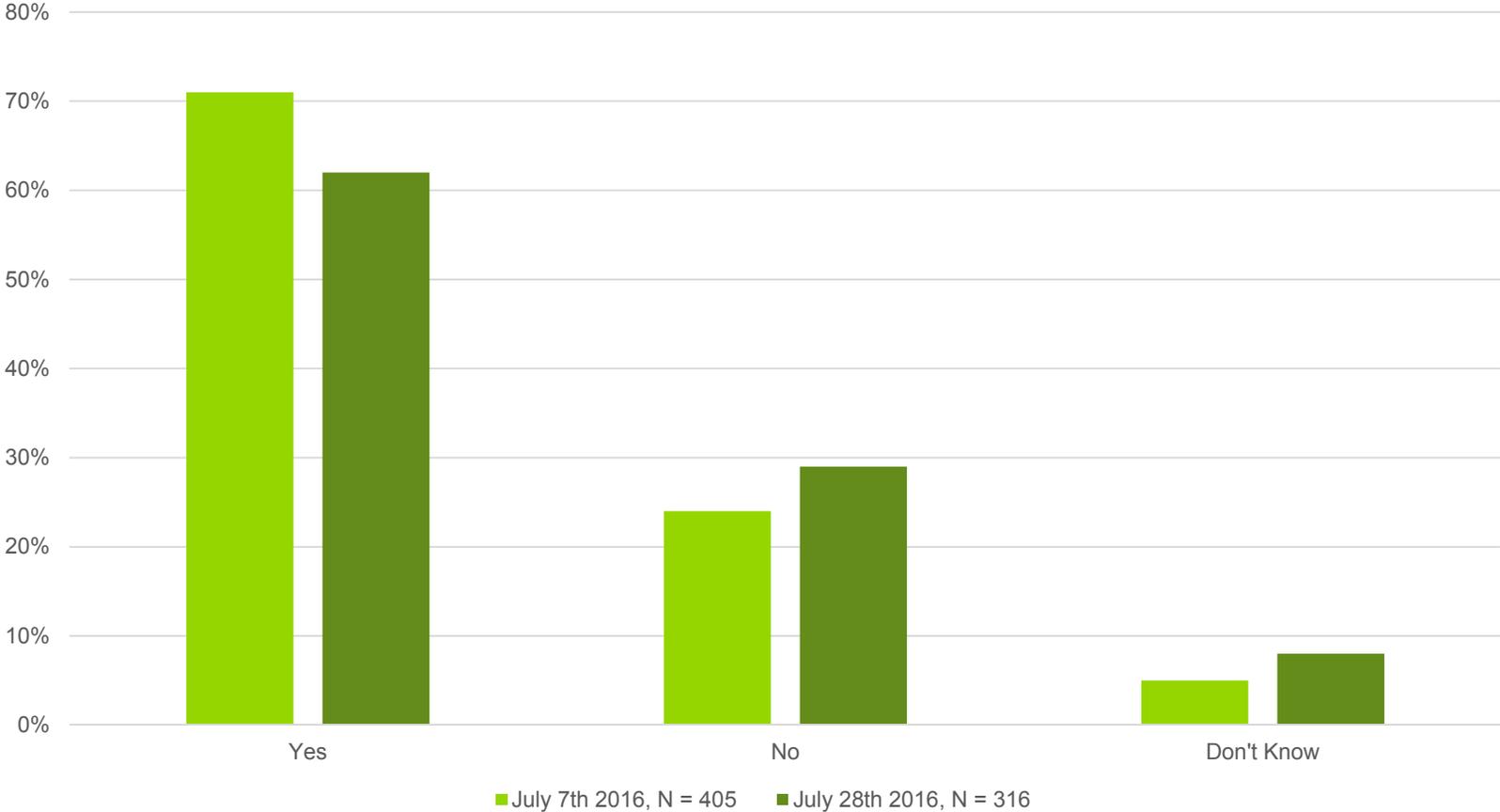


IHD Respondents

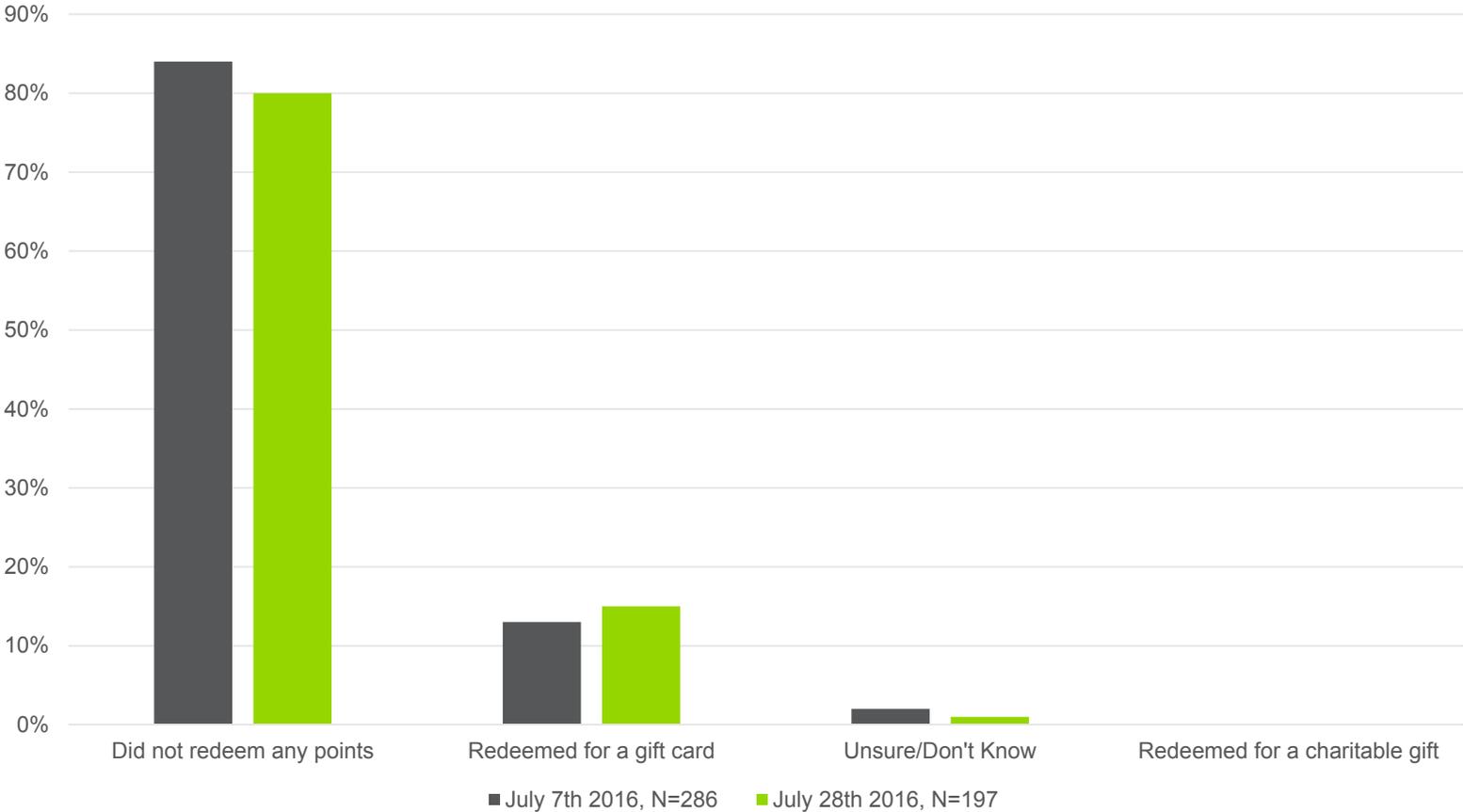
Q27. Did you refer to your Digital Picture Frame at any point during the Peak Event hours to check your electricity consumption?



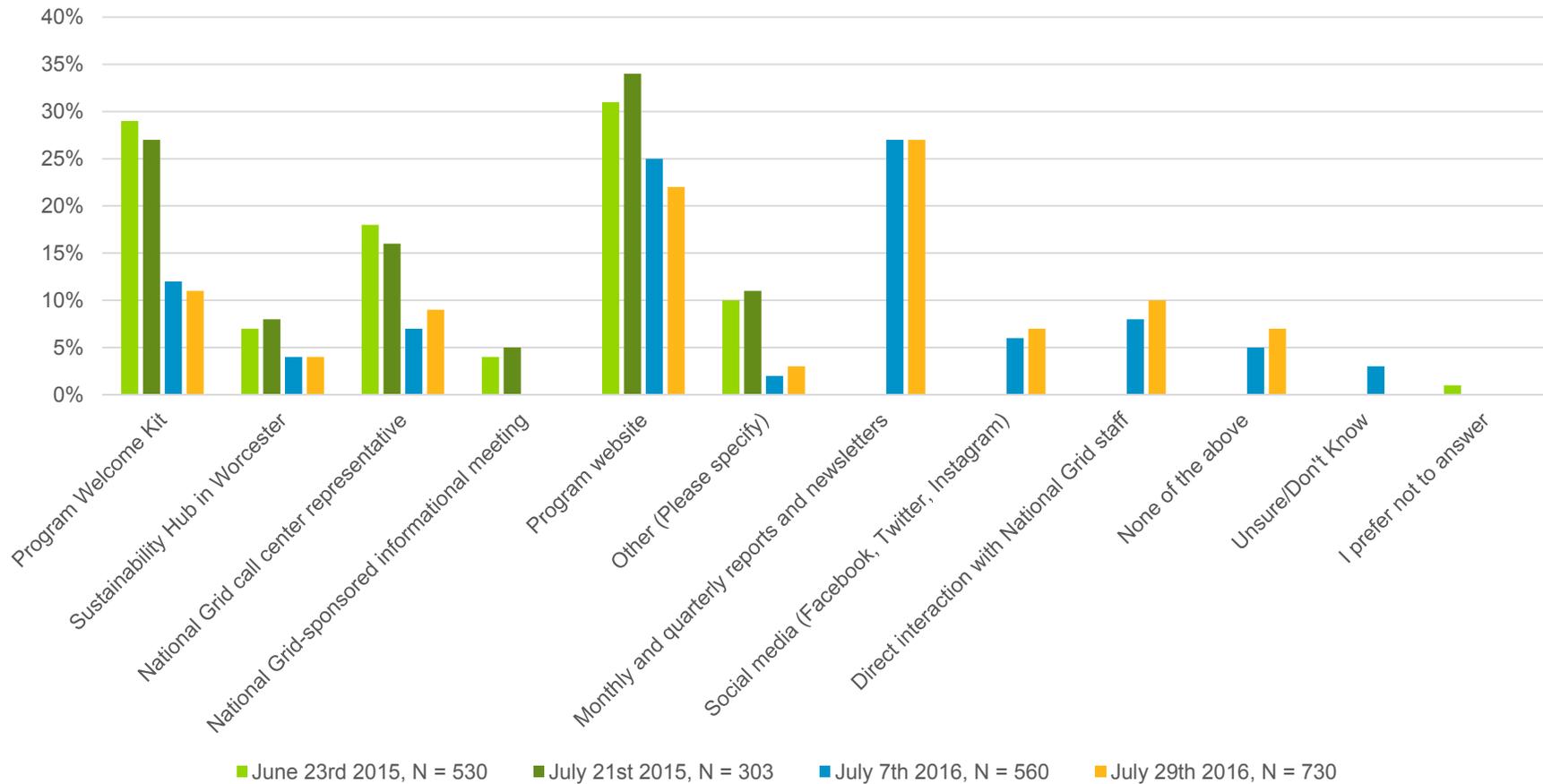
40N6. Are you aware of the WorcesterSmart Rewards platform?



40N7. Have you redeemed points for a gift card or charitable gift?



37A. What sources of information were most useful to you in learning about Conservation Days?

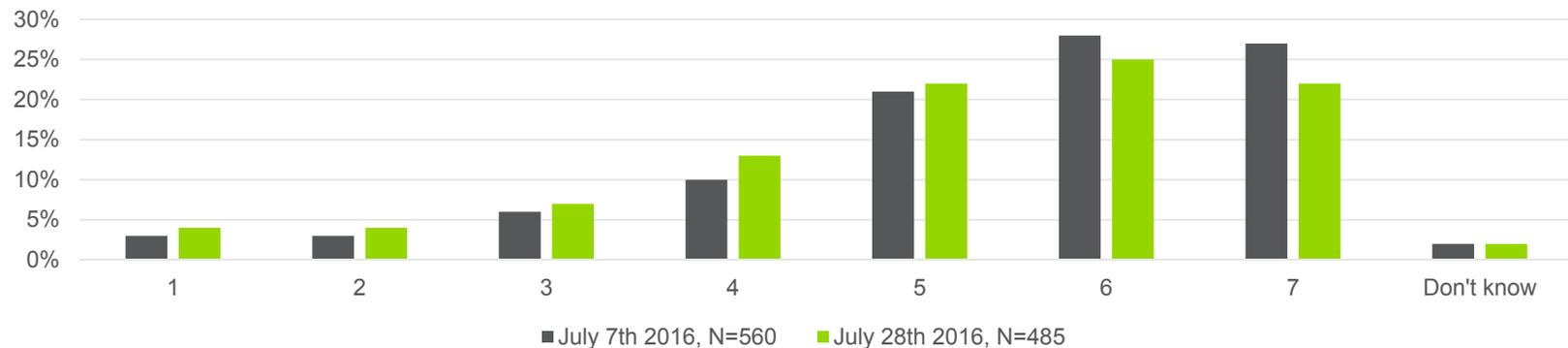


SATISFACTION IN 2015 COMPARED TO 2016

2015 Satisfaction
End of Summer Survey



2016 Satisfaction
39CC. Overall, how would you rate your satisfaction with the Smart Energy Solutions Program so far, on a scale of 1-7 (Where 1 is "Completely Dissatisfied" and 7 is "Completely Satisfied")



National Grid Smart Energy Solutions End of Pilot Survey

[INSERTS FOR CONTACT_NAME, ID NUMBER WILL COME FROM NGRID-SUPPLIED SAMPLE]

Basic Customer Data: (To be provided by National Grid)

- Name (Adult Customer of Record or Spouse)
- Date Survey Completed (To be completed by Bellomy Research)
- Property Address
- Phone number
- Email Address
- IDNUM

Sample Variables:

1. IHDflag: 1 = Respondent has in-home picture frame display provided through pilot, 0 = no IHD
2. TSTAT 1= Respondent has thermostat, 0=no thermostat
3. ~~DLCflag: 1 = Respondent is on Direct Load Control pilot, 0 = non-DLC~~
4. Plug control: 1 = Respondent has a load control plug, 0= no plug
5. ~~Account: 1 = Respondent has My National Grid account, 0 = no account~~
6. Rate Type: 1 = Respondent is on Smart Rewards Pricing.
7. Rate Type: 2 = Respondent is on Conservation Day Rate

[INTRO WHEN SURVEY TAKEN ONLINE]

Thank you for responding to Bellomy Research's email invitation on behalf of National Grid's Smart Energy Solutions program to provide feedback on your experience with the Conservation Days called by National Grid this summer. **If you qualify and complete the entire survey we will send you a \$15 check.** Your feedback will help us make this program the best possible experience for you and other participating customers. We appreciate your time and insights.

Please be aware that after you have entered a response and have chosen to move forward to the next question, you may not be able to return to the previous page of the survey. *Please review each question and your responses carefully before proceeding.* Please use the arrow at bottom left of the screen to advance the survey. Do NOT use your browser's BACK button.

[THIS QUESTION TO BE ASKED OF ALL RESPONDENTS – EMAIL AND PHONE]

1a. Please confirm that you are one of the persons in your household who is most knowledgeable about National Grid's Smart Energy Solutions program. ~~(IF NEEDED: "You may also know the Smart Energy Solutions program as National Grid's "Smart Grid pilot program."~~ ~~(IF STILL DON'T KNOW WHAT THE PROGRAM IS SAY: "This program installed an advanced electric meter in your home and possibly additional equipment to provide you with more information and control of your energy usage on a number of Conservation Days that National Grid called during this past summer and the summer of 2015."~~

1. I am the most knowledgeable [SKIP TO Q1]
2. Another person is most knowledgeable but I can answer questions about the event [SKIP TO Q1]
3. Another person is most knowledgeable

- 98. Unsure/Don't Know [**THANK AND TERMINATE**]
- 99. I prefer not to answer [**THANK AND TERMINATE**]

[IF 1A = 3, ASK]

- 1b. What is that person's name and contact information?
 - 1. Name _____
 - 2. Email Address _____
 - 3. Phone Number _____

[PROGRAMMER: PLEASE ADD A CHECK BOX FOR "I PREFER NOT TO ANSWER".]

1bb. Is that person able to continue this survey? If so, please have them come to the computer/mobile device.

- 1. Yes, continue [**GO TO INTRO**]
- 2. No/Unavailable [**THANK AND TERMINATE**]

Conservation Day Awareness (ASK ALL RESPONDENTS)

[IF RATE TYPE = 1, SAY]

100. According to our records, you are participating in National Grid's Smart Energy Solutions program on the Smart Rewards Pricing Plan. Is that correct?

(IF NEEDED: "With Smart Rewards Pricing, over the past 2 years you've paid less than the basic service rate for your electricity use during the daytime, with even lower rates during weekday nights, weekends, and holidays. During Peak Event hours on Conservation Days-your rates increased, but you could minimize this increase by saving electricity during the specified Peak Event hours. The program is also known as National Grid's Smart Grid Pilot program or the Worcester (PRONOUNCED WUSS-TER) Smart Grid Pilot program. Does that sound familiar to you?"

- 1. Yes [**SKIP TO Q103**]
- 2. No [**THANK AND TERMINATE**]
- 98. Unsure/Don't Know [**CONTINUE**]
- 99. I prefer not to answer [**THANK AND TERMINATE**]

[IF RATE TYPE = 2, SAY]

102. According to our records, you are participating in National Grid's Smart Energy Solutions program with the Conservation Day Rebate plan. Is that correct?

(IF NEEDED: "On the Conservation Day Rebate plan over the past two years (since January 1, 2015) you've paid the basic service electric rate, but if you reduced electricity use during Peak Event hours on a Conservation Days, you could receive a credit on your electric bill in the month after the Conservation Day."

- 1. Yes [**CONTINUE**]
- 2. No [**THANK AND TERMINATE**]
- 98. Unsure/Don't Know [**CONTINUE**]
- 99. I prefer not to answer [**THANK AND TERMINATE**]

103. During this past summer, how did you typically become aware that a Conservation Day was going to occur? **Select one answer only.**

- 1. Automated Phone Message

2. E-Mail
 3. SMS Text Message
 4. Digital Picture Frame
 5. Smart Thermostat
 6. Homeview app on Smartphone
 7. Social Media (Twitter, Facebook, etc.)
 8. Was not notified **[SKIP TO Q106]**
 9. Other (Please specify)
 98. Unsure/Don't Know
 99. I prefer not to answer
104. How do you feel about the amount of notification you received regarding the 2016 Conservation Days? Would you say it was... **(READ LIST)?**
[RANDOMIZE]
1. Just right
 2. Too much
 3. Too little
 4. **(DO NOT READ)** Unsure/Don't Know **[FIXED]**
 5. **(DO NOT READ)** I prefer not to answer **[FIXED]**
105. Thinking about the amount of notifications about Conservation Days you received in summer 2015 compared to this past summer 2016, how would you describe your satisfaction in 2016. Would you say you were... **(READ LIST)?**
1. Much more satisfied
 2. More satisfied
 3. About the same
 4. Less satisfied
 5. Much less satisfied
 6. **(DO NOT READ)** Not in the program in 2015
 98. **(DO NOT READ)** Unsure/Don't Know
 99. **(DO NOT READ)** I prefer not to answer
106. This summer (2016), about how often were you or another family member home during Conservation Day Peak Event hours? Would you say you were at home... **(READ LIST)?**
1. Every Conservation Day
 2. Most Conservation Days
 3. Some Conservation Days
 4. No Conservation Days **[SKIP TO Q110]**
 98. **(DO NOT READ)** Unsure/Don't Know
 99. **(DO NOT READ)** I prefer not to answer

107. When you or another family member were at home on Conservation Days, about how many of the Peak Event hours **was someone usually at home? were you or a family member usually at home for?** Were you... **(READ LIST)?**

1. Home for all Peak Event hours
2. Home for most Peak Event hours
3. Home for some Peak Event hours
4. Never at home during Peak Event hours **[SKIP TO Q110]**
98. **(DO NOT READ)** Unsure/Don't Know
99. **(DO NOT READ)** I prefer not to answer

108. When you or another family member were at home for any part of a Conservation Day Peak Event, what actions, if any, did you take to reduce your electricity use? **Select all that apply.**

1. Discussed energy conservation strategies with my family
2. Pre-cooled my home during morning off-peak hours
3. Changed the temperature setting on my central air conditioning system to a warmer setting during peak hours
4. Sought activities outside of the home
5. Avoided use of certain appliances or electricity intensive devices during critical peak hours **[CONTINUE]**
6. None
7. Other (Please specify)
98. Unsure/Don't Know
99. I prefer not to answer

[IF Q108 = 5, CONTINUE. OTHERWISE SKIP TO Q110]

109. What items specifically did you avoid using to save energy during the Conservation Day? **Select all that apply.**

1. Lighting
2. Oven
3. Range/Cooktop
4. Microwave
5. Dishwasher
6. Clothes washer/Clothes dryer
7. Central AC
8. Room AC/Window AC
9. Fans
10. Television
11. DVD/Blu-Ray Player
12. Cable Box
13. Video game console
14. Computer
15. Humidifier/Dehumidifier
16. Other high energy use appliances (Please specify)
17. Pool pump
18. Electric water heater
98. Unsure/Don't Know
99. I prefer not to answer

110. The next few questions are about your use of the Homeview app.

When you were away from home during Peak Event hours, did you usually use the Homeview app or Internet Portal to...? **Select all that apply.**

[RANDOMIZE]

1. Monitor your thermostat settings
2. Change your thermostat settings
3. ~~(DO NOT READ)~~ Did not usually use the Homeview app **[FIXED]**
98. ~~(DO NOT READ)~~ Unsure/Don't Know **[FIXED]**
99. ~~(DO NOT READ)~~ I prefer not to answer **[FIXED]**

111. Did you use the Homeview app more, less or about the same in 2016 as compared to 2015?

1. More in the 2016 summer
2. Less in the 2016 summer
3. About the same **[SKIP TO Q113]**
4. Not in the program in 2015 **[SKIP TO Q113]**
5. Unsure/Don't Know **[SKIP TO Q113]**
6. I prefer not to answer **[SKIP TO Q113]**

[IF Q111 = 1 OR 2, CONTINUE. OTHERWISE SKIP TO Q113]

112. Why did you use the Homeview app **[INSERT Q111 RESPONSE]** compared to 2015? **Select all that apply.**

1. Understood how to use it better
2. Found the information more useful this year
3. Prefer to get information on my phone
4. Didn't have the app in 2015
5. Homeview app did not work well
6. Didn't tell me what I wanted to know
7. Don't like using apps
8. Didn't have a phone this year
9. Other (Please specify)
98. Unsure/Don't Know
99. I prefer not to answer

[IF TSTAT =1, ASK]

113. By the end of this past summer, did you REMOTELY MONITOR your thermostat settings more, less or about the same as compared to the beginning of the summer?

1. More by the end of summer **[CONTINUE TO Q114]**
2. Less by the end of the summer **[SKIP TO Q115]**
3. About the same **[SKIP TO Q116]**
98. Unsure/Don't Know **[SKIP TO Q119]**
99. I prefer not to answer **[SKIP TO Q119]**

[IF Q113 = 1, ASK 114]

114. Why did you **remotely** monitor your thermostat settings MORE by the end of the summer? **Select all that apply.**

1. Understood how to use it better
2. Found the information more useful this year

3. Easy to check
4. Other (Please specify)
98. Unsure/Don't Know
99. I prefer not to answer

[IF Q113 = 2, ASK 115, THEN IF Q111 = 4 SKIP TO 119]

115. Why did you remotely monitor your thermostat settings LESS by the end of the summer? **Select all that apply.**

1. I didn't have the time to monitor my thermostat
2. I didn't think about doing it
3. I didn't find it useful to do so.
4. I did not understand the thermostat information
5. I experienced technical issues while using the thermostat
6. Other (Please Specify)
98. Unsure/Don't Know
99. I prefer not to answer

[IF Q111 ≠ 4, ASK, OTHERWISE SKIP TO 119]

116. Did you remotely monitor your thermostat more, less or about the same in the 2016 summer compared to the 2015 summer? **(DO NOT READ LIST.)**

1. More in the 2016 summer **[CONTINUE]**
2. Less in the 2016 summer **[SKIP TO Q118]**
3. Did not change **[SKIP TO 119]**
4. Not in the program in 2015 **[SKIP TO 119]**
98. Unsure/Don't Know **[SKIP TO 119]**
99. I prefer not to answer **[SKIP TO 119]**

[IF Q116 = 1, ASK Q117]

117. Why did you remotely monitor your thermostat settings MORE in the 2016 summer compared to the 2015 summer? **Select all that apply.**

1. Understood how to use it better
2. Found the information more useful this year
3. Easy to check
4. Other (Please specify)
98. Unsure/Don't Know
99. I prefer not to answer

[IF Q116 = 2, ASK Q118]

118. Why did you remotely monitor your thermostat settings LESS in the 2016 summer compared to the 2015 summer? **Select all that apply.**

1. I didn't have the time to monitor my thermostat
2. I didn't think about doing it
3. I didn't find it useful to do so.
4. I did not understand the thermostat information
5. I experienced technical issues while using the thermostat
6. Other (Please Specify)
98. Unsure/Don't Know
99. I prefer not to answer

[ASK EVERYONE]

119. Over the course of the program, when you were away from home during Peak Event hours, did you usually take steps to reduce your energy use or the temperature in your home?

1. Yes **[SKIP TO Q121]**
2. Sometimes **[SKIP TO Q121]**
3. No **[CONTINUE]**
98. Unsure/Don't Know **[SKIP TO Q121]**
99. I prefer not to answer **[SKIP TO Q121]**

[IF Q119 = 3, CONTINUE TO Q120, THEN SKIP TO Q122. OTHERWISE, SKIP TO Q121]

120. Why didn't you take steps to reduce your energy use or the temperature in your home while you were away during Peak Event hours? **Select all that apply.**

[RANDOMIZE 1-5]

1. I intended to but forgot
2. I just didn't think about it
3. I didn't think taking action would make a difference
4. Someone at home required cool temperatures during Peak Event hours
5. Someone at home had medical needs requiring special equipment during peak event hours
6. Other (Please specify)
98. Unsure/Don't Know
99. I prefer not to answer

121. What actions did you take? **Select all that apply.**

[RANDOMIZE 1-8]

1. Adjusted smart thermostat for higher (warmer) temperatures before or during the Event
2. Pre-cooled the house before leaving the house
3. Adjusted thermostat remotely using the National Grid Homeview app
4. Adjusted smart thermostat for lower (cooler) temperatures after the Event
5. Shut off or unplugged appliances
6. Closed curtains or drapes
7. Changed daily routine (i.e. Dinner time, etc.)
8. Turned off lights
9. Other (Please specify)
10. None **[SKIP TO Q126]**
98. Unsure/Don't Know
99. I prefer not to answer

122. Compared to 2015 Conservation Days, did you make any changes in 2016 in the actions you took in response to Conservation Days?

1. Yes **[CONTINUE]**
2. No **[SKIP TO Q126]**
3. Was not in program in 2015 **[SKIP TO Q126]**
98. Don't Know (INTERVIEWERS: ASK IF IN THE PROGRAM IN 2015 BEFORE SELECTING "Don't Know") **[SKIP TO Q126]**
99. I prefer not to answer **[SKIP TO Q126]**

[IF Q122 = 1, CONTINUE. OTHERWISE, SKIP TO Q126]

123. What changes did you make to the actions you took on Conservation Days in 2016? **Select all that apply.**

[RANDOMIZE 2-7]

1. None **[SKIP TO Q125]**
2. Purchased energy saving appliances
3. Discussed energy conservation strategies with my family
4. Pre-cooled my home during morning off-peak hours
5. Changed the temperature setting on my central air conditioning system to a warmer setting during peak hours
6. Sought activities outside of the home
7. Avoided use of certain appliances or electricity intensive devices during critical peak hours
98. Unsure/Don't Know **[SKIP TO Q125]**
99. I prefer not to answer **[SKIP TO Q125]**

[IF Q123 = 2-7, CONTINUE. OTHERWISE, SKIP TO Q125]

124. Why did you make the change(s) previously mentioned above to the actions you took on Conservation Days in 2016? **(RECORD VERBATIM.)**

[OPEN-END]

[PROGRAMMER: INCLUDE A "Don't Know" AND "I prefer not to answer" CHECKBOX]

125. How likely are you to continue the energy savings actions you took during this program into next year and beyond? Are you... **(READ LIST)?**

1. Very Likely
2. Likely
3. **Neither likely nor unlikely (neutral)**
4. Unlikely
5. Very unlikely
98. **(DO NOT READ)** Don't Know
99. **(DO NOT READ)** I prefer not to answer

126. During the Peak Event hours, how would you describe your comfort compared to a typical afternoon with similar outdoor temperatures? Would you say it was... **(READ LIST)?**

1. Very comfortable
2. Much more comfortable
3. Somewhat more comfortable
4. About the same
5. Somewhat less comfortable
6. Much less comfortable, or
7. Very uncomfortable
8. **(DO NOT READ)** Never home
98. **(DO NOT READ)** Unsure/Don't Know
99. **(DO NOT READ)** I prefer not to answer

Thermostat Usage (TSTAT = 1)

[IF TSTAT = 1, CONTINUE. OTHERWISE SKIP TO Q133]

127. At any point BEFORE OR DURING the Peak Event hours on ANY Conservation Day, did you press the override button on your thermostat to prevent or stop the program from adjusting your thermostat?

1. Yes, before the Event started
2. Yes, during the Event
3. No [SKIP TO Q131]
98. Unsure/Don't Know [SKIP TO Q131]
99. I prefer not to answer [SKIP TO Q131]

[IF Q127 = 1 OR 2, CONTINUE. OTHERWISE SKIP TO Q131]

128. How often would you say you used the thermostat override? Would you say you used it... (READ LIST)?

1. Every event
2. Most events
3. Some events
4. Rarely
5. Never [SKIP TO Q131]
98. (DO NOT READ) Unsure/Don't Know [SKIP TO Q131]
99. (DO NOT READ) I prefer not to answer [SKIP TO Q131]

[IF Q128 = 1-4, CONTINUE. OTHERWISE SKIP TO Q131]

129. Why did you use the override button? *Select all that apply.*

1. Did not want house to get too warm/uncomfortable
2. Someone in the home needed the temperature cooler for health reasons
3. Someone in the home wanted the temperature cooler
4. Wanted it cooler for a pet
5. Was too uncomfortable during previous events
6. (DO NOT READ) Other (Please specify)
98. (DO NOT READ) Unsure/Don't Know
99. (DO NOT READ) I prefer not to answer

130. How often did you override the thermostat when you returned home, whether from work, errands, school, or other reasons, on a Conservation Day? Was it... (READ LIST)?

1. Always
2. Sometimes
3. Never
98. (DO NOT READ) Unsure/Don't Know
99. (DO NOT READ) I prefer not to answer

131. How satisfied were you with the performance of the Smart Thermostat during the Peak Event hours? Were you... **(READ LIST)?**

1. Very satisfied **[SKIP TO Q133]**
2. Satisfied **[SKIP TO Q133]**
3. **Neither satisfied nor dissatisfied (neutral) [SKIP TO Q133]**
4. Dissatisfied
5. Very dissatisfied
98. **(DO NOT READ)** Unsure/Don't Know **[SKIP TO Q133]**
99. **(DO NOT READ)** I prefer not to answer **[SKIP TO Q133]**

[IF Q131 = 4 OR 5, CONTINUE. OTHERWISE SKIP TO Q133]

132. Why weren't you satisfied with the Smart Thermostat performance during the Peak Event hours? **Select all that apply.**

1. Set too high (too warm)
2. Could not adjust it
3. Precooling didn't work
4. Didn't work at all
5. Setback (controlled period) lasted too long
6. Just didn't like it
7. Other (Please Specify)
98. Unsure/Don't Know
99. I prefer not to answer

Smart Plug

[IF PLUG CONTROL = 1 CONTINUE. OTHERWISE SKIP TO Q137]

133. According to our records you received a Smart Plug that you could use to remotely control small appliances in your home. Is that correct?

1. Yes
2. No **[SKIP TO Q137]**
98. Unsure/Don't Know **[SKIP TO Q137]**
99. I prefer not to answer **[SKIP TO Q137]**

[IF Q133 = 1, CONTINUE. OTHERWISE SKIP TO Q137]

134. During the Conservation Days, was the Smart Plug usually plugged into an appliance in your home?

1. Yes **[SKIP TO Q136]**
2. No **[CONTINUE]**
98. Unsure/Don't Know **[SKIP TO Q137]**
99. I prefer not to answer **[SKIP TO Q137]**

[IF Q134 = 2, CONTINUE. OTHERWISE SKIP TO Q136]

135. Why didn't you plug the Smart Plug into any of your appliances? **Select all that apply.**

1. Did not know how to use it
2. Did not understand its purpose
3. Worried it would ruin the appliance it was plugged into
4. Tried it before and it did not work
5. Forgot about the Smart Plug

6. Other (Please specify)

98. Unsure/Don't Know

99. I prefer not to answer

[IF Q134 = 98 OR 99, SKIP TO Q137]

136. If you used the Smart Plug, how helpful do you think it was for controlling your energy use and cost? Please use a scale of 1 to 5, where 1 is "No effect" and 5 is a "Large effect."

No effect				Large effect	Did not use Smart Plug	Don't Know	I prefer not to answer
1	2	3	4	5	97	98	99

IHD Module

[IF IHDFLAG = 1 AND Q106 < 4, CONTINUE. OTHERWISE SKIP TO Q141]

137. On Conservation Days, did you typically refer to your Digital Picture Frame at any point during the Peak Event hours to check your electricity consumption?

1. Yes

2. No **[SKIP TO Q141]**

98. Unsure/Don't Know **[SKIP TO Q141]**

99. I prefer not to answer **[SKIP TO Q141]**

[IF Q137 = 1, CONTINUE. OTHERWISE, SKIP TO Q141]

138. How helpful was the Digital Picture Frame in making decisions about how to conserve energy during the Peak Event hours? Would you say it was... **{READ LIST}**?

1. Very helpful,

2. Somewhat helpful, or

3. Not at all helpful

98. **{DO NOT READ}** Unsure/Don't Know

99. **{DO NOT READ}** I prefer not to answer

[IF Q138 < 98, CONTINUE. OTHERWISE SKIP TO Q140]

139. Why do you say that the Digital Picture Frame was **[INSERT Q138 ANSWER]** in making decisions about how to conserve energy during Peak Event hours? **Select all that apply.**

1. Information was useful

2. Easy to read

3. Easy to understand

4. Generally positive experience

5. No additional information gained from technology

6. Hard to read

7. Hard to understand

8. Generally negative experience

9. Other (Please Specify)

98. Unsure/Don't Know

99. I prefer not to answer

140. By the end of the 2016 summer, did you check your Digital Picture Frame more, less or about the same compared to the 2015 summer?

1. More this summer
2. Less this summer
3. About the same
4. Didn't have Digital Picture Frame in 2015
98. Unsure/Don't Know
99. I prefer not to answer

NON PEAK EVENT USE OF IHD

[IF IHDFLAG = 1 CONTINUE. OTHERWISE SKIP TO Q144]

141. Did you use the Digital Picture Frame at times when there were no Conservation Days scheduled or in progress?

1. Yes **[CONTINUE]**
2. No **[SKIP TO Q144]**
98. Unsure/Don't Know **[SKIP TO Q144]**
99. I prefer not to answer **[SKIP TO Q144]**

[IF Q141 = 1, CONTINUE. OTHERWISE, SKIP TO Q144]

142. What information did you seek from the Digital Picture Frame when there were no Conservation Days scheduled or in progress? **(RECORD VERBATIM.)**

[OPEN-END]

143. How satisfied were you with the information provided from the Digital Picture Frame when you used it on non-Conservation Days? Were you... **(READ LIST)?**

1. Very satisfied
2. Satisfied
3. Neither satisfied nor dissatisfied (neutral)
4. Dissatisfied
5. Very Dissatisfied
98. **(DO NOT READ)** Unsure/Don't Know
99. **(DO NOT READ)** I prefer not to answer

National Grid's WorcesterSmart Customer Portal

[ASK EVERYONE]

144. Do you know that you have access to National Grid's WorcesterSmart **(PRONOUNCED WUSS TER SMART)** Customer Portal?

1. Yes **[CONTINUE]**
2. No **[SKIP TO Q152]**
98. Unsure/Don't Know **[SKIP Q152]**
99. I prefer not to answer **[SKIP TO Q152]**

[IF Q144 = 1, CONTINUE. OTHERWISE, SKIP TO Q152]

145. During the program, how often did you consult the WorcesterSmart Portal? Was it... **(READ LIST)?**

1. Never **[SKIP TO Q152]**
2. Very rarely

- 3. Only for events
- 4. About once a week
- 5. Several times a week
- 98. (DO NOT READ) Unsure/Don't Know
- 99. (DO NOT READ) I prefer not to answer

[IF Q145 = 2-99, CONTINUE. OTHERWISE, SKIP TO Q152]

146. When you accessed the WorcesterSmart Portal, what information did you normally seek? Was it...? **Select all that apply.**

- 1. Information on my energy use
- 2. Information on performance from previous Conservation Days
- 3. How I compare to other customers
- 4. Earning points and redeeming rewards
- 5. Energy efficiency tips and savings strategies
- 6. (DO NOT READ) Other (Please specify)
- 98. (DO NOT READ) Unsure/Don't Know
- 99. (DO NOT READ) I prefer not to answer

147. In 2016 did you regularly access the WorcesterSmart Customer Portal before, during or after Peak Event hours on Conservation Days? **Select all that apply.**

- 1. Before the Peak Event hours
- 2. During the Peak Event hours
- 3. After the Peak Event hours
- 4. Accessed portal but not typically in relation to Peak Event hours
- 5. Never accessed portal **[SKIP TO Q150]**
- 98. Unsure/Don't Know **[SKIP TO Q150]**
- 99. I prefer not to answer **[SKIP TO Q150]**

[IF Q147 = 1, 2, 3 OR 4 CONTINUE. OTHERWISE SKIP TO Q150]

148. How helpful was your WorcesterSmart Customer Portal account in making decisions about how to conserve energy? Would you say it was... **(READ LIST)?**

- 1. Very helpful,
- 2. Somewhat helpful
- 3. Neither helpful nor unhelpful
- 4. Somewhat unhelpful, or
- 5. Very unhelpful
- 98. (DO NOT READ) Unsure/Don't Know **[SKIP TO Q150]**
- 99. (DO NOT READ) I prefer not to answer **[SKIP TO Q150]**

[IF Q148 < 98 CONTINUE. OTHERWISE SKIP TO Q150]

149. Why do you say that the WorcesterSmart Portal was **[INSERT Q148 RESPONSE]** in making decisions about how to conserve energy? **Select all that apply.**

- 1. No information I couldn't get elsewhere
- 2. Good tips
- 3. Lacking information I wanted
- 4. Want better bill information
- 5. Found portal useful
- 6. Useful usage information

- 7. Don't use the website
- 8. Did not understand portal
- 9. Didn't help me lower bill
- 10. Helped reduce electric bill
- 11. Other (Please specify)
- 98. Unsure/Don't Know
- 99. I prefer not to answer

[IF Q111 = 4, SKIP TO 152]

150. By the end of the 2016 summer, did you check the WorcesterSmart Customer Portal more, less or about the same as you did in the 2015 summer?

- 1. More this summer
- 2. Less this summer
- 3. About the same this summer
- 4. Not in program in 2015
- 98. Unsure/Don't Know [SKIP TO Q152]
- 99. I prefer not to answer [SKIP TO Q152]

[IF Q150 = 1, 2, CONTINUE. OTHERWISE, SKIP TO Q152]

151. Why did you use the WorcesterSmart Portal [INSERT Q150 RESPONSE] compared to last summer? *Select all that apply.*

- 1. I didn't have the time
- 2. I did not understand the portal information
- 3. I did not find the information I was looking for
- 4. I had technical problems with the portal
- 5. I knew what to expect
- 6. Other (Please Specify)
- 98. Unsure/Don't Know
- 99. I prefer not to answer

[IF Q150 = 1, CONTINUE. OTHERWISE, SKIP TO Q151B]

151a. Why did you use the WorcesterSmart Portal MORE compared to summer 2015? *Select all that apply.*

- 1. The information helped me manage my electric use
- 2. I learned how to navigate the site
- 3. I earned points for completing a profile [SKIP TO Q153]
- 4. I earned points for taking other actions [SKIP TO Q153]
- 5. The site was better overall
- 6. Other (Please specify)
- 98. Unsure/Don't Know
- 99. I prefer not to answer

[IF Q150 = 2, CONTINUE. OTHERWISE, SKIP TO Q152]

151b. Why did you use the WorcesterSmart Portal LESS compared to summer 2015? *Select all that apply.*

- 1. I didn't have the time
- 2. I did not understand the portal information
- 3. I did not find the information I was looking for

- 4. I had technical problems with the portal
- 5. I knew what to expect
- 6. Other (Please specify)
- 98. Unsure/Don't Know
- 99. I prefer not to answer

[IF Q151A = 3 OR 4, SKIP TO Q153. OTHERWISE, CONTINUE]

152. Are you aware of the WorcesterSmart Rewards platform?
- 1. Yes
 - 2. No **[READ STATEMENT BELOW AND SKIP TO Q155]**
 - 98. Don't Know **[READ STATEMENT BELOW AND SKIP TO Q155]**
 - 99. I prefer not to answer **[SKIP TO Q155]**

National Grid has set up a Rewards platform on the WorcesterSmart Customer Portal through which customers can earn redeemable points for a number of actions, including saving energy daily and completing energy efficiency tips. When you accumulate points you are eligible to receive a rewards gift card to a number of national and local retailers or make donations to charities. You can learn more about this by signing on to the WorcesterSmart Customer Portal.

[IF Q151A = 3 OR 4 OR Q152 = 1, ASK]

153. On a scale of 1 to 5, where 1 is "Not influenced at all" and 5 is "Very influenced," how much would you say the rewards platform influenced you to take energy efficiency actions?

Not influenced at all				Very influenced	Don't Know	I prefer not to answer
1	2	3	4	5	98	99

[IF Q151A = 3 OR 4 OR Q152 = 1, CONTINUE, OTHERWISE SKIP TO Q155A]

154. Have you redeemed points for a gift card or charitable gift? **Select all that apply.**
- 1. Redeemed for a gift card
 - 2. Redeemed for a charitable gift
 - 3. Did not redeem any points **[EXCLUSIVE]**
 - 98. Unsure/Don't Know
 - 99. Refused

Information and Education

[IF IHDFLAG = 0 AND TSTAT = 0 AND PLUG CONTROL = 0, ASK. OTHERWISE, SKIP TO Q155]

155a. Did you know that in this program, you could sign up for no-cost in-home technology options, such as an in-home Digital Picture Frame that would give you information to help you manage your electricity use and cost, OR if you have central air conditioning, a Smart Thermostat that would reduce your electric use during events?

- 1. Yes **[CONTINUE TO Q155B]**
- 2. No **[SKIP TO Q155]**
- 98. Unsure/Don't Know **[SKIP TO Q155]**

99. I prefer not to answer [SKIP TO Q155]

155b. Would you tell us why you did not sign up for any of the program technology options? *Select all that apply.*

1. I didn't think it would help
2. I wasn't sure what it would do
3. I tried to sign up and got no response from National Grid
4. I tried to sign up but it couldn't be installed
5. I didn't think about it
6. Too much bother
7. Other (please specify)
8. I did not know about the technology options
98. Unsure/Don't Know
99. I prefer not to answer

155. Over the course of the Smart Energy Solutions program, how helpful did you find the informational and educational materials that National Grid provided to you about the program? **Were they** **Would you say they were...** (READ LIST)?

1. Very helpful,
2. Somewhat helpful,
3. Neither helpful nor unhelpful (neutral)
4. Somewhat unhelpful, or
5. Very unhelpful
98. (DO NOT READ) Unsure/Don't Know
99. (DO NOT READ) I prefer not to answer

156. How do you feel about the amount of information you received from National Grid about the program? Would you say it was... (READ LIST)?

1. Too much,
2. More than I wanted
3. Just right
4. Not enough
5. I don't recall receiving any information [SKIP TO Q158]
98. (DO NOT READ) Unsure/Don't Know
99. (DO NOT READ) I prefer not to answer

157. What sources of information were most useful to you in learning about the Smart Energy Solutions program? *Select all that apply.*

1. Program Welcome Kit
2. Sustainability Hub in Worcester
3. National Grid call center rep
4. Program website
5. National Grid- mailings and emails about the program
6. Social Media (Twitter, Facebook, etc.)
7. (DO NOT READ) Other (Please specify)
98. (DO NOT READ) Don't Know
99. (DO NOT READ) I prefer not to answer

158. What additional or different information provided by National Grid would make it easier for you to save electricity as a participant in the Smart Energy Solutions program? **Select all that apply.**

1. Enhanced billing information
2. More information on how to use technologies
3. Improved household comparison
4. More choice in information delivery regarding Conservation Day
5. Other (Please Specify)
98. Unsure/Don't Know
99. I prefer not to answer

Sustainability Hub

159. Did you visit the National Grid Sustainability Hub at any time during the Smart Energy Solutions program?

1. Yes **[CONTINUE]**
2. No **[SKIP TO Q163]**
3. Not familiar with what the Sustainability Hub is **[READ STATEMENT BELOW THIS QUESTION AND SKIP TO Q163]**
4. Other (Please Specify) **[CONTINUE]**
98. Unsure/Don't Know **[READ STATEMENT BELOW THIS QUESTION AND SKIP TO Q163]**
99. I prefer not to answer **[READ STATEMENT BELOW THIS QUESTION AND SKIP TO Q163]**

The Sustainability Hub offers hands-on education about energy efficiency and emerging energy technologies for National Grid customers and the community at large. The intent is to help them learn how to maximize their energy savings with a better understanding of the Smart Energy Solutions program. The Sustainability Hub is located at 912 Main Street in Worcester, right on Clark University's campus.

160. About how many times did you visit the Sustainability Hub? **Your best guesstimate is fine.**

_____ **[NUMERICAL VALUE ONLY]**

[PROGRAMMER: INCLUDE A "Don't Know" AND "I prefer not to answer" CHECKBOX]

161. Why did you visit the Sustainability Hub? **Select all that apply.**

1. improve my understanding of the program
2. get specific information about the program
3. Ask a question I had about the program
4. resolve a problem I had about the program
5. To pick up a prize/reward I had won through the program
6. Other (Please specify)
98. Unsure/Don't Know
99. I prefer not to answer

162. How satisfied were you about your visit(s) to the Sustainability Hub? Would you say you were... **(READ LIST)?**

1. Very satisfied
2. Satisfied
3. Neither satisfied nor dissatisfied (neutral)
4. Dissatisfied

- 5. Very dissatisfied
- 98. (DO NOT READ) Unsure/Don't Know
- 99. (DO NOT READ) I prefer not to answer

Rates, Bill Protection and Participant Results Perception of Program

[IF RATE TYPE = 1, CONTINUE. OTHERWISE, SKIP TO Q168]

163. The Smart Rewards Pricing Plan charges different electricity prices depending on when you use electricity. How well do you feel you understood the pricing plan on a scale of 1 to 5, where 1 is "I didn't understand it at all" and 5 is "I understood it extremely well"?

I didn't understand it at all				I understood it extremely well	Don't Know	I prefer not to answer
1	2	3	4	5	98	99

164. Using the same 1 to 5 scale, where 1 is "I couldn't do anything to manage my electricity use at all" and 5 is "I was able to do a lot to manage my electricity use," how well were you able to manage your electricity use to adjust it to the differing costs of electricity during the day and during Peak Event hours?

I couldn't do anything to manage my electricity use at all				I was able to do a lot to manage my electricity use	Don't Know [SKIP TO Q166]	I prefer not to answer [SKIP TO Q166]
1	2	3	4	5	98	99

[IF Q164 = 1-5 CONTINUE. OTHERWISE, SKIP TO Q166]

165. Why do you rate your ability to manage your electricity a **[INSERT 164 RESPONSE NUMBER]** on the 1-5 scale? **Select all that apply.**

- 1. I used only the minimum electricity and could not reduce it any more
- 2. I did not know when I should reduce my electricity use
- 3. I did not know how to reduce my electricity use
- 4. Someone at home had a medical need
- 5. Someone at home needed to be comfortable
- 6. I'm satisfied with how I've used electricity
- 7. I'm not concerned about my electricity use
- 8. Other (Please specify)
- 98. Unsure/Don't Know
- 99. I prefer not to answer

166. The Smart Energy Solutions program tested how much customers like yourself would adjust their electricity use when the cost of electricity changed over the day and on Conservation Days. To

ensure that participating customers on the Smart Rewards Pricing plan would not pay more for electricity than they would have done before the program began, National Grid provided bill protection for customers who were enrolled in Smart Rewards Pricing for at least 12 consecutive months. Were you aware of the bill protection feature?

1. Yes **(CONTINUE)**
2. No **(SKIP TO Q171)**
98. Unsure/Don't Know **(SKIP TO Q171)**
99. I prefer not to answer. **(SKIP TO Q171)**

[IF Q166 = 1, CONTINUE. OTHERWISE, SKIP TO Q171]

167. Because you knew about bill protection, would you say you...**(READ LIST)?** **Select one answer only.**

[RANDOMIZE 1-3]

1. Made much less effort to manage my electricity use
2. Made somewhat less effort to manage my electricity use
3. Knowing about it made no difference in my efforts to manage my electricity use
98. **(DO NOT READ)** Unsure/Don't Know **[SKIP TO Q171]**
99. **(DO NOT READ)** I prefer not to answer **[SKIP TO Q171]**

[IF RATE TYPE = 2 ASK. OTHERWISE, SKIP TO Q171]

168. In this program, you are on the Conservation Day Rate, which charges the basic service rate for electricity and also provides you the opportunity to get credits on your electric bill if you save. How well do you feel you understood the pricing plan on a scale of 1 to 5, where 1 is "I didn't understand it at all" and 5 is "I understood it extremely well"?

I didn't understand it at all				I understood it extremely well	Don't Know	I prefer not to answer
1	2	3	4	5	98	99

169. Using the same 1 to 5 **scale**, where 1 is "I couldn't do anything to manage my electricity use at all" and 5 is "I was able to do a lot to manage my electricity use," how well were you able to manage your electricity use to conserve it during Peak Event hours?

I couldn't do anything to manage my electricity use at all				I was able to do a lot to manage my electricity use	Don't Know (SKIP TO Q171)	I prefer not to answer (SKIP TO Q171)
1	2	3	4	5	98	99

[IF Q169 = 1-5 CONTINUE. OTHERWISE, SKIP TO Q171]

170. Why do you rate your ability to manage your electricity as **[INSERT 169 RESPONSE NUMBER]** on the 1 to 5 scale? **Select all that apply.**

1. I used only the minimum electricity and could not reduce it any more
2. I did not know when I should reduce my electricity use
3. I did not know how to reduce my electricity use
4. Someone at home had a medical need
5. Someone at home needed to be comfortable
6. I'm satisfied with how I've used electricity
7. I'm not concerned about my electricity use
8. Other (Please specify)
98. Unsure/Don't Know
99. Prefer not to answer

[ASK EVERYONE]

171. As you think about the program over the past two years, do you think it has had any effect on your electricity use? Would you say you use... **(READ LIST)?**

1. Much less electricity
2. Somewhat less electricity
3. About the same electricity
4. Somewhat more electricity
5. A lot more electricity
6. had different experiences each summer
98. **(DO NOT READ)** Unsure/Don't Know
99. **(DO NOT READ)** Refused

172. As you think about the program over the past two years, how, if at all, has your household **electric bill** changed over the course of the past two summers? **Has it changed... (READ LIST)?**

1. Much less
2. Somewhat less
3. About the same **[SKIP TO Q174]**
4. Somewhat more
5. A Lot more
6. Different experiences each summer
98. **(DO NOT READ)** Unsure/Don't Know **[SKIP TO Q174]**
99. **(DO NOT READ)** I prefer not to answer **[SKIP TO Q174]**

IF Q172 ≠ 3, 98, 99, ASK. OTHERWISE SKIP TO Q174]

173. On a scale of 1 to 5, where 1 is "No effect" and 5 is "Large effect," how much of the change you noticed in your electric bill do you think was attributed to the Smart Energy Solutions program?

No effect				Large effect	Don't Know	I prefer not to answer
1	2	3	4	5	98	99

174. Overall, how would you rate your satisfaction with the Smart Energy Solutions program on a scale of 1 to 7, where 1 is “Completely dissatisfied” and 7 is “Completely satisfied”?

Completely dissatisfied						Completely Satisfied	Don't Know [SKIP TO Q176]	Refused [SKIP TO Q176]
1	2	3	4	5	6	7	98	99

[IF Q174 = 1-7 CONTINUE. OTHERWISE, SKIP TO Q176]

175. Why do you rate your satisfaction with the program as a [INSERT Q174 ANSWER]? (RECORD VERBATIM.)

[OPEN-END]

[PROGRAMMER: INCLUDE A “Don’t Know” AND “I prefer not to answer” CHECKBOX]

176. Is there anything specific that the Smart Energy Solutions program could have done better or differently to improve the experience for you? *Select all that apply.*

[RANDOMIZE 1-13]

1. Detailed electricity usage information
2. Program should lower electric bills
3. Better billing information
4. Better incentives
5. Enhanced communication
6. Improved household comparison
7. Explain the program better
8. Fewer events
9. Shorter events
10. More notice about events
11. Technology improvement
12. Timing of events
13. National Grid did a good job
14. None
15. Other (Please specify)
98. Unsure/Don't Know
99. I prefer not to answer

177. When the Smart Energy Solutions program began, participants had the option to enroll in the Smart Rewards Pricing Plan or the Conservation Day Rebate. Were you aware that once enrolled, you had the option to switch one time from the pricing plan you were enrolled in to the other plan?

1. Yes
2. No
98. Unsure/Don't Know
99. I prefer not to answer

178. If you had the opportunity to continue to participate in Conservation Day Peak Events, with the same conditions that have existed in the Smart Energy Solutions program, how likely would you be to want to participate, on a scale of 1 to 7, where 1 is “Very unlikely” and 7 is “Extremely likely”?

Very unlikely						Extremely likely	Don't Know	Refused
1	2	3	4	5	6	7	98	99

**[IF RATE TYPE = 1, Q179_INSERT = “Smart Rewards Plan,
IF RATE TYPE = 2, Q179_INSERT = “Conservation Day Rebates**

179. If you could choose to continue in the program, would you prefer to continue your [Q179_INSERT] pricing plan?

- 1. Yes
- 2. No
- 98. Unsure/Don't Know
- 99. I prefer not to answer

179a. Are you or is anyone in your household a National Grid employee?

- 1. Yes
- 2. No
- 98. Don't Know
- 99. I prefer not to answer

[IF Q179A NE 1 CONTINUE. OTHERWISE, SKIP TO CLOSE 2]

180. We are almost done. National Grid would like you to receive a \$15 gift for taking your time to complete this survey. The check is authorized by National Grid; it will be issued by Bellomy Research and will be mailed to your home. This survey and the \$15 gift are not any sort of sales promotion or other commercial venture. You are not being asked or obligated to take any further action beyond completing this survey.

Please provide us with your most current phone number, email address and mailing address so that we can mail you your \$15 gift. *Please update your current phone number, email address and mailing address if necessary.*

- 1. Phone (Please specify) (RECORD/CONFIRM PHONE NUMBER)
- 2. Email (Please specify) (RECORD/CONFIRM EMAIL ADDRESS) **[NOT REQUIRED]**
- 3. Mailing address (Please specify) (RECORD MAILING ADDRESS) **[DO NOT PRE-POPULATE]**
- 4. Contact Name (Please specify)

**[PROGRAMMER: PLEASE PIPE IN PHONE, EMAIL ADDRESS, AND NAME FROM SAMPLE]
[PROGRAMMER: PLEASE ADD A “Refused” CHECKBOX]**

[CLOSE]

Thank you for participating in this survey; your feedback on National Grid’s Smart Energy Solutions program is extremely valuable. Have wonderful day! You can close your browser window now.

[CLOSE 2]

We're not able to offer an incentive to National Grid employees but we thank you for participating in this survey; your feedback on National Grid's Smart Energy Solutions program is extremely valuable. Have wonderful day! You can close your browser window now.

DEMOGRAPHIC QUESTIONS REMOVED FOR THIS SURVEY.

A photograph of an industrial facility, likely a power plant or refinery, showing complex piping, metal structures, and a walkway with railings. The image is partially obscured by a large dark grey diagonal shape that serves as a background for the text.

SMART ENERGY SOLUTIONS END OF PILOT SURVEY PRESENTATION

PREPARED FOR NATIONAL GRID

DECEMBER 8, 2016

END OF PILOT SURVEY RESPONDENT CHARACTERIZATION

Technology Type	End of Pilot	
	Number of Respondents	Percent of Total
Total	615	
IHD	223	36%
Thermostat	90	15%
Smart Plug	78	13%
Direct Load Control	8	1%
No Technology	379	62%
Low Income	83	13%

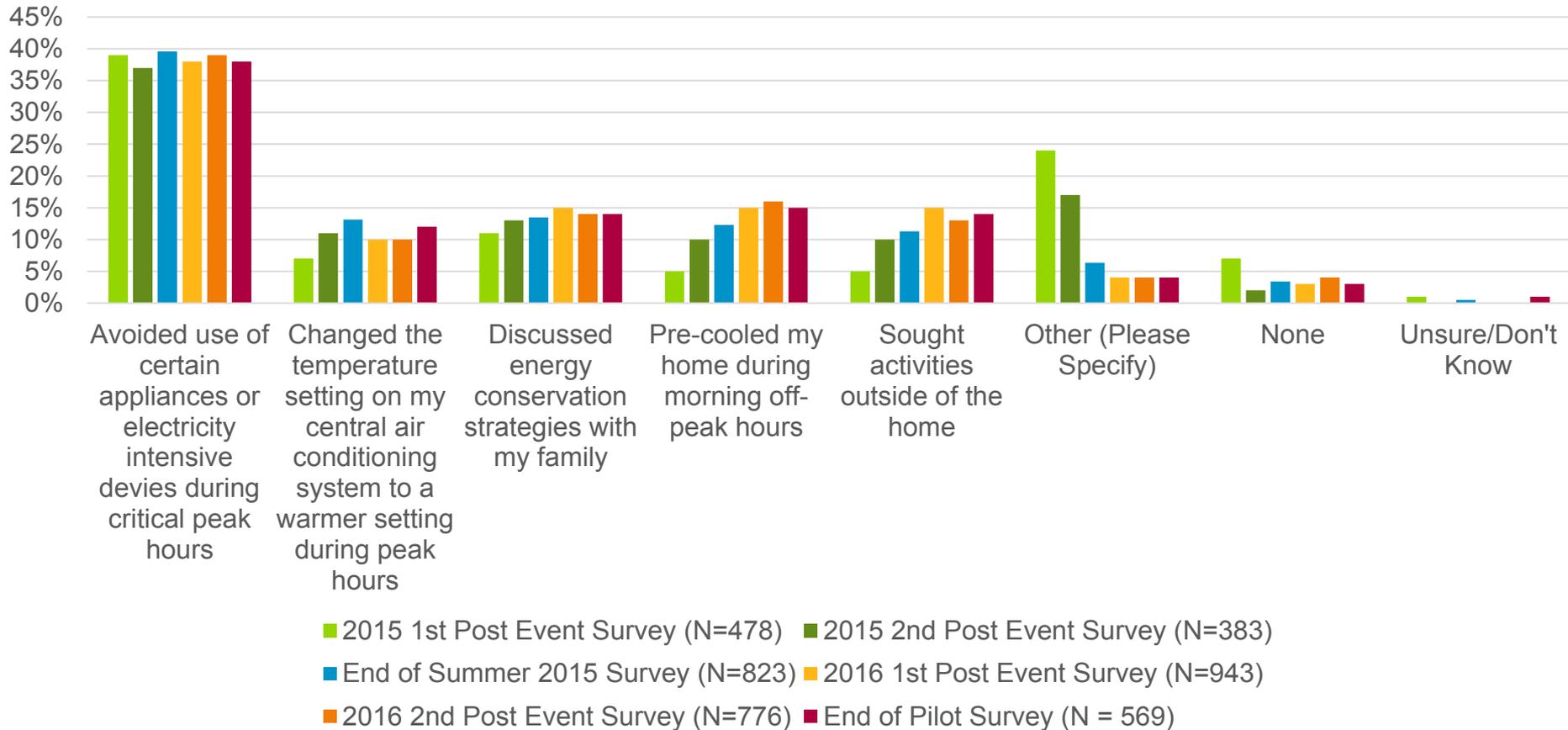
*Percentages do not add up to 100% because respondents can have more than one technology type

HIGHLIGHTS

- Overall satisfaction with SES remains around 70%.
- Most respondents felt well informed about the program rates:
 - 66% for CPP
 - 51% for PTR
 - 58% for Low Income
- Around two-thirds of respondents believed they used less electricity as a result of the program.
- Around two-thirds of respondents would continue with the program and with the program rates.
- Rate switching ability awareness was low, around 30%.
- Awareness of Bill Protection was about 40%.
- There was high awareness of the rewards platform, but its reported influence on energy-saving behavior was mixed.

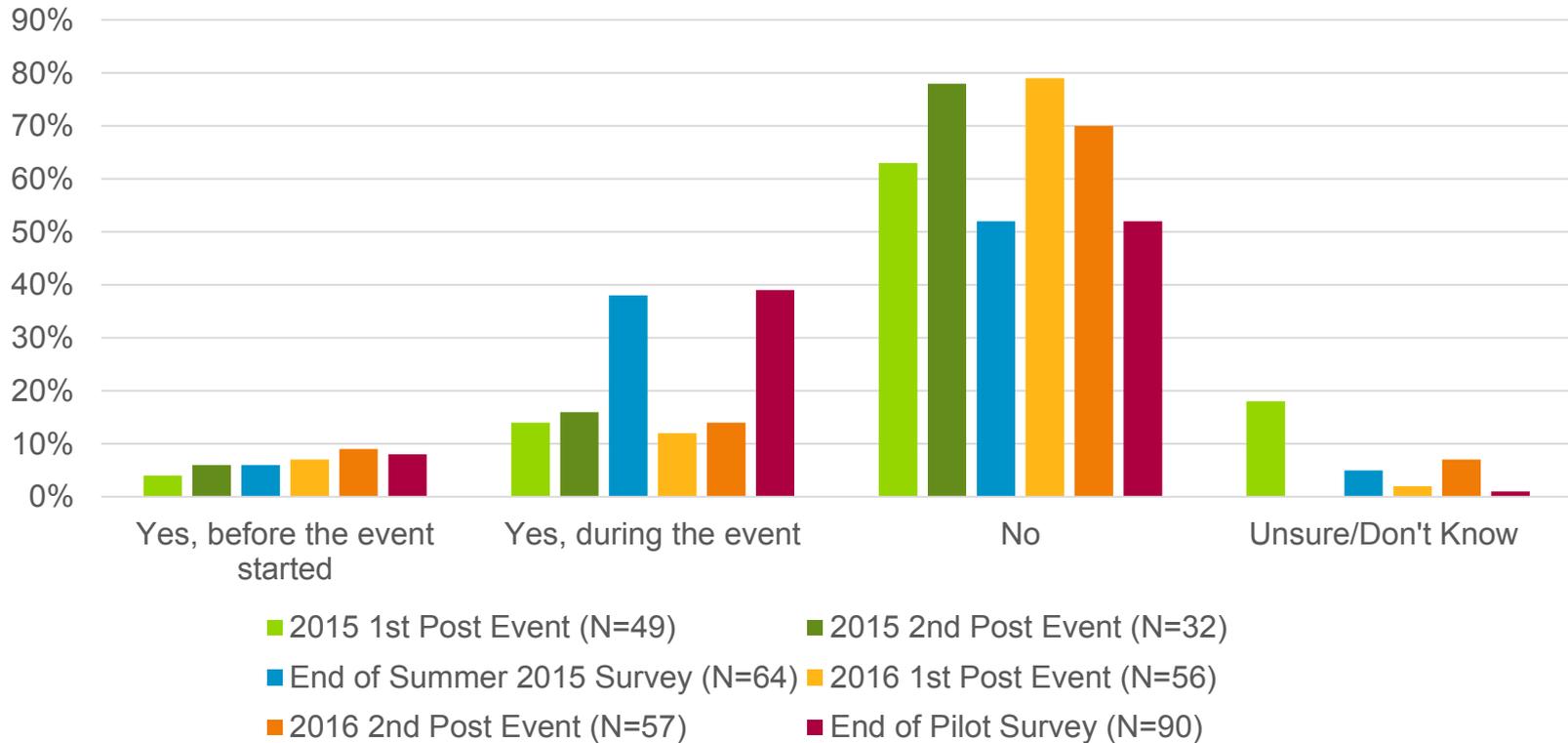
2016 respondents reported somewhat higher frequency of discussing conservation strategies with their families, precooling their home and seeking activities outside of the home in 2016.

109. What actions, if any, did you take to reduce your electricity use on the Conservation Day?



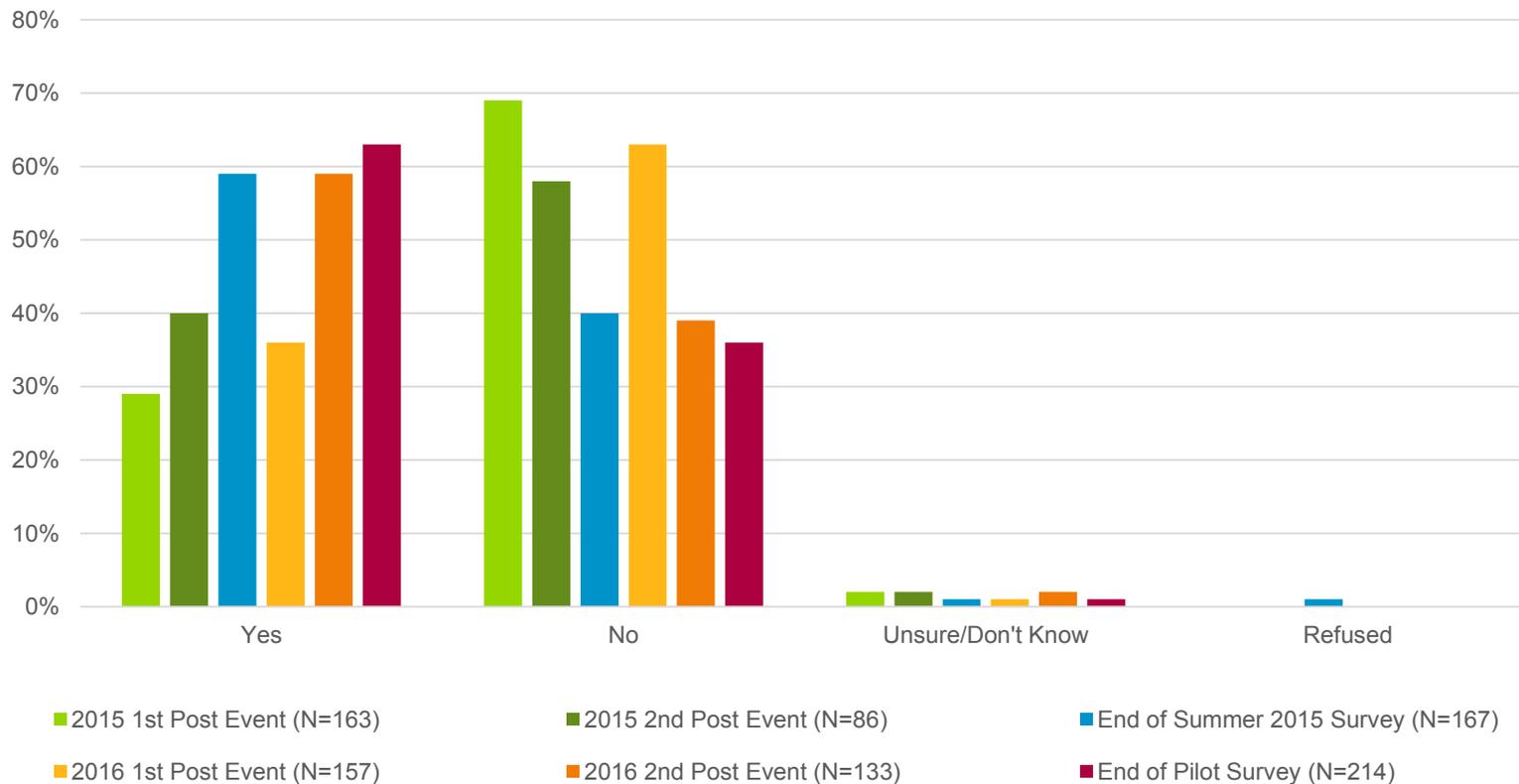
Nearly 40% of thermostat respondents reported overriding Thermostat in both the End of Summer Survey and the End of Pilot Survey.

127. At any point before or during the Peak Event hours, did you press the override button on your thermostat to prevent or stop the program from adjusting your thermostat remotely?



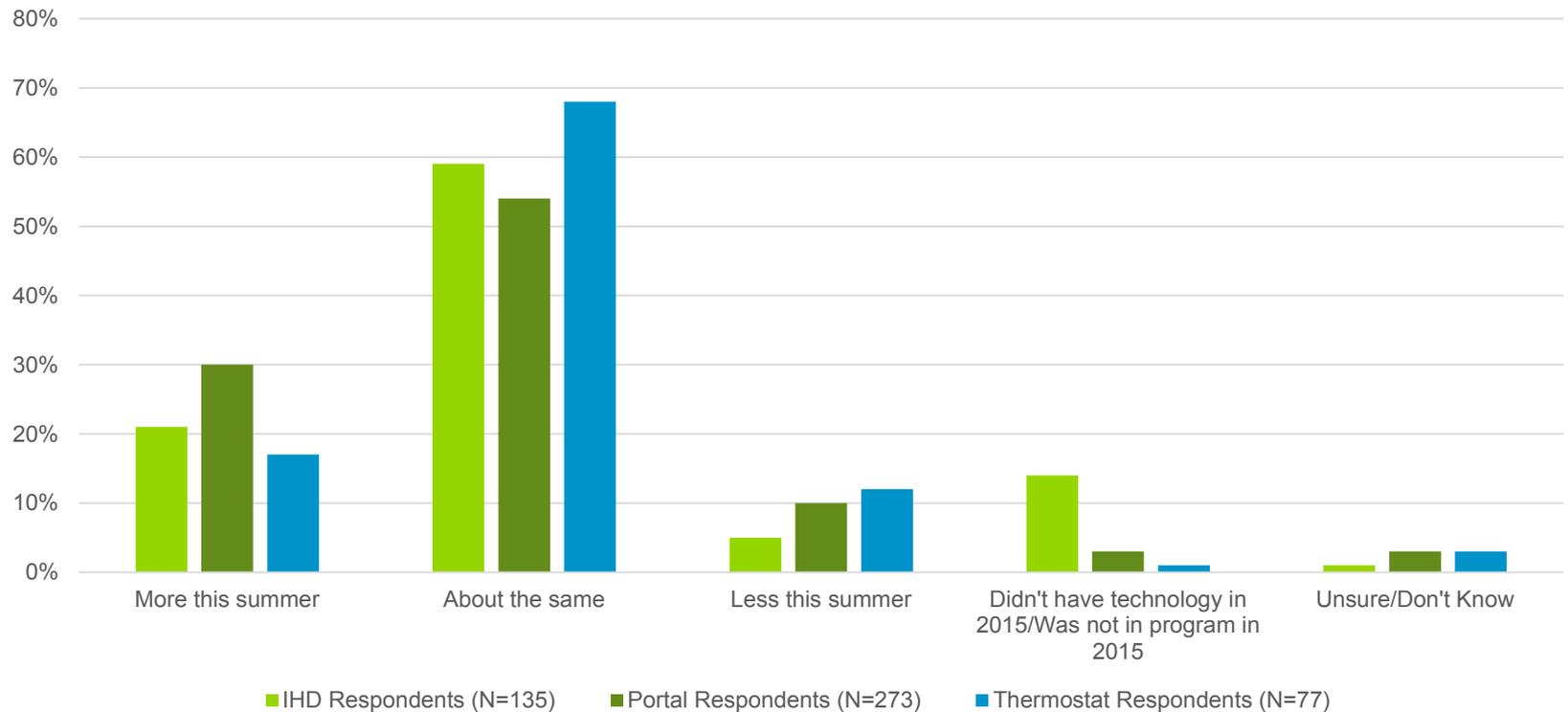
Respondents reported using the digital picture frame more as the summer progressed. In addition, respondents reported that it was useful in making decisions about energy conservation.

Q137. Did you refer to your Digital Picture Frame at any point during the Peak Event hours to check your electricity consumption?



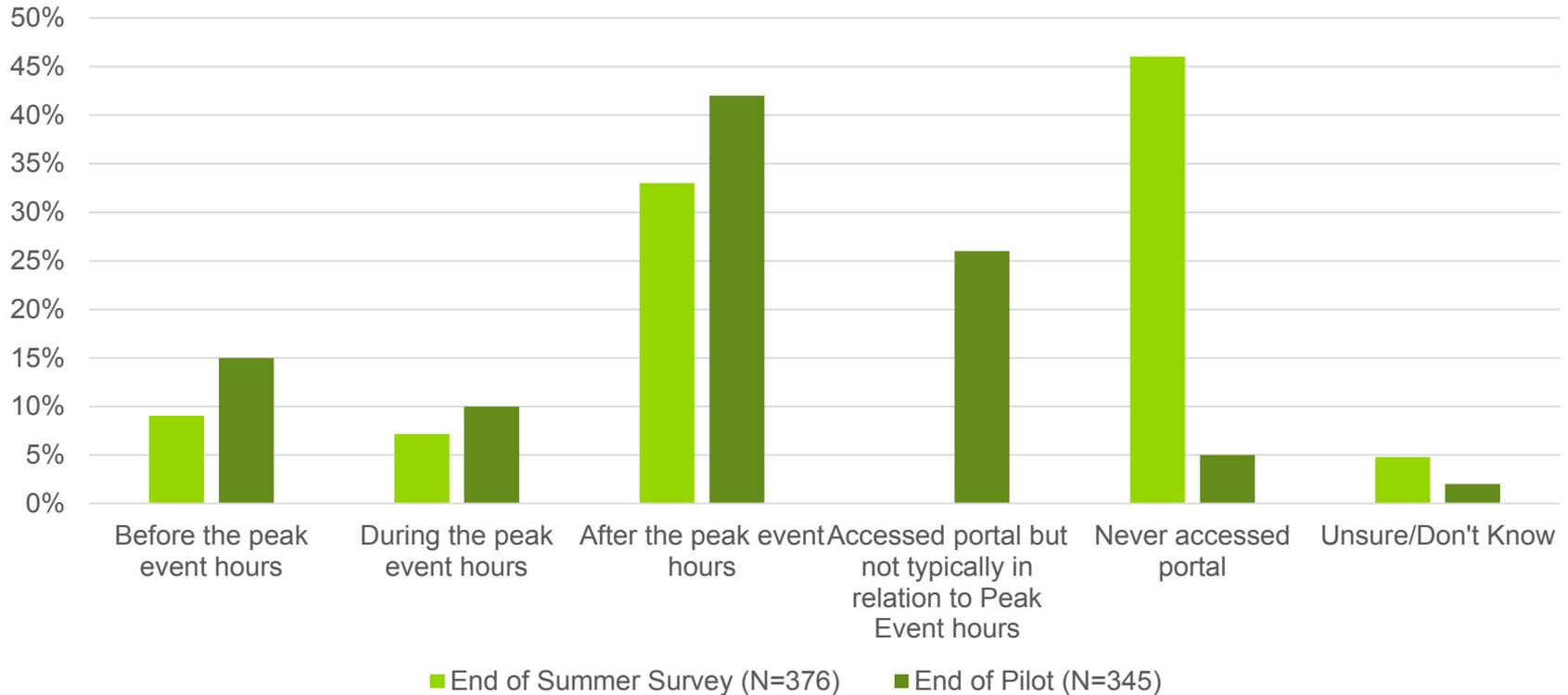
Most respondents reported checking the portal 'about the same' amount this summer compared to last.

116., 140. & 150. By the end of the 2016 summer, did you check the [technology] more, less or about the same compared to the 2015 summer?



Far fewer respondents reported “Never accessed portal” in the End of Pilot survey as compared to the End of Summer survey and most who accessed thought it was useful.

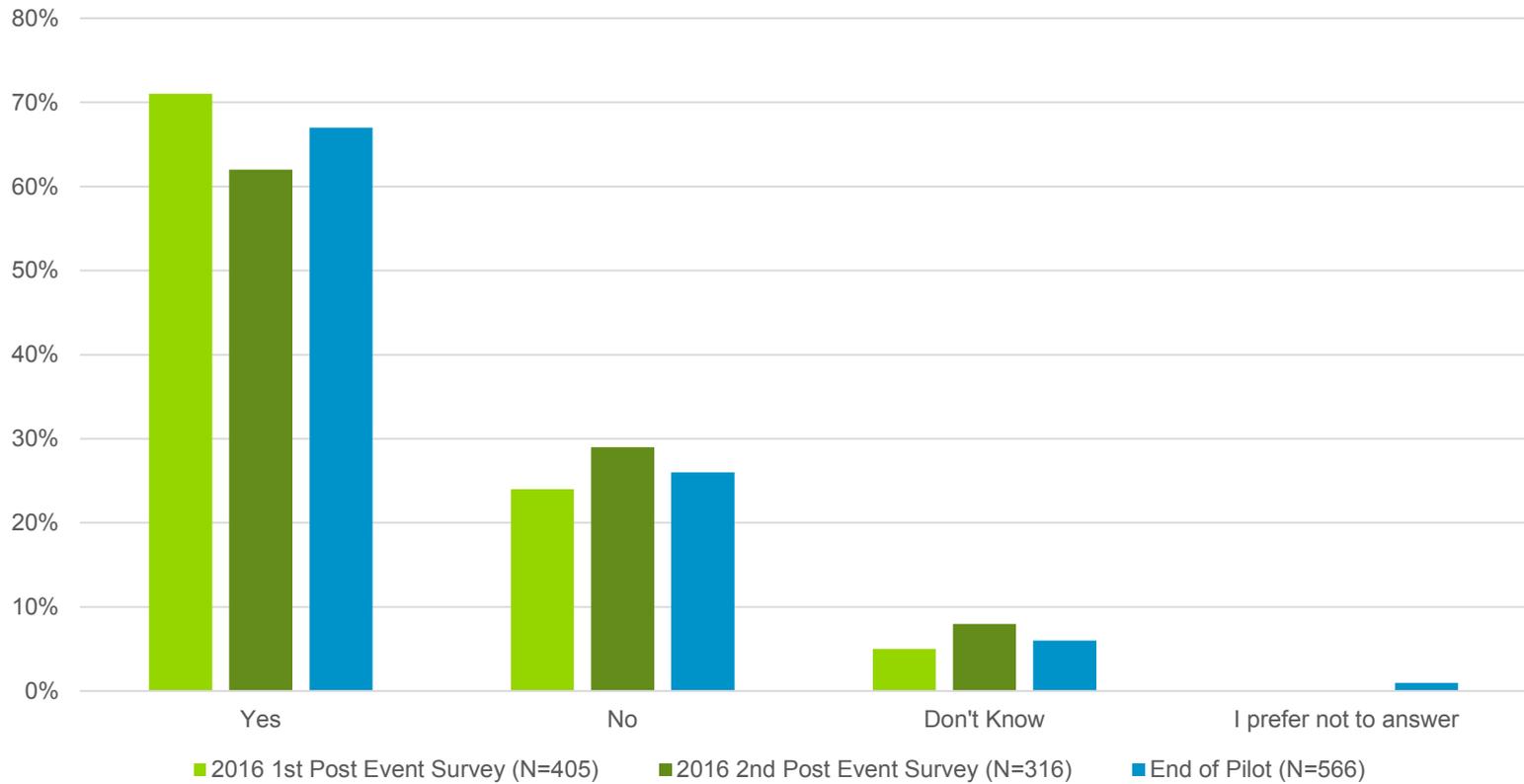
147. Did you regularly access the WorcesterSmart Customer Portal before, during or after peak event hours on Conservation Days?



70% of End of Pilot respondents found the portal useful in making decisions about how to conserve energy.

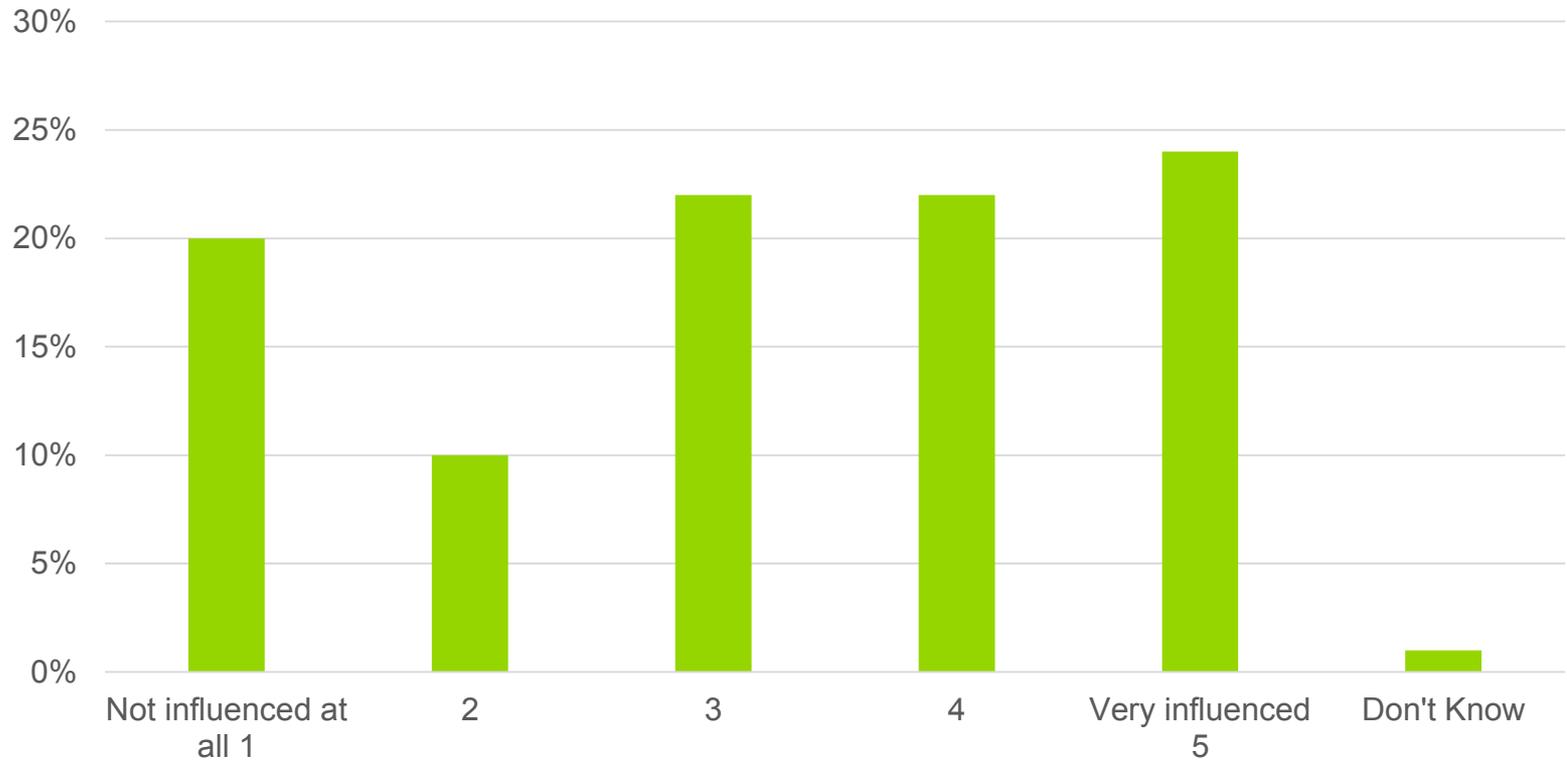
Between 60-70% of respondents reported being aware of the Rewards Platform.

152. Are you aware of the WorcesterSmart Rewards Platform?



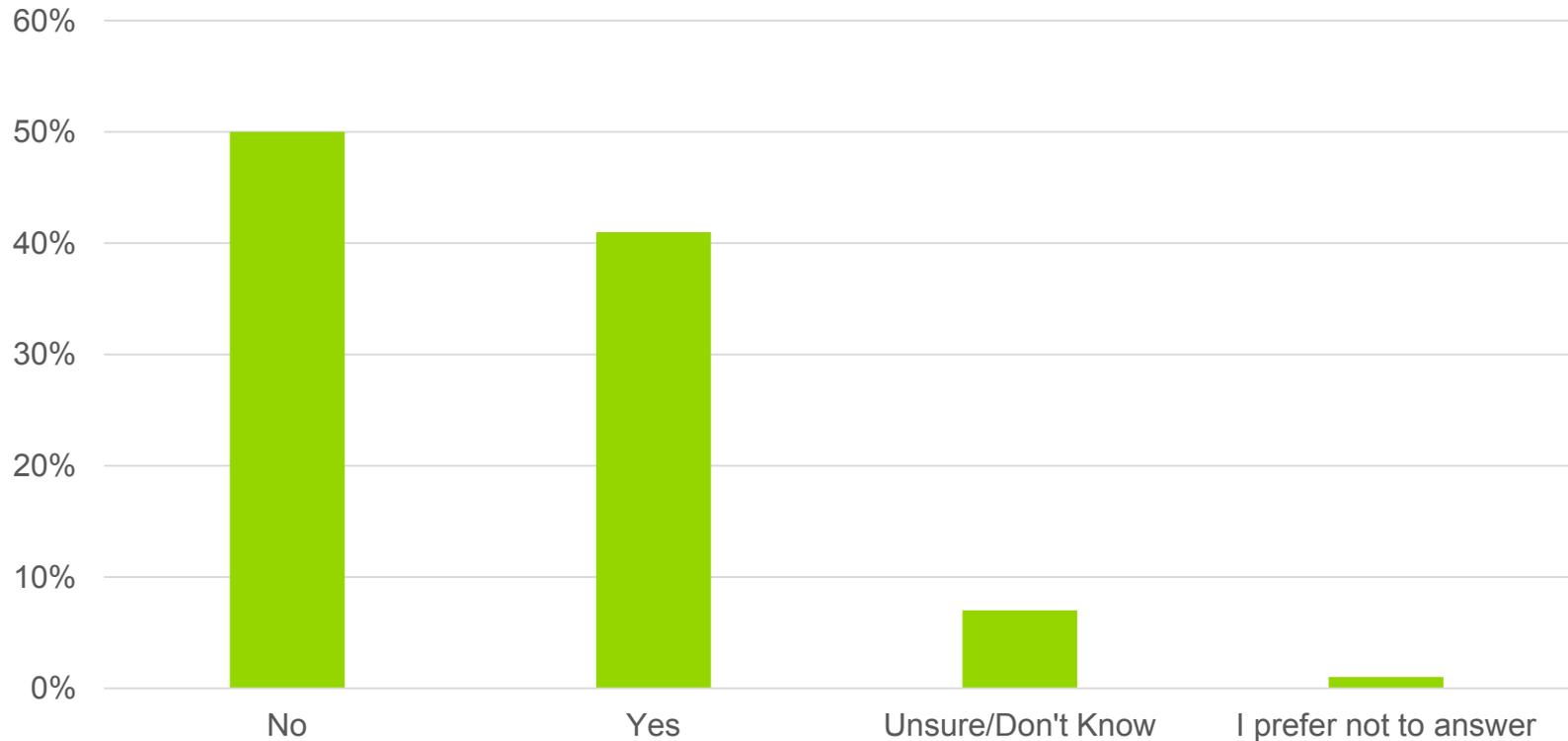
The Rewards Platform had varying levels of influence on respondents' conservation efforts.

153. How much would you say the rewards platform influenced you to take energy efficiency actions? (N= 428)



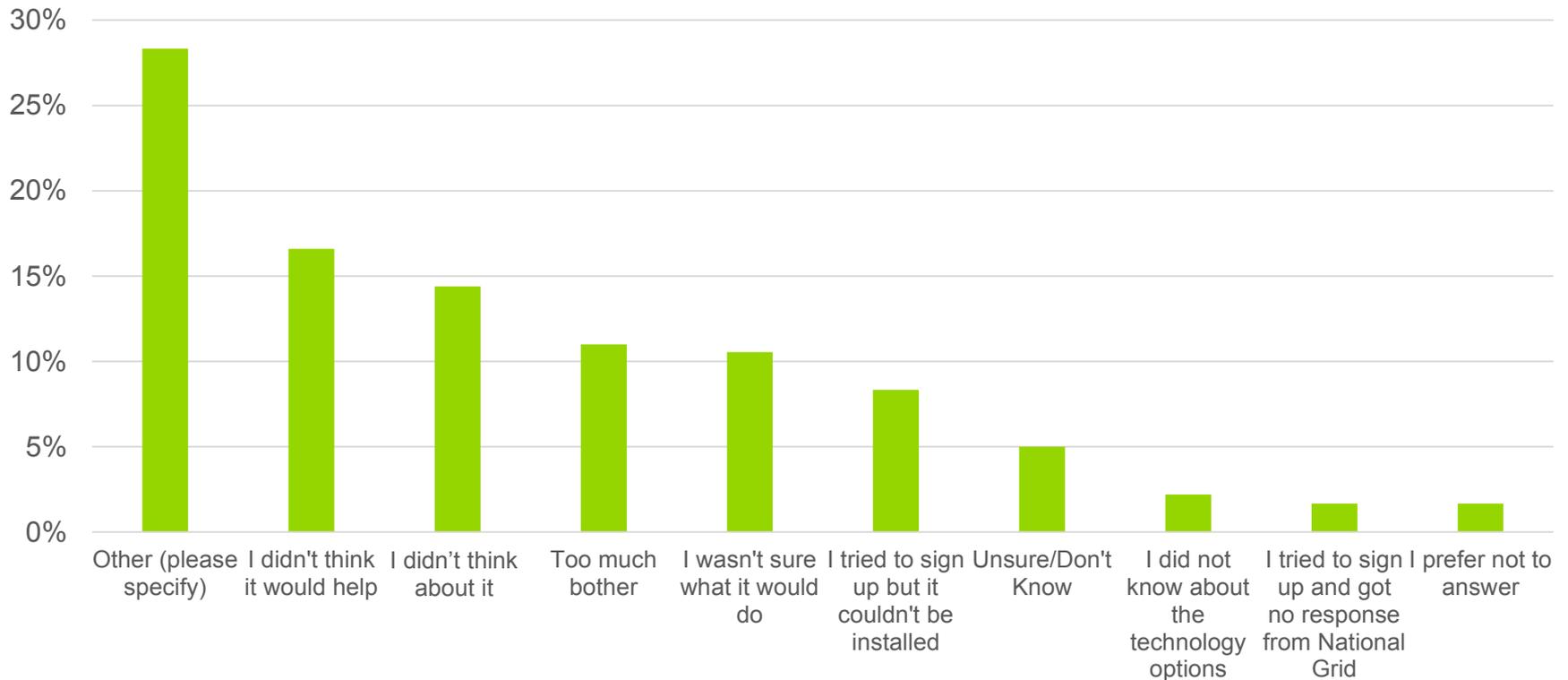
40% of respondents reported awareness of the free technologies.

155a. Did you know that in this program, you could sign up for no-cost in-home technology options, such as an in-home Digital Picture Frame that would give you information to help you manage your electricity use and cost, OR if you have central air condit



Many people who did not sign up for technologies indicated they were not interested in them.

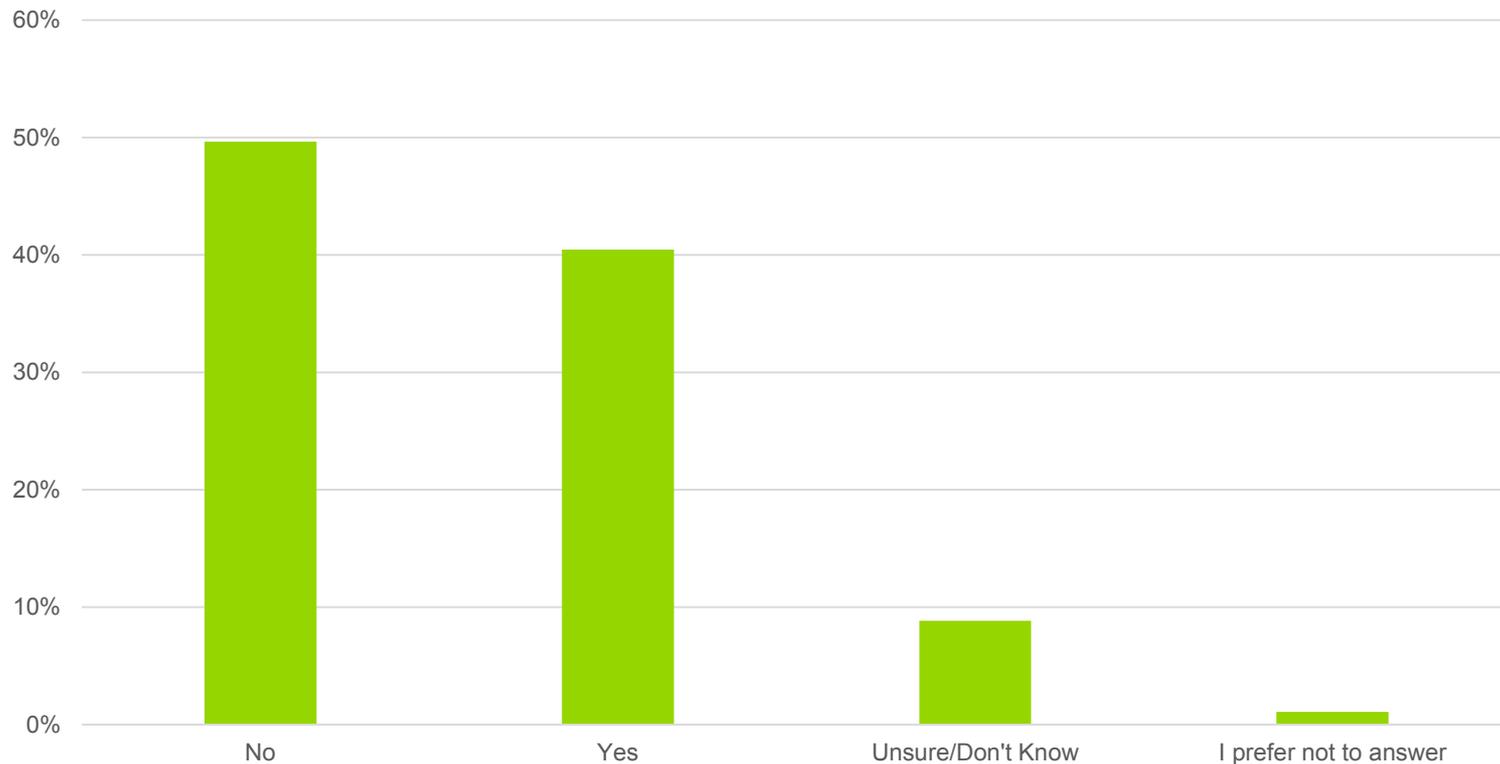
155b. Would you tell us why you did not sign up for any of the program technology options? (N=180)



“Other (Please Specify)” responses varied. Many responses indicated people weren’t interested in the technology and that they were not the property owner and couldn’t install thermostats without owner’s permission.

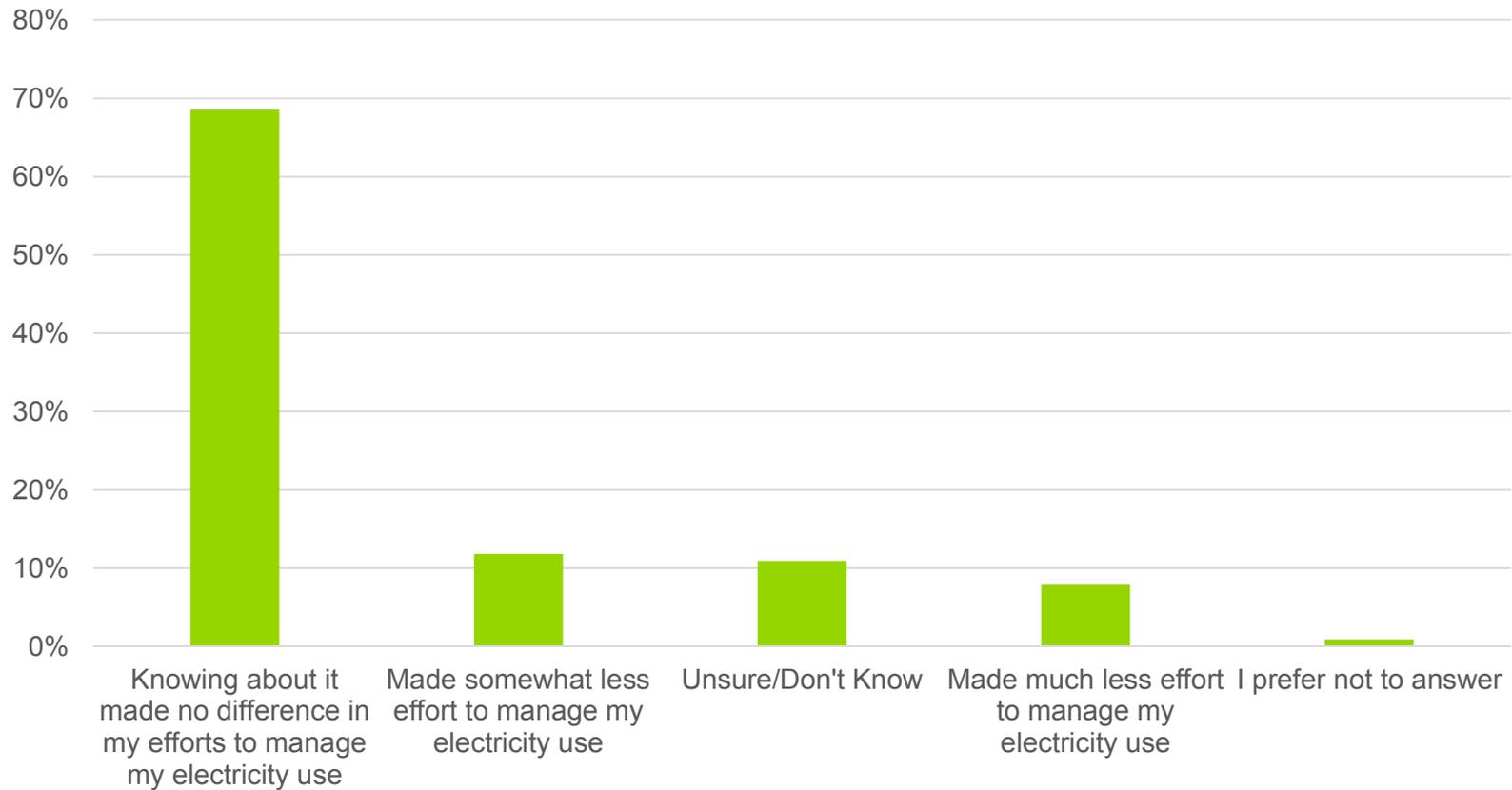
Nearly 40% of respondents were aware of the bill protection feature.

166. Were you aware of the bill protection feature? (N=566)



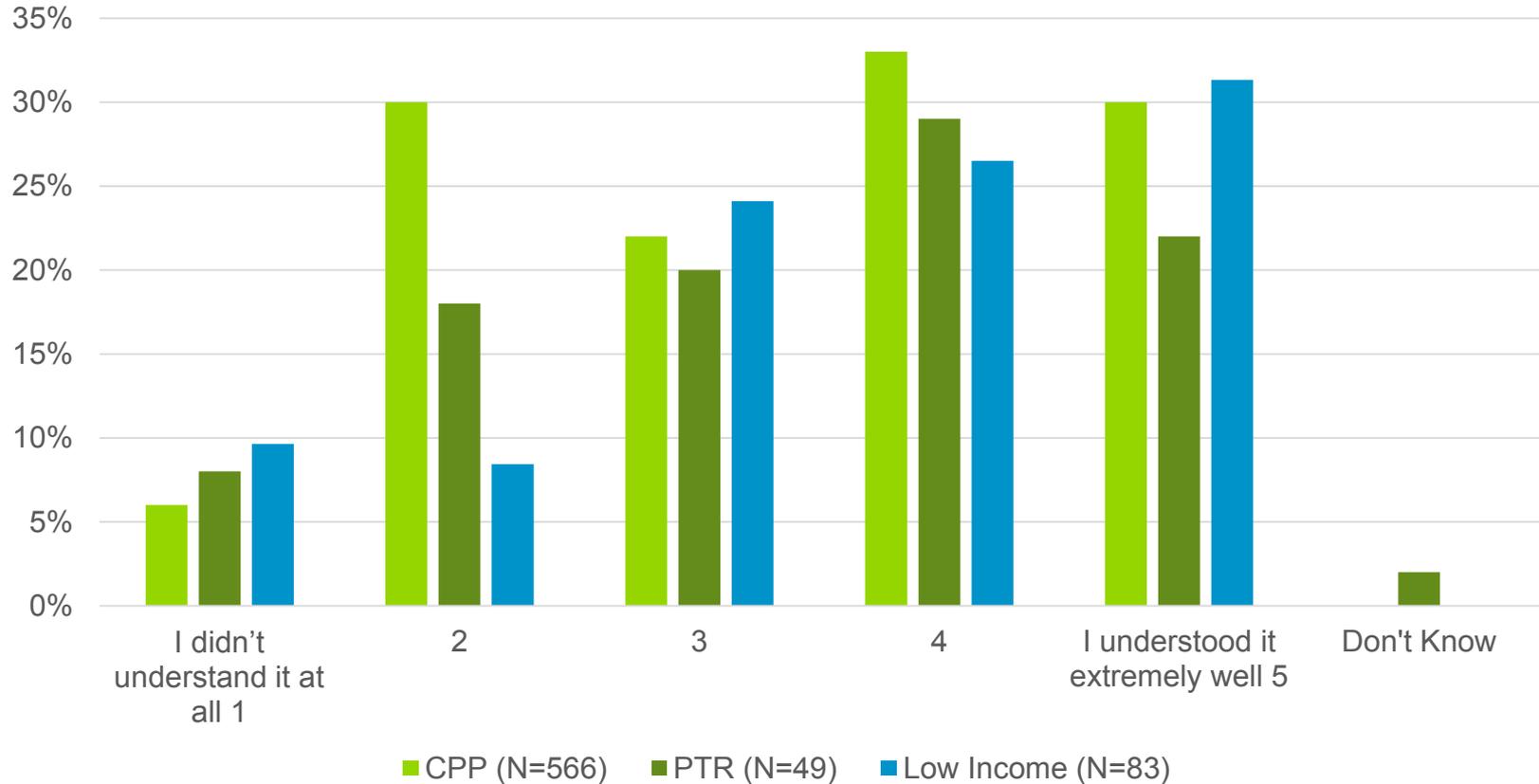
Those who knew about bill protection said it made no difference in their efforts to manage their electricity use.

167. Because you knew about bill protection, would you say you...? (N=229)



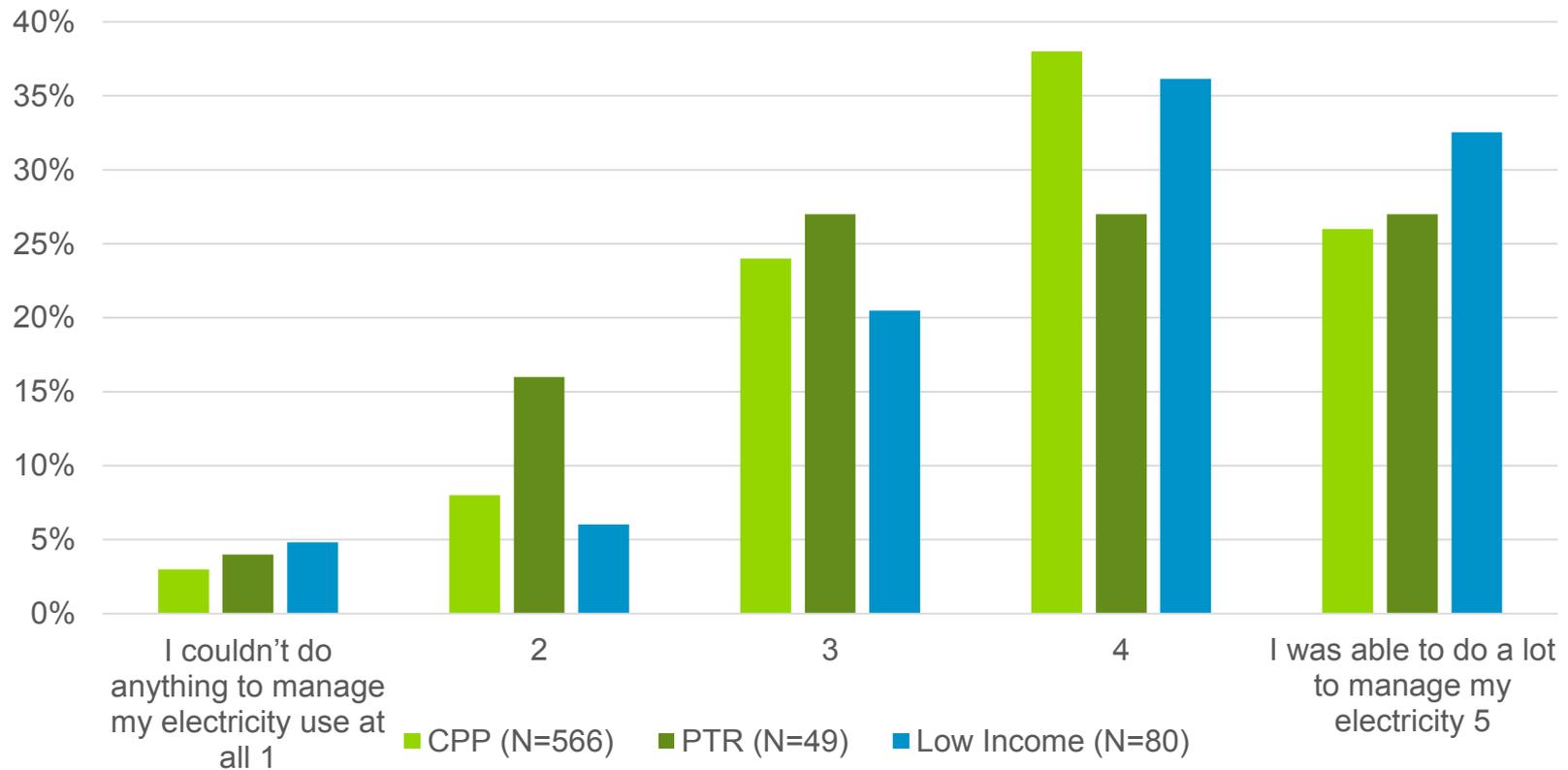
Majority of customers, including low income, rated their understanding of their pricing plan as a '4' or '5'.

163. & 169. How well do you feel you understood the pricing plan?



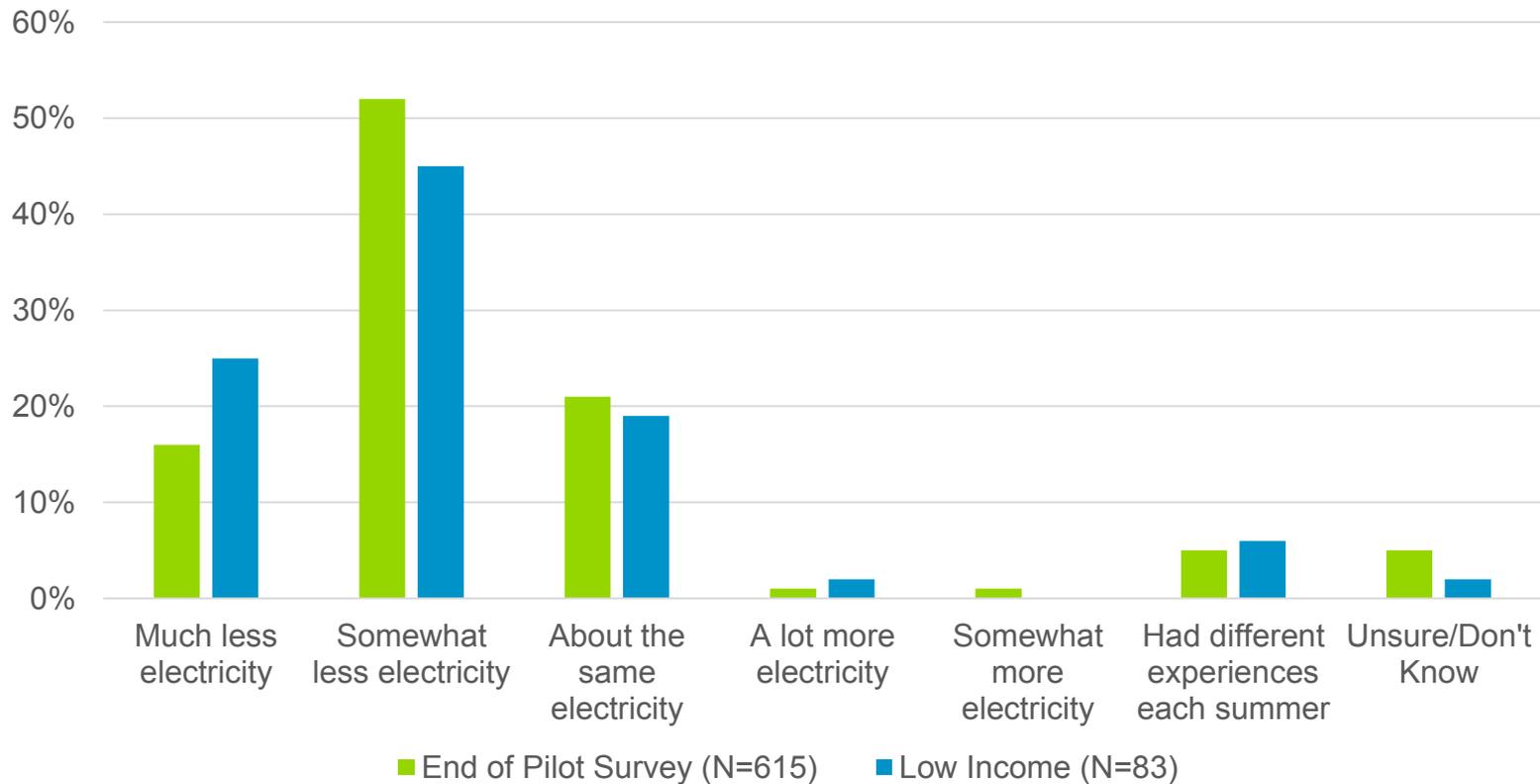
Most respondents felt able to manage their electricity use.

164. & 168. How well were you able to manage your electricity use to conserve it during Peak Event hours?



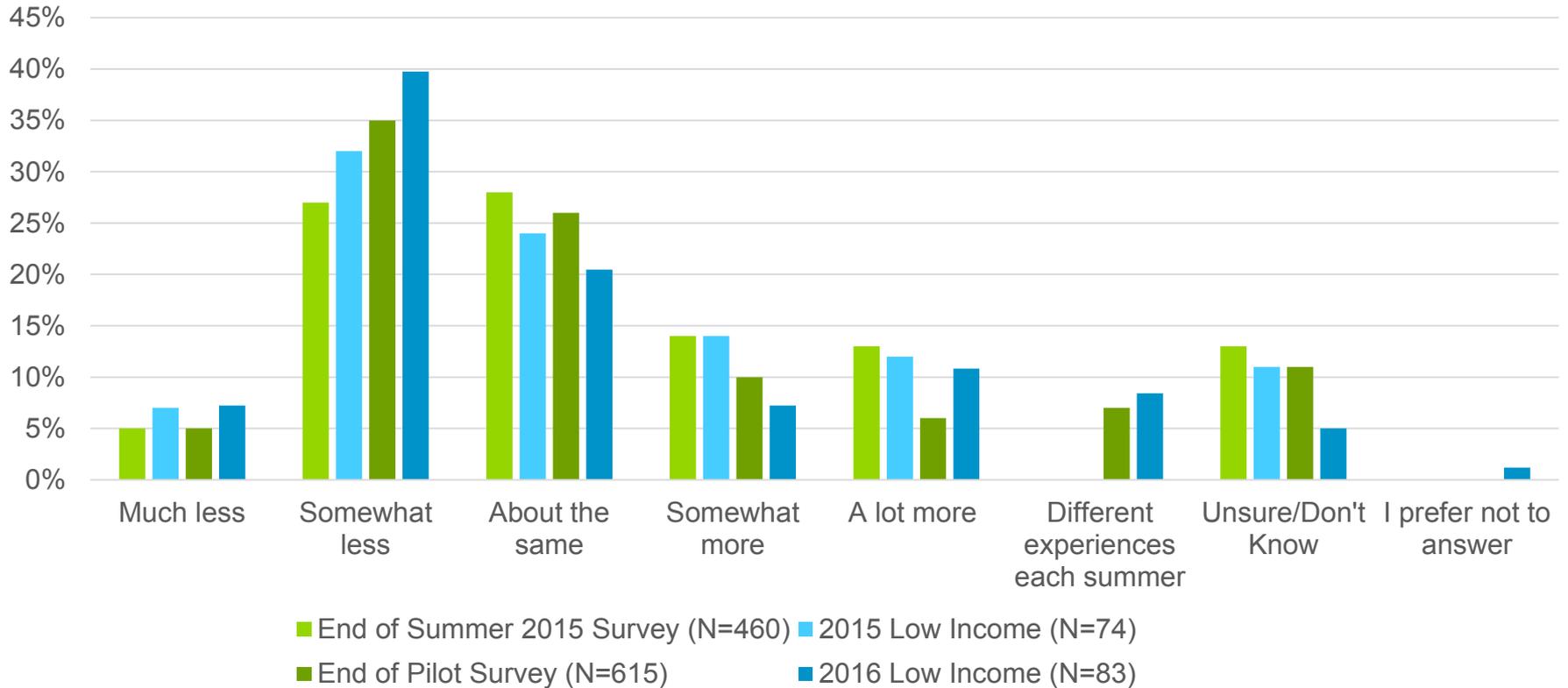
68% of respondents believed that the program influenced them to use less electricity.

171. As you think about the program over the past two years, do you think it has had any effect on your electricity use?



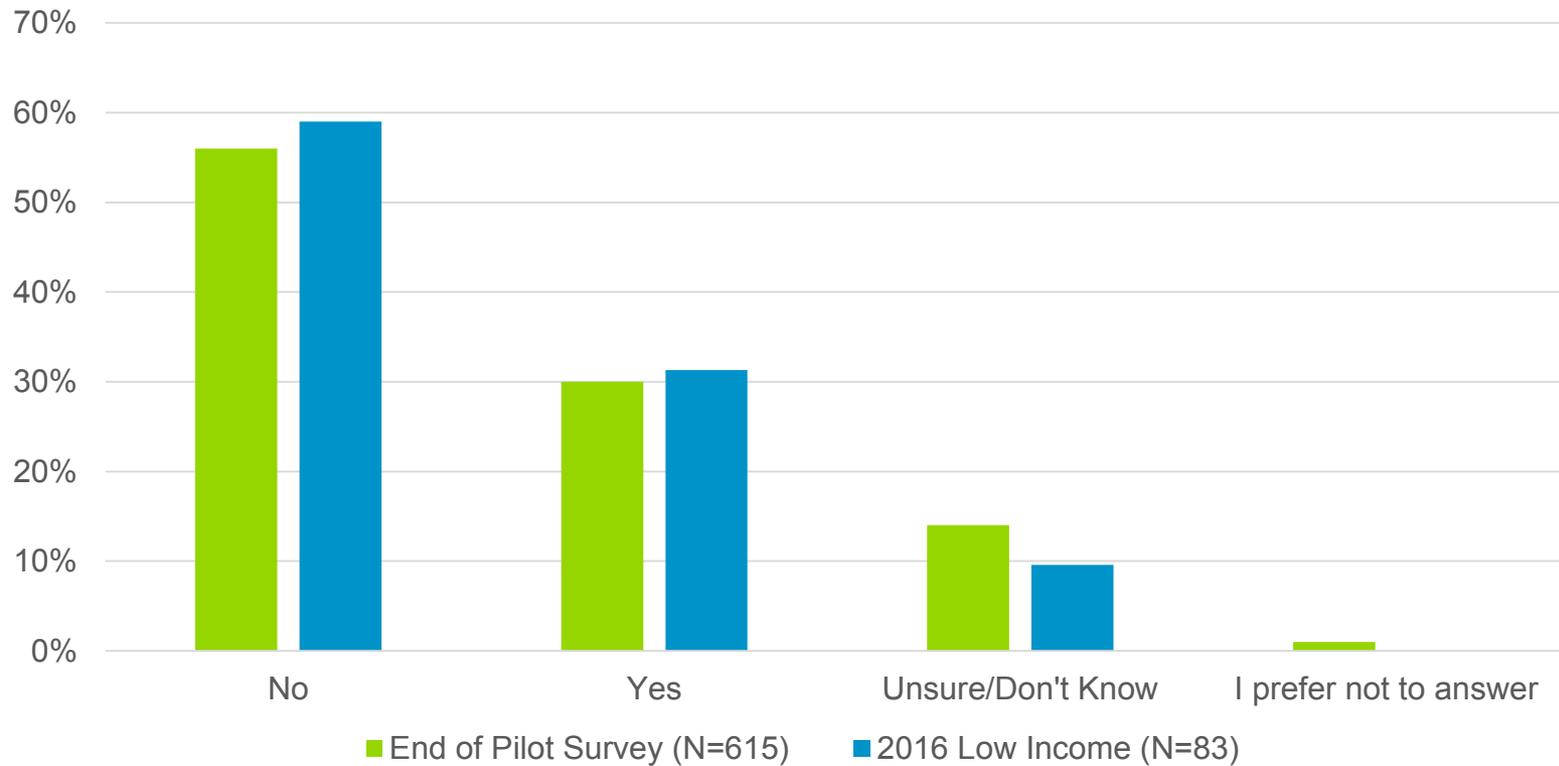
While the majority of respondents felt that their electricity use decreased over the course of the pilot, not as many respondents felt that their bill decreased. However more felt their bill decreased in 2016 than in 2015.

172. As you think about the program over the past two years, how if at all, has your household electric bill changed over the course of the past two summers?



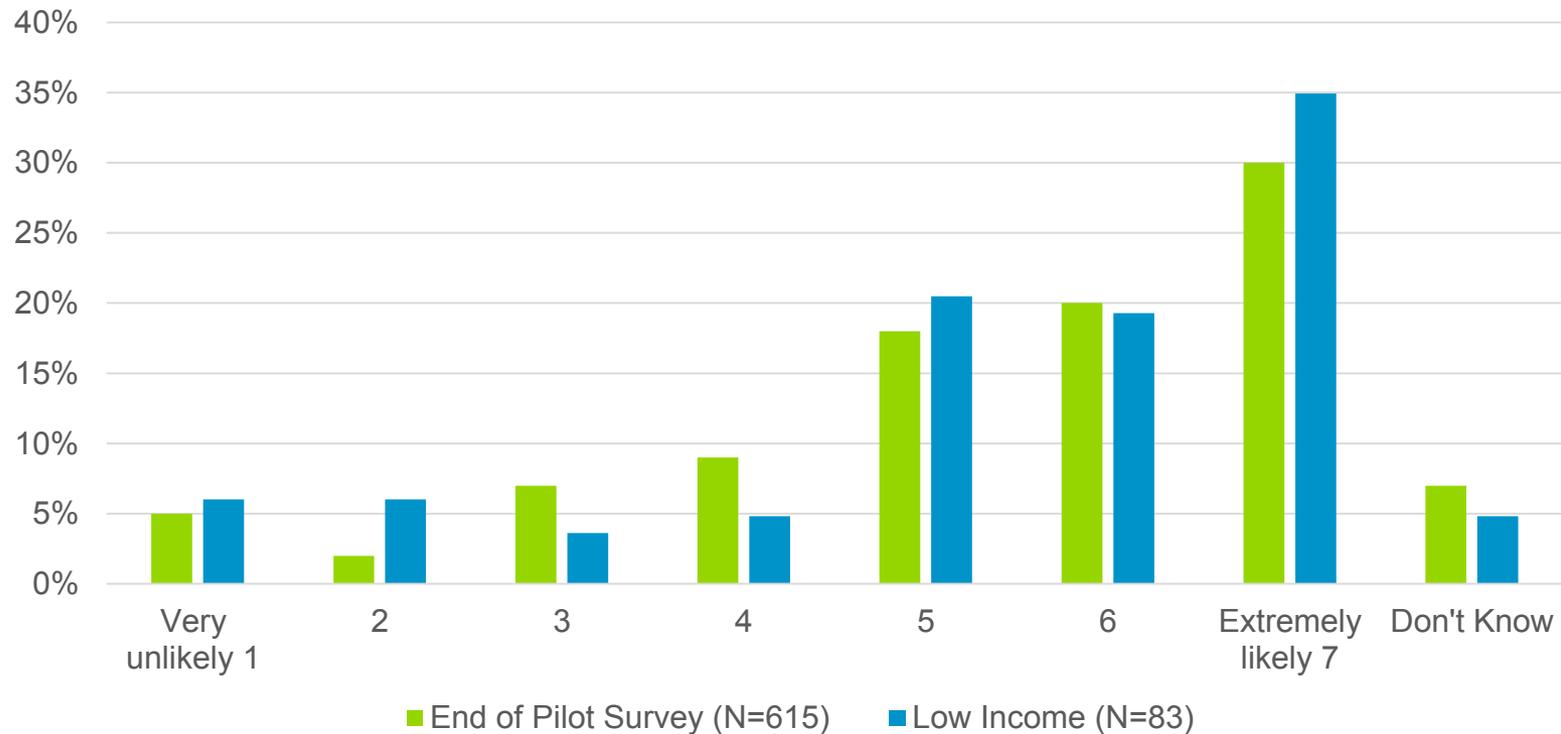
Only 30% of respondents were aware that they could switch pricing plans

177. Were you aware that once enrolled, you had the option to switch one time from the pricing plan you were enrolled in to the other plan?



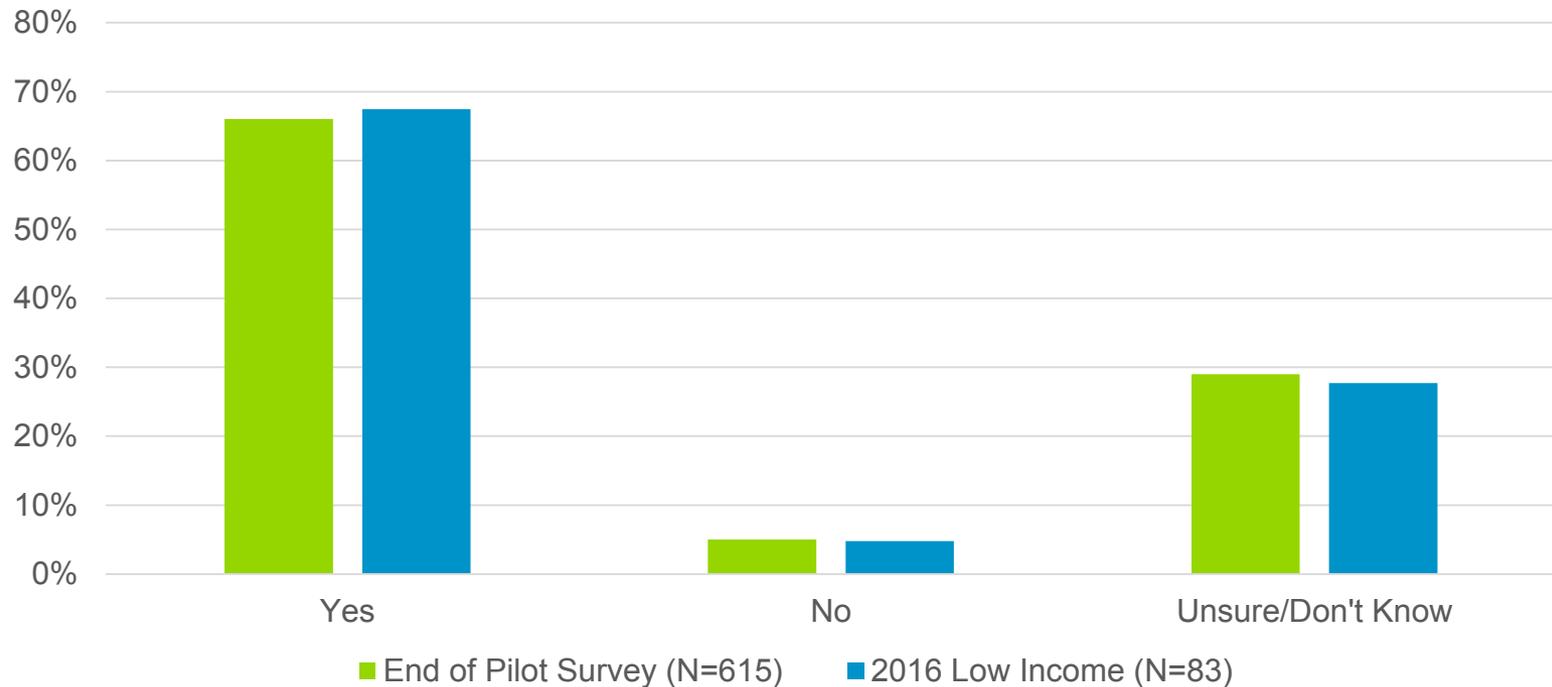
Over two-thirds of respondents would be likely to continue with the program (responses 5-7 on 1-7 scale).

178. If you had the opportunity to continue to participate in Conservation Day Peak Events, with the same conditions that have existed in the Smart Energy Solutions program, how likely would you be to want to participate?



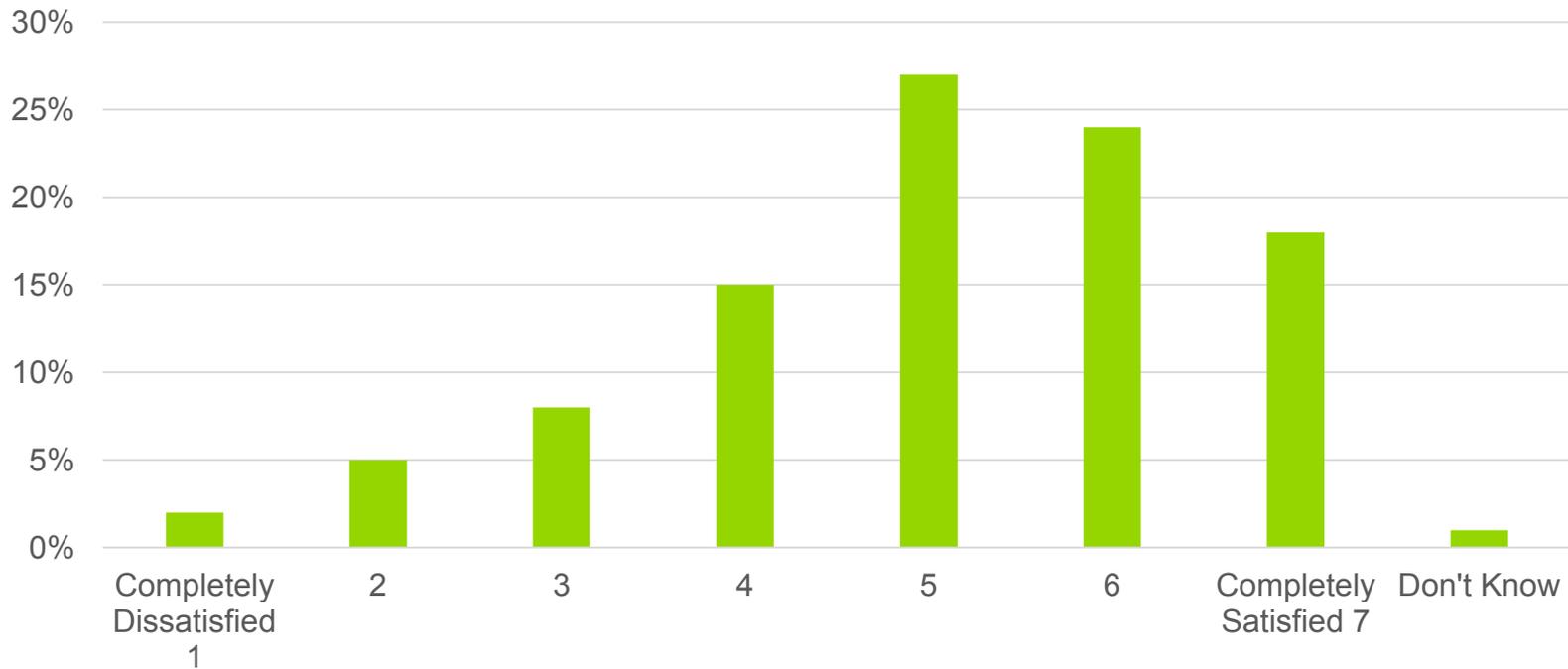
Two thirds of respondents would continue with their pricing plan.

179. If you could choose to continue in the program, would you prefer to continue your pricing plan?



69% of rated their satisfaction with the program as a '5,' '6' or '7'.

174. Overall, how would you rate your satisfaction with the Smart Energy Solutions program on a scale of 1 to 7, where 1 is "Completely dissatisfied" and 7 is "Completely satisfied"?



In the 2015 End of Summer Survey, 72% of respondents reported they were "Very Satisfied" or "Somewhat Satisfied" with SES



Smart Energy Solutions Pilot

Operations Opt Out/Drop Out Survey

OUTBOUND

Prepared for:
National Grid



Navigant Consulting, Inc.
1375 Walnut Street, Suite 200
Boulder, CO80302

www.navigant.com

August 18, 2014





CPP Opt-Out/PYRO Program Drop-Out Survey

Sample Variables (to be provided by National Grid):

1. Name
2. Property address
3. Pseudo Account number
4. Email address
5. Phone number
6. Coded as a business? Y__ N__
7. CustomerStatus: "CPP Opt-Out" or "Program Drop-Out" Customer_Class: "CPP" or "PYRO"
8. Timing: "Enrollment" or "Rate-Go-Live"
9. Technology_Level: 1-4
10. CompetitiveSupplier: Yes/No (IF CUSTOMER IS "YES" FOR COMPETITIVE SUPPLIER, DO NOT SURVEY)

(NOTE: THIS SURVEY IS FORMATTED FOR TELEPHONE. ONLINE VERSIONS WILL BE ALTERED IN FORMAT ONLY)

Hello, this is (YOUR NAME) from Bellomy Research calling on behalf of National Grid's Smart Energy Solutions Pilot program. (IF CONTACT NAME AVAILABLE, SAY:) May I please speak to...**[INSERT CONTACT NAME FROM SAMPLE]**? (IF NOT AVAILABLE, SCHEDULE A CALLBACK.)

(IF NO CONTACT NAME AVAILABLE, SAY:) May I please speak to one of the persons that was most involved in National Grid's Smart Energy Solutions pilot program? (IF NOT AVAILABLE, SCHEDULE A CALLBACK.)

This is not a sales call or a call about a bill. **I will not take more than a few minutes of your time. Your responses will be treated as confidential and if you qualify and complete the entire survey we will send you a \$20 check.** (IF NOT A CONVENIENT TIME, SCHEDULE A CALLBACK.)

[TURNED OFF FOR 14447. ALL SAMPLE IS RESIDENTIAL.]

(S1)S1e. _____ For confirmation purposes, is this a business or a residence?

1. _____ Business **[TERMINATE]**
2. _____ Residence **[CONTINUE]**
98. _____ Unsure/Don't Know **[TERMINATE]**
99. _____ Prefer not to answer **[TERMINATE]**

[IF S1e = 99 "PREFER NOT TO ANSWER", TERMINATE.]

[IF S1e = 1 "BUSINESS", TERMINATE.]

1a. Are you the person in your household who is most involved in National Grid's Smart Energy Solutions Pilot program? (INTERVIEWER: IF NEEDED SAY: "National Grid is testing the impact of new technologies that provide more information about your electric use and cost and electric rates in which your cost of using electricity may go up or down, depending on when you use it.")

1. Yes **[SKIP TO INSTRUCTIONS BEFORE Q3.]**
2. No **[CONTINUE]**
98. Don't Know **[THANK AND TERMINATE]**
99. Prefer not to answer **[THANK AND TERMINATE]**

1b. What is the name of the person who is most involved in the program?

_____ (INTERVIEWER RECORD NAME)

98. Don't Know **[THANK AND TERMINATE]**
99. Prefer not to answer **[THANK AND TERMINATE]**



- 1c. May I please speak with **[INSERT NAME FROM Q1b]**?
1. Yes available and will speak **[CONTINUE]**
 2. Available but not interested **[THANK AND TERMINATE]**
 3. Not available now **[ASK 1d]**
 98. Don't Know **[THANK AND TERMINATE]**
 99. Prefer not to answer **[THANK AND TERMINATE]**
- 1d. What would be a convenient day and time to re-contact and speak to **[INSERT NAME FROM Q1b]**?
As I said, this will only take a few minutes.
(INTERVIEWER: IF PERSON ON PHONE GIVES YOU A CONVENIENT DAY AND TIME, SCHEDULE A CALLBACK. REMEMBER TO RECORD NAME OF PERSON TO ASK FOR.)
98. Don't Know **[THANK AND TERMINATE]**
 99. Prefer not to answer **[THANK AND TERMINATE]**

[IF Q1C = 1, DISPLAY "Hello, this is (YOUR NAME) from Bellomy Research calling on behalf of National Grid's Smart Energy Solutions Pilot program.]

[IF CUSTOMERSTATUS = "CPP OPT OUT", CONTINUE.]

[IF CUSTOMERSTATUS = "PROGRAM DROP OUT", SKIP TO INTRO BEFORE Q18.]

[IF CUSTOMER_CLASS = "CPP", CONTINUE.]

[IF CUSTOMER_CLASS = "PTRO", SKIP TO INTRO BEFORE Q18.]

CPP Opt-Out Questions Intro:

[IF TIMING = "RATE-GO-LIVE", READ THIS STATEMENT. OTHERWISE, SKIP TO Q3.]

According to our records, you are no longer interested in participating in the Smart Rewards Pricing rate offered as part of National Grid's Smart Energy Solutions program. We're sorry that Smart Rewards Pricing did not meet your needs and hope you can take a few minutes to tell us what about Smart Rewards Pricing did not work for you.

3. It's helpful to understand why customers make these decisions in a program. Often more than one factor is involved. Can you tell us the reasons why you are no longer interested in participating in Smart Rewards Pricing? (DO NOT READ LIST. RECORD ALL MENTIONS.)
1. Too time consuming
 2. Savings didn't justify the effort
 3. Too complicated
 4. Couldn't get my questions answered
 5. Uncertain about what the program's supposed to accomplish
 6. Concerned about privacy of my information
 7. I did not like changes in prices during the day
 8. I thought the prices for some days/hours was too high
 9. I don't like to change my energy usage every day
 10. I can't change my energy usage to save money on this program
 11. I did not like the fact that this program was implemented without my affirmative consent
 12. Concerned my bills may increase
 13. My bills increased
 14. Couldn't get service from National Grid when I needed it
 15. The service I got from National Grid was unsatisfactory



16. Just not interested
17. National Grid contacted me too frequently (Please Specify the topics and the frequency that was too much)
18. Didn't change or drop out/Still in Smart Rewards Pricing [THANK AND TERMINATE]
19. Other (Please Specify)
98. Don't Know [SKIP TO Q5]
99. Prefer not to answer [SKIP TO Q5]

[IF MORE THAN ONE RESPONSE IS GIVEN TO Q3, ASK Q4, OTHERWISE SKIP TO Q5.]

4. Which ONE of these reasons was the most important in your decision? **[READ LIST. RECORD ONE ANSWER ONLY.]**

[ONLY INCLUDE MENTIONS FROM Q3. ALWAYS DISPLAY CHOICES 18, 98, AND 99.]

1. Too time consuming
2. Savings didn't justify the effort
3. Too complicated
4. Couldn't get my questions answered
5. Uncertain about what the program's supposed to accomplish
6. Concerned about privacy of my information
7. I did not like changes in prices during the day
8. I thought the prices for some days/hours was too high
9. I don't like to change my energy usage every day
10. I can't change my energy usage to save money on this program
11. I did not like the fact that this program was implemented without my affirmative consent
12. Concerned my bills may increase
13. My bills increased
14. Couldn't get service from National Grid when I needed it
15. The service I got from National Grid was unsatisfactory
16. Just not interested
17. National Grid contacted me too frequently
18. National Grid contacted me too much about Conservation Days
19. Other (Please Specify)
18. All reasons equally important [SP]
98. Don't Know
99. Prefer not to answer

5. Were you aware of the Bill Protection feature of Smart Rewards Pricing? [If >1, please say "National Grid offers bill protection to customers who remain on the SmartRewards Pricing plan for at least 12 months. This will be active for both years of the Smart Energy Solutions program. Bill protection guarantees that the amount you spend on electricity will not be higher than what you would pay on the Basic Service rate. So, if your annual electric bill while on the SmartRewards Pricing plan is more than it would have been on your Basic Service rate, National Grid will provide you with a credit for the difference at the end of the year."]

1. Yes
2. No
98. Don't Know
99. Prefer not to answer



6. On a scale of 1 to 5, with 1 being “I did not understand at all” and 5 being “I understood completely” and 3 being “neutral”, how well do you feel that you understood National Grid’s explanation of Smart Rewards Pricing?

Did not understand at all		Neutral		Understood completely	Don’t know	Prefer not to answer
1	2	3	4	5	98	99

[IF Q6 < 3, ASK Q7, OTHERWISE SKIP TO Q8]

7. What was unclear about Smart Rewards Pricing? (RECORD VERBATIM. PROBE IF NECESSARY.)
_____ **[OPEN END]**

[IF TIMING = “RATE-GO-LIVE”, ASK Q8, OTHERWISE SKIP TO Q10]

8. Did you notice any changes in your monthly bills since January 1, 2015 when the Smart Rewards Pricing began?

- 1. Yes
- 2. No **[SKIP TO Q10]**
- 98. Don’t Know **[SKIP TO Q10]**
- 99. Prefer not to answer **[SKIP TO Q10]**

9. How would you describe the change in your bills? (RECORD VERBATIM. PROBE IF NECESSARY.)
_____ **[OPEN END]**

[IF TIMING = “RATE-GO-LIVE”, READ:]

10. On a scale of 1 to 5, where 1 is “very difficult to change” and 5 is “very easy to change” and 3 is “neutral”, please rate how easy it was to change the time of day that you use electricity to take advantage of Smart Rewards Pricing.

[IF TIMING = “ENROLLMENT”, READ:]

On a scale of 1 to 5, where 1 is “very difficult to change” and 5 is “very easy to change” and 3 is “neutral”, please rate how easy it is to change the time of day that you use electricity.

Very difficult to change		Neutral		Very easy to change	Don’t know	Prefer not to answer
1	2	3	4	5	98	99

[IF TIMING = “ENROLLMENT”, SKIP TO Q12.]

[IF TIMING = “RATE-GO-LIVE” AND Q10 < 3, ASK Q11, OTHERWISE SKIP TO Q12.]



11. We recognize that people have different situations that can make it difficult to change their electricity use. I'm going to read you a series of statements; for each one, please tell me if it matches your situation. (READ LIST. RECORD ALL MENTIONS.)

[RANDOMIZE ORDER]

1. I need to use electricity during times when the electricity prices are high for health reasons.
2. I need to use electricity during times when the electricity prices are high because there are family members at home during the day.
3. I did not like to have to change the time of day for some tasks to avoid using electricity when prices are high.
4. I need to have my home air conditioned during the day.
5. I found that changing the way I used electricity did not make much difference in my monthly bill.
6. I didn't know my electricity use would cost more at some times of the day (or less at other times).
7. I have essential electricity uses during the day that I cannot change. (INTERVIEWER: IF "YES" TO THIS, ASK: What sorts of equipment?) (Please Specify)
98. (DO NOT READ) Don't Know **[FIXED]**
99. (DO NOT READ) Prefer not to answer **[FIXED]**

[IF TECHNOLOGY_LEVEL > 1, ASK Q12, OTHERWISE SKIP TO Q15.]

12. Please rate your experience with the in-home technology you received through the pilot, where 1 is "very negative" and 5 is "very positive" and 3 is "neutral".

Very negative		Neutral		Very positive	Don't know	Prefer not to answer
1	2	3	4	5	98	99

[IF Q12 < 3, ASK Q13, OTHERWISE SKIP TO Q15]

13. Did your experience with the technology contribute to your decision to stop participating in Smart Rewards Pricing?

1. Yes
2. No **[SKIP TO Q15]**
98. Don't Know **[SKIP TO Q15]**
99. Prefer not to answer **[SKIP TO Q15]**

14. How did your experience with the technology influence your decision to stop participating in Smart Rewards Pricing? (RECORD VERBATIM. PROBE IF NECESSARY.)

_____ **[OPEN END]**

15. What, if anything, could NATIONAL GRID have done or explained that would make Smart Rewards Pricing more appealing to you? (RECORD VERBATIM. PROBE IF NECESSARY.)

_____ **[OPEN END]**

16. Since you decided not to participate in Smart Rewards Pricing, you chose to be in the Conservation Day Rebate plan. This plan provides you with reductions in your energy bill if you reduce your electricity use during peak hours. Does the Conservation Day Rebate plan appeal to you more than Smart Rewards Pricing? (DO NOT READ LIST. RECORD ONLY ONE MENTION.)

1. Yes
2. No



3. It doesn't make a difference to me
4. I didn't know I was on that rate plan
98. Don't Know
99. Prefer not to answer

[IF Q16 = 1, ASK Q18, OTHERWISE SKIP TO Q25]

17. What is it about the Conservation Day Rebate plan that appeals to you more than Smart Rewards Pricing? (RECORD VERBATIM. PROBE IF NECESSARY.)

[OPEN END]

~~**[IF CUSTOMERSTATUS = "PROGRAM DROP-OUT", CONTINUE. OTHERWISE SKIP TO Q25]**~~
~~**[IF CUSTOMER_CLASS = "PTRO", CONTINUE. OTHERWISE SKIP TO Q25]**~~

Prefer not to answer **PTRO Program Drop-Out Questions Intro:**

According to our records, you are no longer interested in participating in the Smart Energy Solutions **program**. We're sorry that the Smart Energy Solutions **program** did not meet your needs and hope you can take a few minutes to tell us what about the program did not work for you.

18. It's helpful to understand why customers make these decisions in a program. Often more than one factor is involved. Can you tell us the reasons why you are no longer interested in participating in the Smart Energy Solutions **program**? (DO NOT READ LIST. RECORD ALL MENTIONS.)

1. Too time consuming
2. Savings didn't justify the effort
3. Too complicated
4. Couldn't get my questions answered
5. Uncertain about what the program's supposed to accomplish
6. Concerned about privacy of my information
7. Concerned my bills may increase
8. My bills increased
9. The thermostat didn't work right/couldn't set it/couldn't read it
10. The picture frame display was not helpful
11. My home became uncomfortable when National Grid controlled my air conditioning
12. I wasn't notified before one or more events
13. The equipment installed interfered with my Internet, TV, other electronics
14. Couldn't get service from National Grid when I needed it
15. The service I got from National Grid was unsatisfactory
16. Just not interested
17. Could not change my electric uses for electric equipment I needed to use
18. National Grid contacted me too much (Please Specify)
19. Didn't change or drop out/Still in Smart Rewards Pricing [THANK AND TERMINATE]
20. Other (Please Specify)
98. Don't Know
99. Prefer not to answer

[IF MORE THAN ONE RESPONSE IS GIVEN TO Q18, CONTINUE TO Q19, OTHERWISE SKIP TO Q20]



19. Which ONE of these reasons was the most important in your decision? **[READ LIST. RECORD ONE ANSWER ONLY.]**

[ONLY INCLUDE MENTIONS FROM Q18. ALWAYS DISPLAY CHOICES 19, 98, AND 99.]

1. Too time consuming
2. Savings didn't justify the effort
3. Too complicated
4. Couldn't get my questions answered
5. Uncertain about what the program's supposed to accomplish
6. Concerned about privacy of my information
7. Concerned my bills may increase
8. My bills increased
9. The thermostat didn't work right/couldn't set it/couldn't read it
10. The picture frame display was not helpful
11. My home became uncomfortable when National Grid controlled my air conditioning
12. I wasn't notified before one or more events
13. The equipment installed interfered with my Internet, TV, other electronics
14. Couldn't get service from National Grid when I needed it
15. The service I got from National Grid was unsatisfactory
16. Just not interested
17. Could not change my electric uses for electric equipment I needed to use
18. Other (Please Specify)
19. All reasons equally important **[SP]**
98. Don't Know
99. Prefer not to answer

[IF TECHNOLOGY_LEVEL > 1, ASK Q20, OTHERWISE SKIP TO Q23]

20. Please rate your experience with the in-home technology you received through the pilot, where 1 is "very negative" and 5 is "very positive" and 3 is "neutral".

Very negative		Neutral		Very positive	Don't know	Prefer not to answer
1	2	3	4	5	98	99

Prefer not to answer **[IF Q20 < 3, ASK Q21, OTHERWISE SKIP TO Q23]**

21. Did your experience with the technology contribute to your decision to stop participating in the program?

1. Yes
2. No **[SKIP TO Q23]**
98. Don't Know **[SKIP TO Q23]**
99. Prefer not to answer **[SKIP TO Q23]**

22. How did your experience with the technology influence your decision to stop participating in the program? (RECORD VERBATIM. PROBE IF NECESSARY.)

[OPEN END]

23. What, if anything, could NATIONAL GRID have done or explained that would make this program more appealing to you? (RECORD VERBATIM. PROBE IF NECESSARY.)



_____ [OPEN END]

Prefer not to answer [FOR ALL CUSTOMERS]

24. Is there anything else you would like to tell us about your experience with Smart Rewards Pricing or the Smart Energy Solutions program? (RECORD VERBATIM. PROBE IF NECESSARY.)

_____ [OPEN END]

25. We are almost done. Once you have provided us with your most current phone number, email address and mailing address so that we can mail you your \$20 gratuity, there are a few follow-up questions for classification purposes only that must be answered. So please don't hang up until you have answered these additional questions. I have your current phone number as...(INTERVIEWER: IF INFORMATION ALREADY PIPED IN, PLEASE READ CURRENT PHONE NUMBER AND EMAIL ADDRESS TO RESPONDENT AND ASK THEM TO CONFIRM. PLEASE CHANGE AS NECESSARY.)

1. Phone (Please specify) (RECORD/CONFIRM PHONE NUMBER)
2. Email (Please specify) (RECORD/CONFIRM EMAIL ADDRESS)
3. Mailing address (Please specify) (RECORD MAILING ADDRESS) [DO NOT PRE-POPULATE]
4. Contact Name (Please specify)

[PROGRAMMER: PLEASE PIPE IN PHONE, EMAIL ADDRESS, MAILING ADDRESS AND NAME FROM SAMPLE]



[DEMOGRAPHIC/FIRMOGRAPHIC QUESTIONS]

[Q31 MOVED AHEAD OF IDNUM CHECK 4/27.]

31. Are you or is anyone in your household a National Grid employee?
1. Yes
 2. No
 98. Don't Know
 99. Prefer not to answer

DEMOGRAPHICS (NOTE: FOR CONVENIENCE, DEMOGRAPHIC QUESTION NUMBERS HAVE BEEN CHANGED TO MATCH UP WITH THE NGRID-POST INSTALLATION SURVEY DEMOGRAPHIC QUESTIONS.)

[PROGRAMMER: PLEASE CHECK CUSTOMER'S IDNUM FOR EXISTING DEMOGRAPHIC DATA.]
[IF DEMOGRAPHIC DATA EXISTS ALREADY, SKIP TO CLOSE. OTHERWISE, CONTINUE.]
[IF NO IDNUM EXISTS, CONTINUE.]

[IF S1E – 1 “BUSINESS” AND S1F – 2 “OWN UNIT/APT”, TREAT AS RESIDENTIAL AND ASK DEMOGRAPHICS, IF APPLICABLE, AFTER CHECKING IDNUM.]

32. Now we would like to turn to several questions about your household.

Which one of these options best describes this residence? (READ LIST. RECORD ONE ANSWER ONLY.)

1. Single-family detached house
2. Townhouse, duplex, or row house (shares common wall with neighboring unit from basement to roof)
3. Apartment (either rent or own) (2-4 units)
4. Apartment (either rent or own) (5 or more units)
5. Mobile home or trailer (“manufactured home”)
6. Other (Please Specify)
98. (DO NOT READ) Don't Know
99. (DO NOT READ) Prefer not to answer

33. Which one of these options best describes this residence? (READ LIST. RECORD ONE ANSWER ONLY.)

1. This is my permanent year-round residence
2. This is my partial-year or seasonal residence
3. This is my vacation home and generally used only by my family
4. This is a vacation rental home
5. Other (Please Specify)
98. (DO NOT READ) Don't Know
99. (DO NOT READ) Prefer not to answer

34. Which one of these options best describes the exterior of this residence? (READ LIST. RECORD ONE ANSWER ONLY.)

1. Wood



2. Cement
3. Aluminum siding
4. Stucco
5. Brick
6. Other (Please Specify)
7. Vinyl / Vinyl siding
98. (DO NOT READ) Don't Know
99. (DO NOT READ) Prefer not to answer

[IF Q33 = 2, 3, OR 4 CONTINUE, OTHERWISE SKIP TO Q36]

35. Please tell me the months this partial-year or vacation home is typically occupied by your family and/or renters. (RECORD ALL MENTIONS.)

1. Jan
2. Feb
3. Mar
4. Apr
5. May
6. Jun
7. Jul
8. Aug
9. Sep
10. Oct
11. Nov
12. Dec
98. Don't Know
99. Prefer not to answer

36. How many square feet of living space are there in this residence, including bathrooms, foyers, and hallways? Please exclude unheated rooms and garages. If you live in an apartment building, please answer for the living space considered "your home." (RECORD ONE ANSWER ONLY.)

1. Less than 500
2. 500-999
3. 1,000 – 1,499
4. 1,500 – 1,999
5. 2,000 – 2,499
6. 2,500 – 2,999
7. 3,000 – 3,499
8. 3,500 – 3,999
9. 4,000 – 4,999
10. Greater than 5,000
98. Don't Know
99. Prefer not to answer

37. How many rooms are in this residence? Please exclude bathrooms, halls, pantries, unheated rooms, and garages. (PLEASE USE "98" FOR DON'T KNOW AND "99" IF PREFER NOT TO ANSWER.)

_____ **[ENTER # OF ROOMS]**



38. Approximately what year was this residence built? (PLEASE USE "9998" FOR DON'T KNOW AND "9999" IF PREFER NOT TO ANSWER.)

_____ [ENTER YEAR]

38_CODE. [PROGRAMMER: PLEASE AUTO PUNCH Q38_CODE WITH THE FOLLOWING CODES BASED ON THE ANSWER AT Q38.]

1. Before 1930
2. 1930-1939
3. 1940-1949
4. 1950-1959
5. 1960-1969
6. 1970-1979
7. 1980-1989
8. 1990-1999
9. 2000-2002
10. 2003-2004
11. 2005-2006
12. 2007 or after
98. Don't Know
99. Prefer not to answer

[IF Q33 = 1 CONTINUE, OTHERWISE SKIP TO Q40]

39. How long has this been your permanent, year-round residence? (RECORD ONE ANSWER ONLY.)

1. Less than 1 year
2. 1-3 years
3. 4-10 years
4. 11-20 years
5. Over 20 years
98. Don't Know
99. Prefer not to answer

40. What age is the head of household? If two share this role, please use the average. (RECORD ONE ANSWER ONLY.)

1. Under 30 years
2. 30-39 years
3. 40-49 years
4. 50-59 years
5. 60-69
6. 70-74
7. 75-80
8. 80+
98. Don't Know
99. Prefer not to answer

[ASK Q40A TO EVERYONE, EVEN IF PREVIOUSLY COMPLETED DEMO/FIRMO.]

40a. How many people, including yourself, live in your home full-time at least six months of the year?

_____ (RECORD NUMBER: PLEASE USE "98" FOR DON'T KNOW AND "99" IF PREFER NOT TO ANSWER.)



[IF Q40a = 98 OR 99, SKIP TO Q41. OTHERWISE, CONTINUE.]

43.-40b. For the following age groups, please tell me how many people, including you, normally live in your home at least six months of the year. (READ AGE RANGES SEPARATELY AND RECORD RESPONSE FOR EACH, MUST ENTER ZERO IF NONE IN A SPECIFIC AGE GROUP.)

FOR EACH HOUSEHOLD MEMBER, UP TO 10 MEMBERS, INCREMENT THE HOUSEHOLD COUNT IN EACH OF THE FOLLOWING AGE RANGES:

1. _____ **[ENTER #]** Infant (less than 1 year old)
2. _____ **[ENTER #]** 1-6 years old
3. _____ **[ENTER #]** 7-18 years old
4. _____ **[ENTER #]** 19-24 years old
5. _____ **[ENTER #]** 25-34 years old
6. _____ **[ENTER #]** 35-44 years old
7. _____ **[ENTER #]** 45-54 years old
8. _____ **[ENTER #]** 55-59 years old
9. _____ **[ENTER #]** 60-64 years old
10. _____ **[ENTER #]** 65-69 years old
11. _____ **[ENTER #]** 70 -74
12. _____ **[ENTER #]** 75 -79
13. _____ **[ENTER #]** 80+

[CALCULATE TOTAL NUMBER RESIDENTS IN HOUSEHOLD. CANNOT BE > Q40a.]

41. Please select the range that best describes this household's gross income for **2014** (before adjustments for taxes and credits). Please include all sources of income such as salaries, wages, rent, interest, dividends, pensions, and social security. (READ LIST.)

1. Less than \$10,000
2. \$10,000 to less than \$18,000
3. \$18,000 to less than \$30,000
4. \$30,000 to less than \$50,000
5. \$50,000 to less than \$75,000
6. \$75,000 to less than \$100,000
7. \$100,000 to less than \$150,000
8. More than \$150,000
98. (DO NOT READ) Don't Know
99. (DO NOT READ) Prefer not to answer

USING NUMBER IN HOUSEHOLD AND LOOKUP TABLE ASK: IS YOUR TOTAL ANNUAL HOUSEHOLD INCOME LESS THAN \$ _____ (TABLE CAN HAVE 60% MEDIAN OR 200% FPL) SEE BELOW

[ASK Q41A AND Q41B TO EVERYONE, EVEN IF PREVIOUSLY COMPLETED DEMO/FIRMO.]

41a. Was your total **2014** household income before taxes below **[INCOME_THRESHOLD_200% FPL]**?

1. Yes
2. No
98. Don't Know
99. Prefer not to answer

[ASK IF Q41a = 2]

41b. Was your total **2014** household income before taxes below **[INCOME_THRESHOLD_60% Median]**?

1. Yes



- 2. No
- 98. Don't Know
- 99. Prefer not to answer

Income Threshold Table

Reference: Q40a (# People in HH)	ITH_200FPL – label in data file INCOME_THRESHOLD_200% FPL	ITH_MED – label in data file INCOME_THRESHOLD_60% Median (FY2014)
1	\$ 23,000	\$ 32,065
2	\$ 31,000	\$ 41,932
3 or DK/REF	\$ 39,000	\$ 51,798
4	\$ 47,000	\$ 61,664
5	\$ 55,000	\$ 71,530
6	\$ 63,000	\$ 81,396
7	\$ 71,000	\$ 83,246
8	\$ 79,000	\$ 85,096
9	\$ 87,000	\$ 86,946
10	\$ 95,000	\$ 88,795
11	\$ 103,000	\$ 90,646
12 or more	\$ 111,000	\$ 92,496

42. What is the highest level of education completed by any head of household in this residence?
- 1. Elementary (Grades 1-8)
 - 2. Some high school (Grades 9-12)
 - 3. High School Graduate
 - 4. Some College/Trade/Vocational School
 - 5. College Graduate
 - 6. Postgraduate College
 - 98. Don't Know
 - 99. Prefer not to answer

[ASK Q44 TO EVERYONE, EVEN IF PREVIOUSLY COMPLETED DEMO/FIRMO.]

44. Does anybody in this residence require electricity to operate critical medical equipment, such as breathing machines, kidney or dialysis pumps, or other medically prescribed devices?
- 1. Yes
 - 2. No
 - 98. Don't Know
 - 99. Prefer not to answer

[ASK Q44A TO EVERYONE, EVEN IF PREVIOUSLY COMPLETED DEMO/FIRMO.]

- 44a. Does anyone in this residence require electricity for any other essential appliance or equipment? By "essential" I mean some electric appliance or equipment, not including your refrigerator, that you must have operable all the time? If you do, please tell me what that appliance or equipment is? (RECORD VERBATIM.)
- 1. Yes (Please record other essential appliance/equipment? _____)
 - 2. No
 - 98. Don't Know
 - 99. Prefer not to answer



45. What is the primary language spoken in this residence?

[ALPHABETIZE LIST]

1. English **[FIXED]**
2. Russian
3. French
4. Portuguese
5. Spanish
6. Vietnamese
7. Chinese
8. Italian
9. Other (Please Specify) **[FIXED]**
98. Don't Know **[FIXED]**
99. Prefer not to answer **[FIXED]**

[CLOSE]

Those are all the questions I have. Thank you for your time and assistance to us today.

(Note to BRI – Project to reference for Demographics: 14292, 14210)

Questions in **RED** were added for 14447 and were not in previous studies.



ENERGY

Smart Energy Solutions

Opt Out Drop Out Survey



Prepared for National Grid

December 7, 2014



DISPUTES & INVESTIGATIONS • ECONOMICS • FINANCIAL ADVISORY • MANAGEMENT CONSULTING

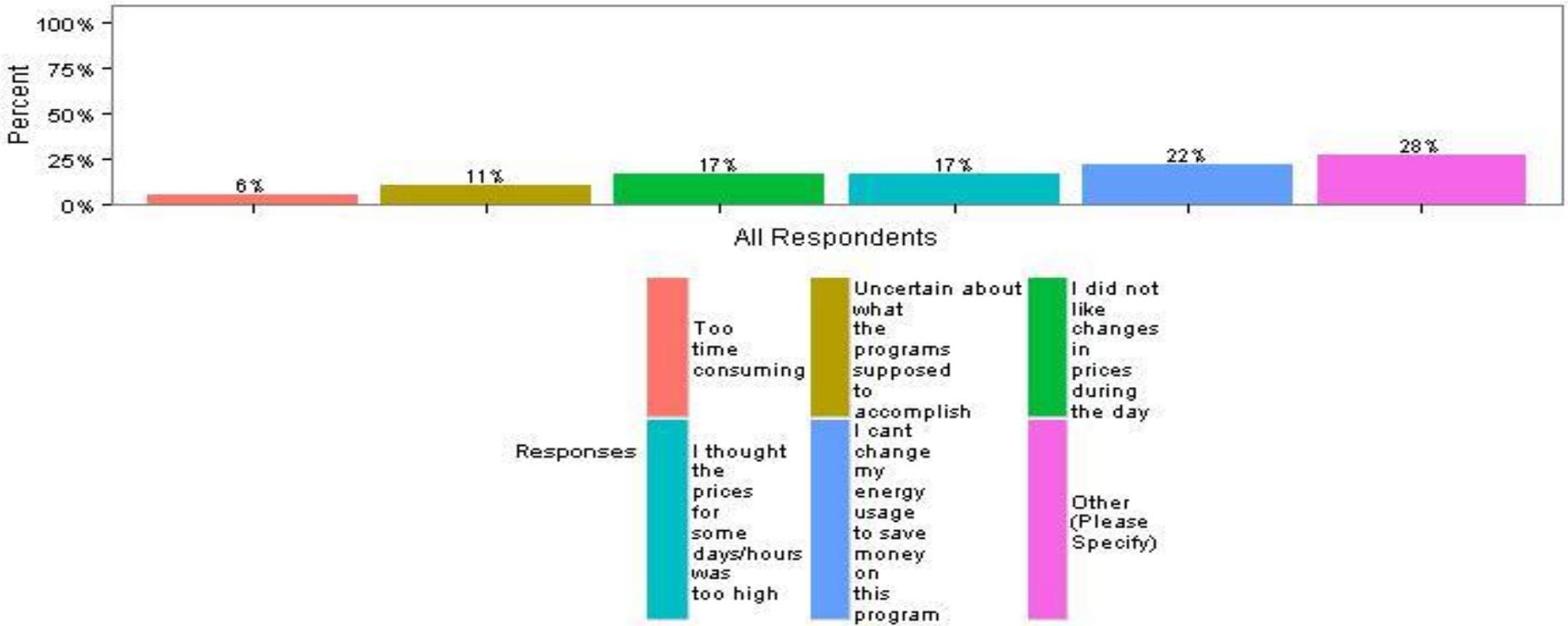
Survey Highlights

- Total of 29 respondents in this quarter’s Opt Out-Drop Out survey
 - 6 of the PTR respondents dropped out before the Pilot began
 - 9 of the PTR respondents dropped out during the Pilot

Technology Level	CPP	PTR
1	5	14
2	1	6
3	1	1
4	1	0
Total	8	21

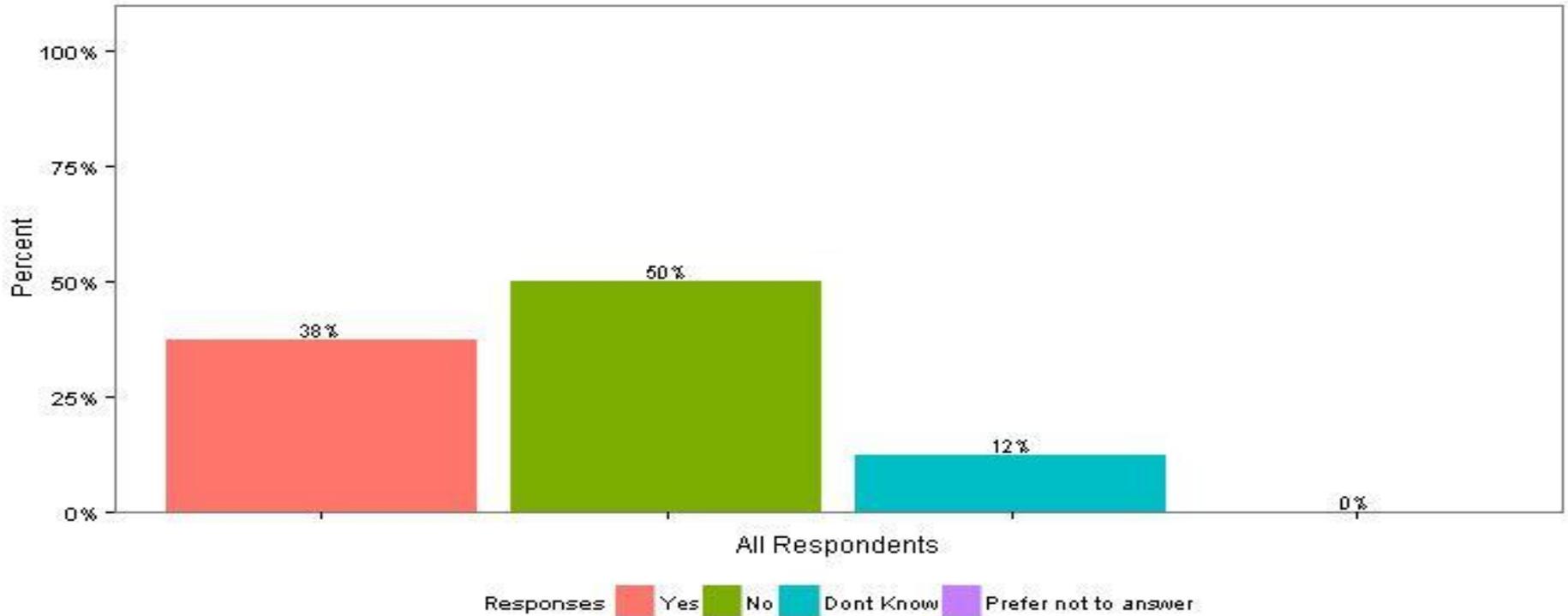
- Overall, verbatim responses indicate that:
 - A. Customers needed more information on the Pilot
 - B. Opted out because they felt event hours were inconvenient
 - C. Felt Pilot was intrusive (e.g., privacy and personal decision making)
 - D. Customers noted bill increases

3. Please let us know why you are no longer interested in participating in Smart Rewards Pricing (select all that apply). CPP Respondents: N= 8

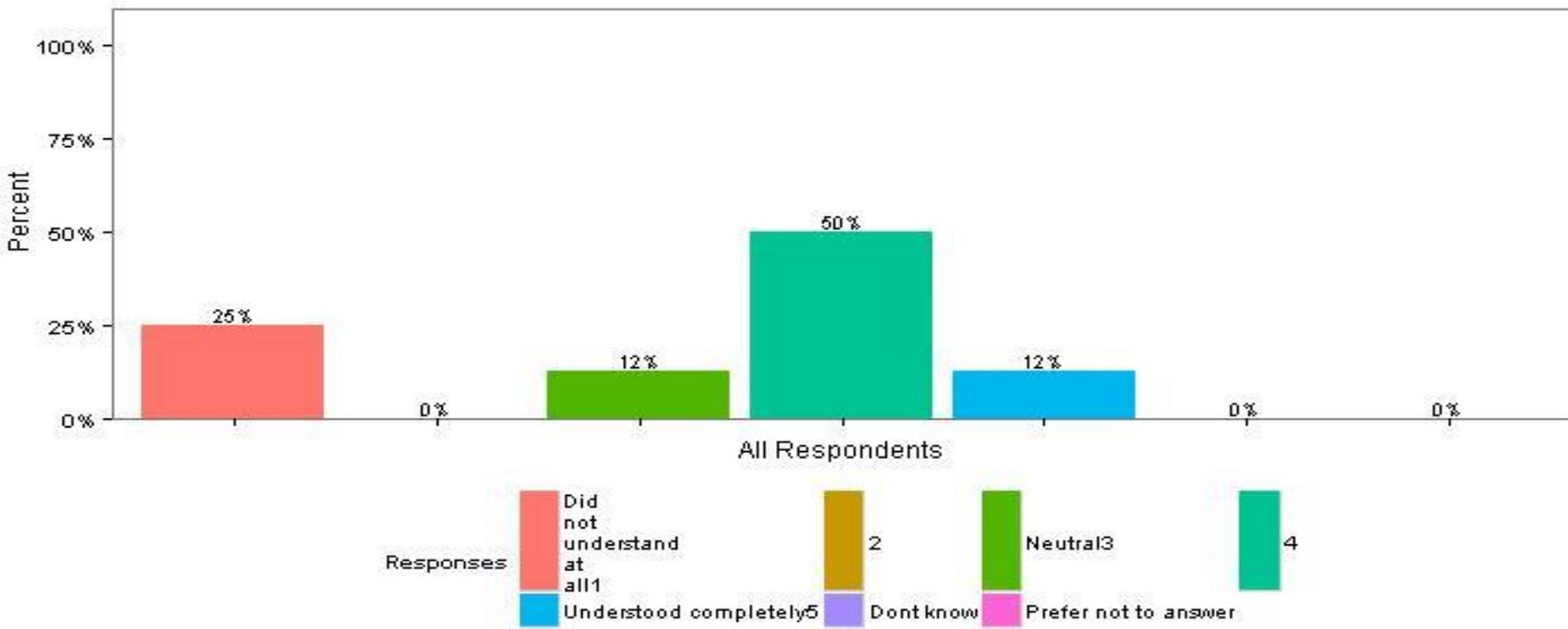


5. Were you aware of the Bill Protection feature of Smart Rewards Pricing?

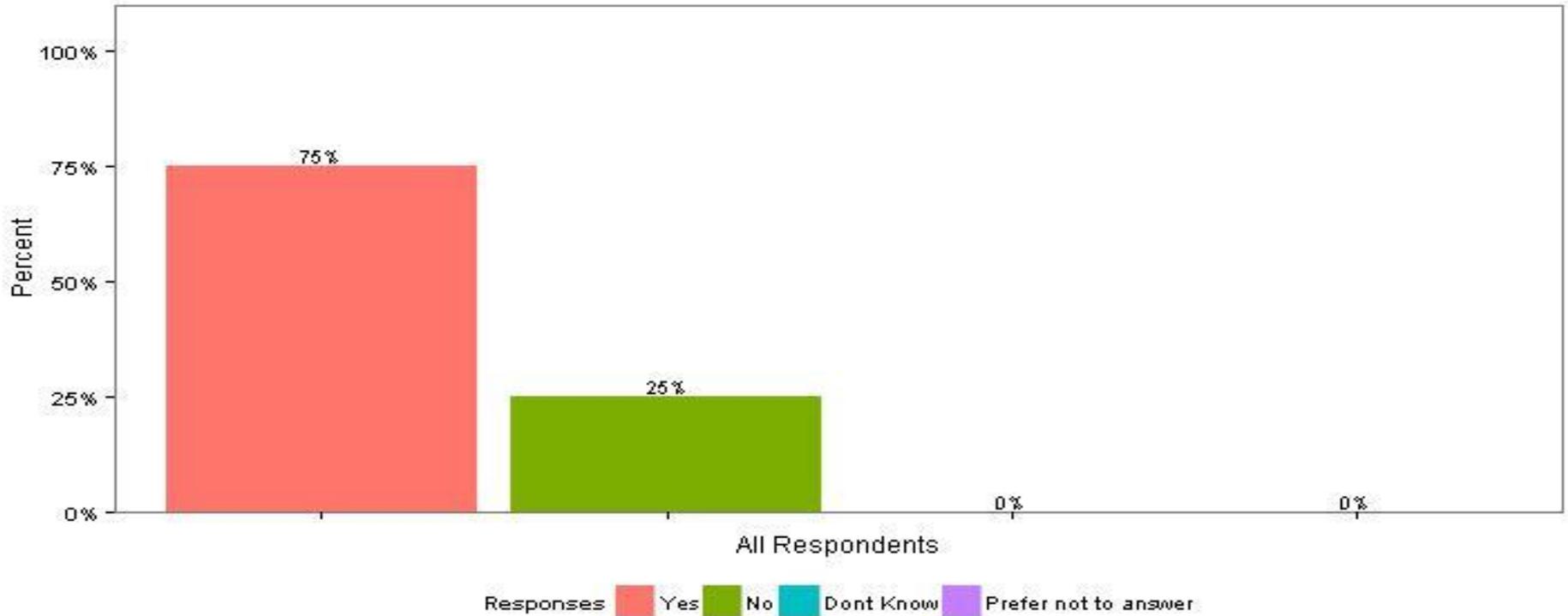
CPP Respondents: N= 8



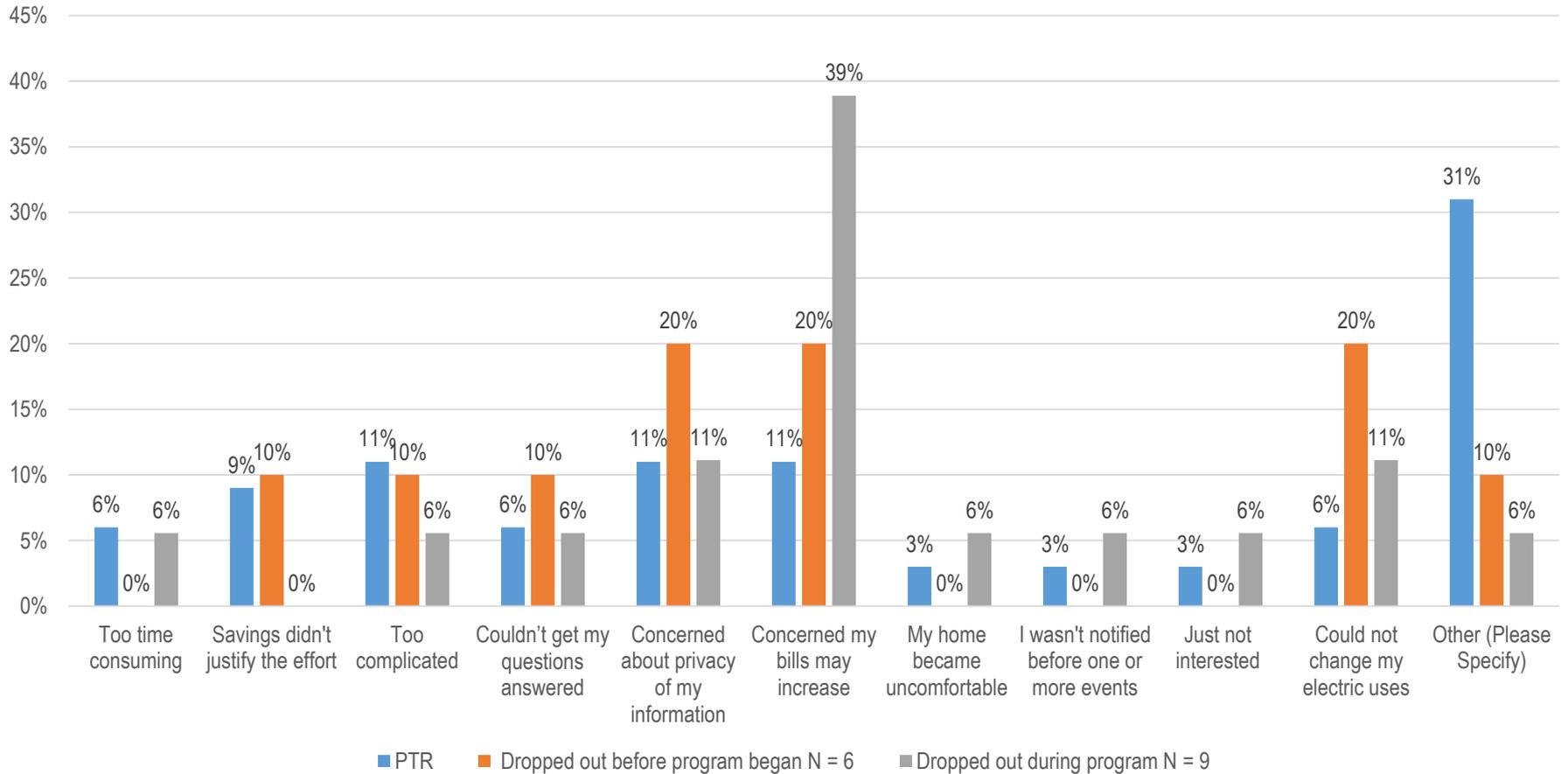
6. On a scale of 1 to 5, how well do you feel that you understood National Grid's explanation of Smart Rewards Pricing? CPP Respondents: N= 8



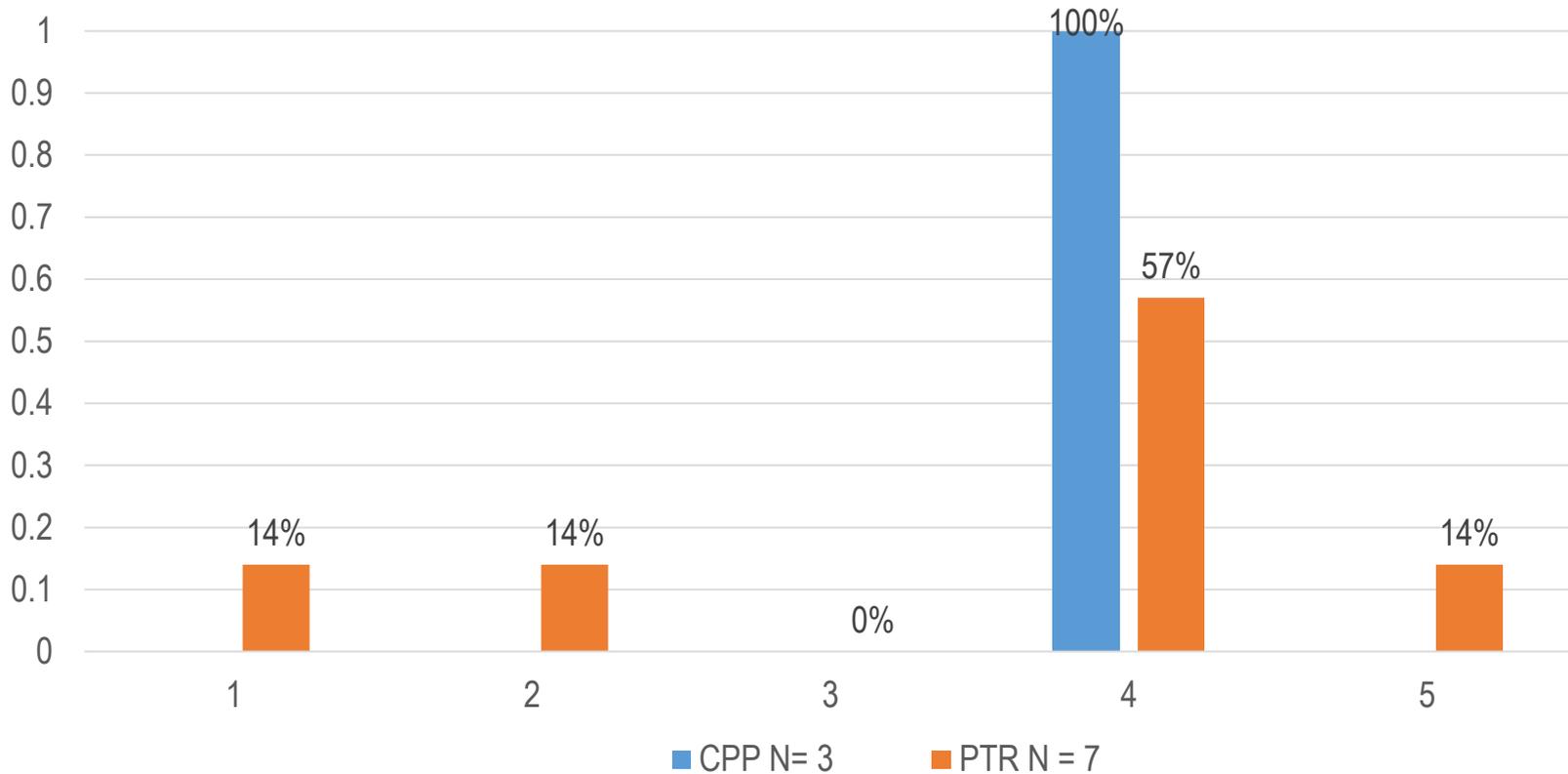
8. Did you notice any changes in your monthly bills since January 1, 2015 when the Smart Rewards Pricing began? CPP Respondents: N= 8



18. Please let us know why you are no longer interested in participating in the Smart Energy Solutions program (select all that apply). PTR Respondents N=21



On a scale of 1 to 5, please rate your experience with the in-home technology you received thought the pilot. (1: very negative 5: very positive)



Q15. What, if anything, could National Grid have done or explained that would make Smart Rewards Pricing more appealing to you? N = 8

Better Communication

“I would like to have Smart Rewards Pricing again. They said it was a misunderstanding between me and the agent.”

“Nothing really, it was alright except for the Conservation Days.”

“Just explain it better, maybe get a call from a representative explaining it.”

Inconvenient Conservation Days

“I would say to reduce the Conservation Days.”

“I like the idea of the program, but with all the peak days in the summer, it was difficult to reduce AC usage when working from home. Felt like the days we needed service the most were the peak days we had to pay more, such as 90 degree plus days.”

Upset Customers

“First, ask me if I want to be part of your awful pilot program. Don't force me into it. Second, have employees that don't swear at you, treat you like a second class citizen for asking them questions about your horrible program and treat you with respect. Finally, make your program appealing to people by not having a Conservation Day on every single hot summer day for 10-12 hours per day. You're asking too much of your customers. Oh, and go (profanity) yourself!”

Q23. What, if anything, could National Grid have done or explained that would make the PTR program more appealing to you? N = 21

Privacy

“No, I want you out of my home. When I purchase a product or service, I will use as much or as little as I decide. If liberals want to save energy, let them. I think most of the energy discussion today is an outright lie.”

“I don't want National Grid or anyone on my home network.”

“You guys never asked us to join anyway, you just opted us in without asking us.”

Lack of Understanding

“Unclear, perhaps a better explanation (e.g., reducing demand for inefficient generation and/or more fossil sources).”

“The fear factor of paying 50 or 70 cents per kilowatt. They are creating fear in people's bills. That didn't go over too well.”

“More explanation when new Smart Energy meter was installed. I had no idea what it was all about.”

Other Comments

“Nothing. It was just too restrictive for me. I did not like being told when I should and shouldn't be using electricity.”

“Dump it! First you screwed with lunch time and then extended it to penalize us for making dinner at a normal dinner time. Saving energy was a secondary goal compared to increasing your profits. You certainly made your competition look pretty good.”



Smart Energy Solutions Pilot

Operations Opt Out/Drop Out Survey

OUTBOUND

Prepared for:
National Grid



Navigant Consulting, Inc.
1375 Walnut Street, Suite 200
Boulder, CO80302

www.navigant.com

September 19, 2016





CPP Opt-Out/PTR0 Program Drop-Out Survey

Sample Variables (to be provided by National Grid):

1. Name
2. Property address
3. Pseudo Account number
4. Email address
5. Phone number
6. Coded as a business? Y__ N__
7. Customer_Class: "CPP" or "PTR0"
9. Technology_Level: 1-4

(NOTE: THIS SURVEY IS FORMATTED FOR TELEPHONE. ONLINE VERSIONS WILL BE ALTERED IN FORMAT ONLY)

Hello, this is (YOUR NAME) from Bellomy Research calling on behalf of National Grid's Smart Energy Solutions Pilot program. (IF CONTACT NAME AVAILABLE, SAY:) May I please speak to...**[INSERT CONTACT NAME FROM SAMPLE]**? (IF NOT AVAILABLE, SCHEDULE A CALLBACK.)

(IF NO CONTACT NAME AVAILABLE, SAY:) May I please speak to one of the persons that was most involved in National Grid's Smart Energy Solutions pilot program? (IF NOT AVAILABLE, SCHEDULE A CALLBACK.)

This is not a sales call or a call about a bill. Your responses will be treated as confidential and if you qualify and complete the entire survey we will send you a \$20 check. (IF NOT A CONVENIENT TIME, SCHEDULE A CALLBACK.)

1a. Are you the person in your household who was most involved in National Grid's Smart Energy Solutions Pilot program? (INTERVIEWER: IF NEEDED SAY: "National Grid is testing the impact of new technologies that provide more information about your electric use and cost and electric rates in which your cost of using electricity may go up or down, depending on when you use it.")

1. Yes **[SKIP TO INSTRUCTIONS BEFORE Q3.]**
2. No **[CONTINUE]**
98. Don't Know **[THANK AND TERMINATE]**
99. Prefer not to answer **[THANK AND TERMINATE]**

1b. What is the name of the person who is most involved in the program?

_____ (INTERVIEWER RECORD NAME)

98. Don't Know **[THANK AND TERMINATE]**
99. Prefer not to answer **[THANK AND TERMINATE]**

1c. May I please speak with **[INSERT NAME FROM Q1b]**?

1. Yes available and will speak **[CONTINUE]**
2. Available but not interested **[THANK AND TERMINATE]**
3. Not available now **[ASK 1d]**
98. Don't Know **[THANK AND TERMINATE]**
99. Prefer not to answer **[THANK AND TERMINATE]**

1d. What would be a convenient day and time to re-contact and speak to **[INSERT NAME FROM Q1b]**?

As I said, this will only take a few minutes.

(INTERVIEWER: IF PERSON ON PHONE GIVES YOU A CONVENIENT DAY AND TIME, SCHEDULE A CALLBACK. REMEMBER TO RECORD NAME OF PERSON TO ASK FOR.)

98. Don't Know **[THANK AND TERMINATE]**



99. Prefer not to answer **[THANK AND TERMINATE]**

[IF Q1C = 1, DISPLAY “Hello, this is (YOUR NAME) from Bellomy Research calling on behalf of National Grid’s Smart Energy Solutions Pilot program.]

[IF CUSTOMER_CLASS = “CPP”, CONTINUE.]

[IF CUSTOMER_CLASS = “PTRO”, SKIP TO INTRO BEFORE Q18.]

CPP Opt-Out Questions Intro:

~~**[IF TIMING = “RATE GO LIVE”, READ THIS STATEMENT. OTHERWISE, SKIP TO Q3.]**~~

According to our records, you chose to switch from the Smart Rewards Pricing Plan to the Conservation Day Rebate plan. **(IF NEEDED: “Smart Rewards Pricing provides daytime rates lower than your Basic Service rate for 335 days of the year, and even lower rates on nights, weekends, and holidays. On Conservation Days, rates increase significantly during specifically designated hours. The Conservation Day Rebate plan continued your service at the Basic Service rate and if you used less electricity during Conservation Day Peak Events, you could earn bill credits.**

We’re sorry that Smart Rewards Pricing did not meet your needs and hope you can take a few minutes to tell us what about Smart Rewards Pricing did not work for you.

3. Please let us know why you were no longer interested in participating in Smart Rewards Pricing. (DO NOT READ LIST. RECORD ALL MENTIONS.)

1. Too time consuming
2. Savings didn’t justify the effort
3. Liked the Conservation Day Rebate plan better.
4. Too complicated
5. Couldn’t get my questions answered
6. Uncertain about what the program’s supposed to accomplish
7. Concerned about privacy of my information
8. I did not like changes in prices during the day
9. I thought the prices for some days/hours was too high
10. I don’t like to change my energy usage every day
11. I can’t change my energy usage to save money on this program
12. I did not like the fact that this program was implemented without my affirmative consent
13. Concerned my bills may increase
14. My bills increased
15. Couldn’t get service from National Grid when I needed it
16. The service I got from National Grid was unsatisfactory
17. Just not interested
20. National Grid contacted me too frequently (Other Specify) (INTERVIEWER: Probe for the topics and the frequency that was too much.)
21. National Grid contacted me too much about Conservation Days
19. Didn’t change or drop out/Still participate in Smart Rewards Pricing **[THANK AND TERMINATE]**
18. Other (Please Specify)
98. Don’t Know **[SKIP TO Q5]**
99. Prefer not to answer **[SKIP TO Q5]**



[IF MORE THAN ONE RESPONSE IS GIVEN TO Q3, ASK Q4, OTHERWISE SKIP TO Q5.]

4. Which ONE of these reasons was the most important in your decision? (READ LIST. RECORD ONE ANSWER ONLY.)

[ONLY INCLUDE MENTIONS FROM Q3. ALWAYS DISPLAY CHOICES 18, 98, AND 99.]

1. Too time consuming
2. Savings didn't justify the effort
3. Liked the Conservation Day Rebate plan better
4. Too complicated
5. Couldn't get my questions answered
6. Uncertain about what the program's supposed to accomplish
7. Concerned about privacy of my information
8. I did not like changes in prices during the day
9. I thought the prices for some days/hours was too high
10. I don't like to change my energy usage every day
11. I can't change my energy usage to save money on this program
12. I did not like the fact that this program was implemented without my affirmative consent
13. Concerned my bills may increase
14. My bills increased
15. Couldn't get service from National Grid when I needed it
16. The service I got from National Grid was unsatisfactory
17. Just not interested
20. National Grid contacted me too frequently (Other Specify) (INTERVIEWER: Probe for the topics and the frequency that was too much.)
21. National Grid contacted me too much about Conservation Days
18. Other (Please Specify)
18. All reasons equally important [SP]
98. (DO NOT READ) Don't Know
99. (DO NOT READ) Prefer not to answer

5. National Grid offered Bill Protection to customers who remained on the Smart Rewards Pricing plan for at least 12 months. Bill Protection guarantees that the amount you spend on electricity over the course of the year will not be higher than what you would have paid on the Basic Service rate. Were you aware of the Bill Protection feature of Smart Rewards Pricing?

Were you aware of the Bill Protection feature of Smart Rewards Pricing? (IF RESPONDENT SELECTS "No", Don't Know" OR "Prefer not to answer", READ: National Grid offered Bill Protection to customers who remained on the Smart Rewards Pricing plan for at least 12 months. This was active for both years of the Smart Energy Solutions program. Bill Protection guarantees that the amount you spend on electricity would not be higher than what you would pay on the Basic Service rate. So, if your annual electric bill while on the Smart Rewards Pricing plan was more than it would have been on your Basic Service rate, National Grid would provide you with a credit for the difference at the end of the year.) (CHANGE ANSWER AS NEEDED.)

1. Yes
2. No
98. Don't Know
99. Prefer not to answer



6. On a scale of 1 to 5, with 1 being “did not understand at all” and 5 being “understood completely” and 3 being “neutral”, how well do you feel that you understood National Grid’s explanation of Smart Rewards Pricing?

Did not understand at all		Neutral		Understood completely	Don’t know	Prefer not to answer
1	2	3	4	5	98	99

[IF Q6 < 3, ASK Q7, OTHERWISE SKIP TO Q8]

7. What was unclear about Smart Rewards Pricing? (RECORD VERBATIM. PROBE IF NECESSARY.)

_____ **[OPEN END]**

~~**[IF TIMING – “RATE GO LIVE”, ASK Q8, OTHERWISE SKIP TO Q10]**~~

8. Did you notice any changes in your monthly bills after January 1, 2015 when the Smart Rewards Pricing began? Did you notice any changes in your monthly bills over the course of your participation in Smart Rewards Pricing, and was this change a factor in deciding you did not want to continue with Smart Rewards Pricing?

- 1. Yes
- 2. No **[SKIP TO Q10]**
- 98. Don’t Know **[SKIP TO Q10]**
- 99. Prefer not to answer **[SKIP TO Q10]**

9. How would you describe the change in your bills? (RECORD VERBATIM. PROBE IF NECESSARY.)

_____ **[OPEN END]**

10. On a scale of 1 to 5, where 1 is “very difficult to change” and 5 is “very easy to change” and 3 is “neutral”, please rate how easy it was to change the time of day that you use electricity to take advantage of Smart Rewards Pricing.

Very difficult to change		Neutral		Very easy to change	Don’t know	Prefer not to answer
1	2	3	4	5	98	99

[IF Q10 < 3, ASK Q11, OTHERWISE SKIP TO Q12.]



11. We recognize that people have different situations that can make it difficult to change their electricity use. I'm going to read you a series of statements; for each one, please tell me if it matches your situation. (READ LIST. RECORD ALL MENTIONS.)

[RANDOMIZE ORDER]

1. I need to use electricity during times when the electricity prices are high for health reasons.
2. I need to use electricity during times when the electricity prices are high because there are family members at home during the day.
3. I did not like to have to change the time of day for some tasks to avoid using electricity when prices are high.
4. I need to have my home air conditioned during the day.
5. I found that changing the way I used electricity did not make much difference in my monthly bill.
6. I didn't know my electricity use would cost more at some times of the day (or less at other times).
7. I have essential electricity uses during the day that I cannot change. (INTERVIEWER: IF "YES" TO THIS, ASK: What sorts of equipment?) (Please Specify)
98. (DO NOT READ) Don't Know **[FIXED]**
99. (DO NOT READ) Prefer not to answer **[FIXED]**

[IF TECHNOLOGY_LEVEL > 1, ASK Q12, OTHERWISE SKIP TO Q15.]

12. Please rate your experience with the in-home technology you received through the pilot, where 1 is "very negative" and 5 is "very positive" and 3 is "neutral".

Very negative		Neutral		Very positive	Don't know	Prefer not to answer
1	2	3	4	5	98	99

[IF Q12 < 3, ASK Q13, OTHERWISE SKIP TO Q15]

13. Did your experience with the technology contribute to your decision to stop participating in Smart Rewards Pricing?

1. Yes
2. No **[SKIP TO Q15]**
98. Don't Know **[SKIP TO Q15]**
99. Prefer not to answer **[SKIP TO Q15]**

14. How did your experience with the technology influence your decision to stop participating in Smart Rewards Pricing? (RECORD VERBATIM. PROBE IF NECESSARY.)

_____ **[OPEN END]**

15. What, if anything, could National Grid have done or explained that would make Smart Rewards Pricing more appealing to you? (RECORD VERBATIM. PROBE IF NECESSARY.)

_____ **[OPEN END]**

16. Since you decided not to participate in Smart Rewards Pricing, you chose to be in the Conservation Day Rebate plan. This plan provides you with reductions in your energy bill if you reduce your electricity use during peak hours. Does the Conservation Day Rebate plan appeal to you more than Smart Rewards Pricing? (DO NOT READ LIST. RECORD ONLY ONE MENTION.)



1. Yes
2. No
3. It doesn't make a difference to me
4. I didn't know I was on that rate plan
98. Don't Know
99. Prefer not to answer

[IF Q16 = 1, ASK Q17, OTHERWISE SKIP TO Q24]

17. What is it about the Conservation Day Rebate plan that appeals to you more than Smart Rewards Pricing? (RECORD VERBATIM. PROBE IF NECESSARY.)

_____ **[OPEN END]**

[IF CUSTOMER_CLASS = "PTRO", CONTINUE. OTHERWISE SKIP TO Q24]

PTRO Program Drop-Out Questions Intro:

According to our records, you are no longer interested in participating in the Smart Energy Solutions program. We're sorry that the Smart Energy Solutions program did not meet your needs and hope you can take a few minutes to tell us what about the program did not work for you.

18. Please let us know why you were no longer interested in participating in the Smart Energy Solutions program. (DO NOT READ LIST. RECORD ALL MENTIONS.)

1. Too time consuming
2. Savings didn't justify the effort
3. Too complicated
4. Couldn't get my questions answered
5. Uncertain about what the program's supposed to accomplish
6. Concerned about privacy of my information
7. Concerned my bills may increase
8. My bills increased
9. The thermostat didn't work right/couldn't set it/couldn't read it
10. The picture frame display was not helpful
11. My home became uncomfortable when National Grid controlled my air conditioning
12. I wasn't notified before one or more events
13. The equipment installed interfered with my Internet, TV, other electronics
14. Couldn't get service from National Grid when I needed it
15. The service I got from National Grid was unsatisfactory
16. Just not interested
17. Could not change my electric uses for electric equipment I needed to use
20. National Grid contacted me too much (Other Specify) (INTERVIEWER: Probe for the topics and the frequency that was too much.)
21. Didn't change or drop out/Still participate in Smart Energy Solutions program **[THANK AND TERMINATE]**
18. Other (Please Specify)
98. Don't Know
99. Prefer not to answer

[IF MORE THAN ONE RESPONSE IS GIVEN TO Q18, CONTINUE TO Q19, OTHERWISE SKIP TO Q20]



19. Which ONE of these reasons was the most important in your decision? (READ LIST. RECORD ONE ANSWER ONLY.)

[ONLY INCLUDE MENTIONS FROM Q18. ALWAYS DISPLAY CHOICES 19, 98, AND 99.]

1. Too time consuming
2. Savings didn't justify the effort
3. Too complicated
4. Couldn't get my questions answered
5. Uncertain about what the program's supposed to accomplish
6. Concerned about privacy of my information
7. Concerned my bills may increase
8. My bills increased
9. The thermostat didn't work right/couldn't set it/couldn't read it
10. The picture frame display was not helpful
11. My home became uncomfortable when National Grid controlled my air conditioning
12. I wasn't notified before one or more events
13. The equipment installed interfered with my Internet, TV, other electronics
14. Couldn't get service from National Grid when I needed it
15. The service I got from National Grid was unsatisfactory
16. Just not interested
17. Could not change my electric uses for electric equipment I needed to use
20. National Grid contacted me too much (Other Specify) (INTERVIEWER: Probe for the topics and the frequency that was too much.)
18. Other (Please Specify)
19. All reasons equally important **[SP]**
98. (DO NOT READ) Don't Know
99. (DO NOT READ) Prefer not to answer

[IF TECHNOLOGY_LEVEL > 1, ASK Q20, OTHERWISE SKIP TO Q23]

20. Please rate your experience with the in-home technology you received through the pilot, where 1 is "very negative" and 5 is "very positive" and 3 is "neutral".

Very negative		Neutral		Very positive	Don't know	Refused
1	2	3	4	5	98	99

[IF Q20 < 3, ASK Q21, OTHERWISE SKIP TO Q23]

21. Did your experience with the technology contribute to your decision to stop participating in the program?

1. Yes
2. No **[SKIP TO Q23]**
98. Don't Know **[SKIP TO Q23]**
99. Prefer not to answer **[SKIP TO Q23]**

22. How did your experience with the technology influence your decision to stop participating in the program? (RECORD VERBATIM. PROBE IF NECESSARY.)

[OPEN END]



23. What, if anything, could National Grid have done or explained that would make this program more appealing to you? (RECORD VERBATIM. PROBE IF NECESSARY.)

_____ [OPEN END]

[FOR ALL CUSTOMERS]

24. Is there anything else you would like to tell us about your experience with Smart Rewards Pricing or the Smart Energy Solutions program? (RECORD VERBATIM. PROBE IF NECESSARY.)

_____ [OPEN END]

25. We are almost done. Please provide us with your most current phone number, email address and mailing address so that we can mail the \$20 gratuity to you. The check will be sent by Bellomy Research and will arrive in approximately 4 weeks. I have your current phone number as...(INTERVIEWER: IF INFORMATION ALREADY PIPED IN, PLEASE READ CURRENT PHONE NUMBER AND EMAIL ADDRESS TO RESPONDENT AND ASK THEM TO CONFIRM. PLEASE CHANGE AS NECESSARY.)

1. Phone (Please specify) (RECORD/CONFIRM PHONE NUMBER)
2. Email (Please specify) (RECORD/CONFIRM EMAIL ADDRESS)
3. Mailing address (Please specify) (RECORD MAILING ADDRESS) **[DO NOT PRE-POPULATE]**
4. Contact Name (Please specify)

[PROGRAMMER: PLEASE PIPE IN PHONE, EMAIL ADDRESS, AND NAME FROM SAMPLE]

[DEMOGRAPHIC/FIRMOGRAPHIC QUESTIONS]

DEMOS TURNED OFF AS OF 8/13 FOR THE REMAINDER OF THIS PROJECT.

[CLOSE]

Those are all the questions I have. Thank you for your time and assistance to us today.

SMART ENERGY SOLUTIONS 2016 OPT-OUT DROP-OUT SURVEY

PREPARED FOR NATIONAL GRID

OCTOBER 31, 2016

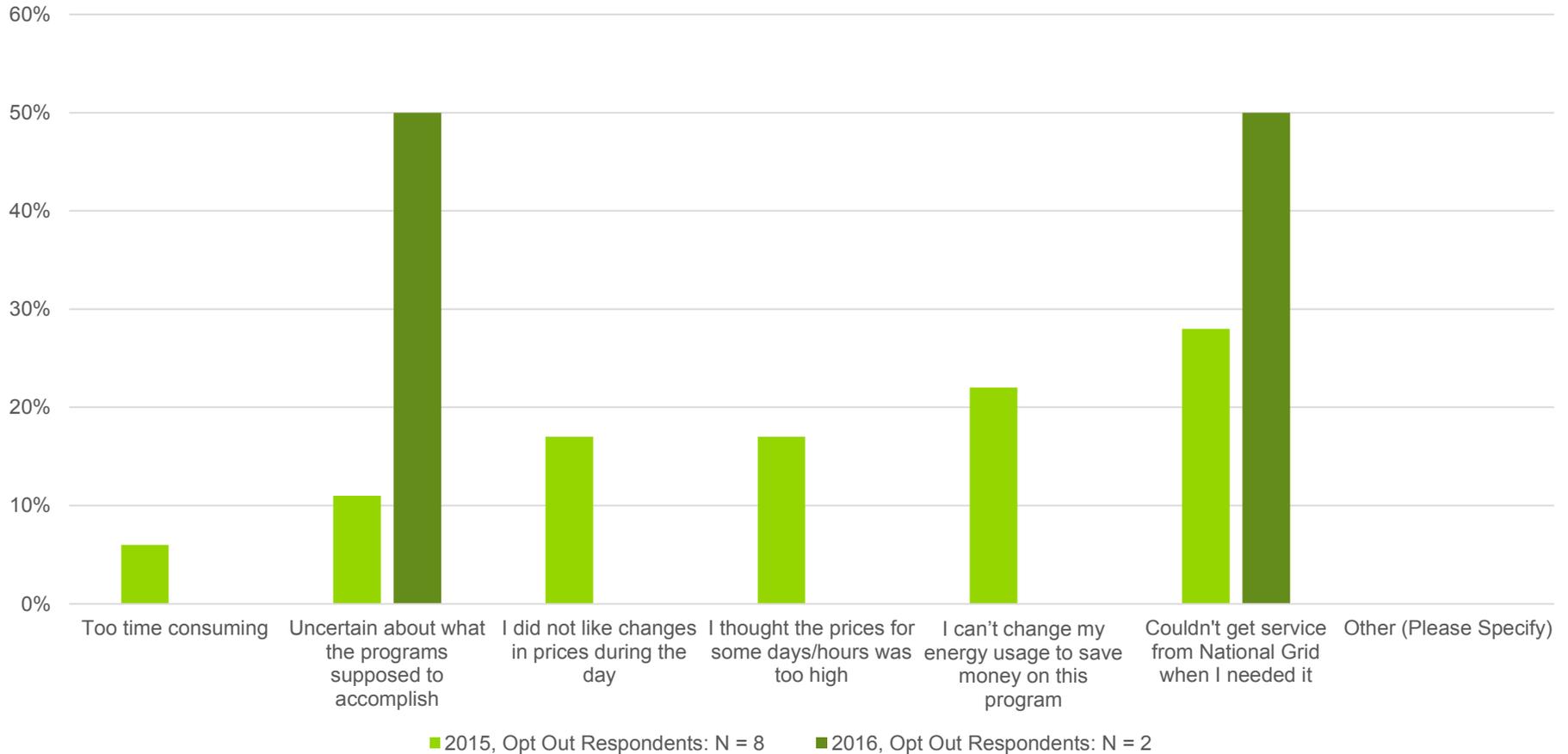
ODOO SURVEY

- **Opt Out:** Customer opted out of Smart Rewards Pricing & into the Conservation Day Rebate pricing plan
- **Drop Out:** Customer dropped out of the Smart Energy Solutions program entirely
- **Surveyed populations:**
 - 2015: 38 opt outs + 92 drop outs (130 total)
 - 2016: 12 opt outs + 38 drop outs (50 total)

Technology Type	2015		2016	
	Opt Out	Drop Out	Opt Out	Drop Out
Total	8	21	2	11
IHD	1	6	0	3
Thermostat	1	1	0	0
Smart Plug	1	0	0	2
No Technology	5	14	2	6

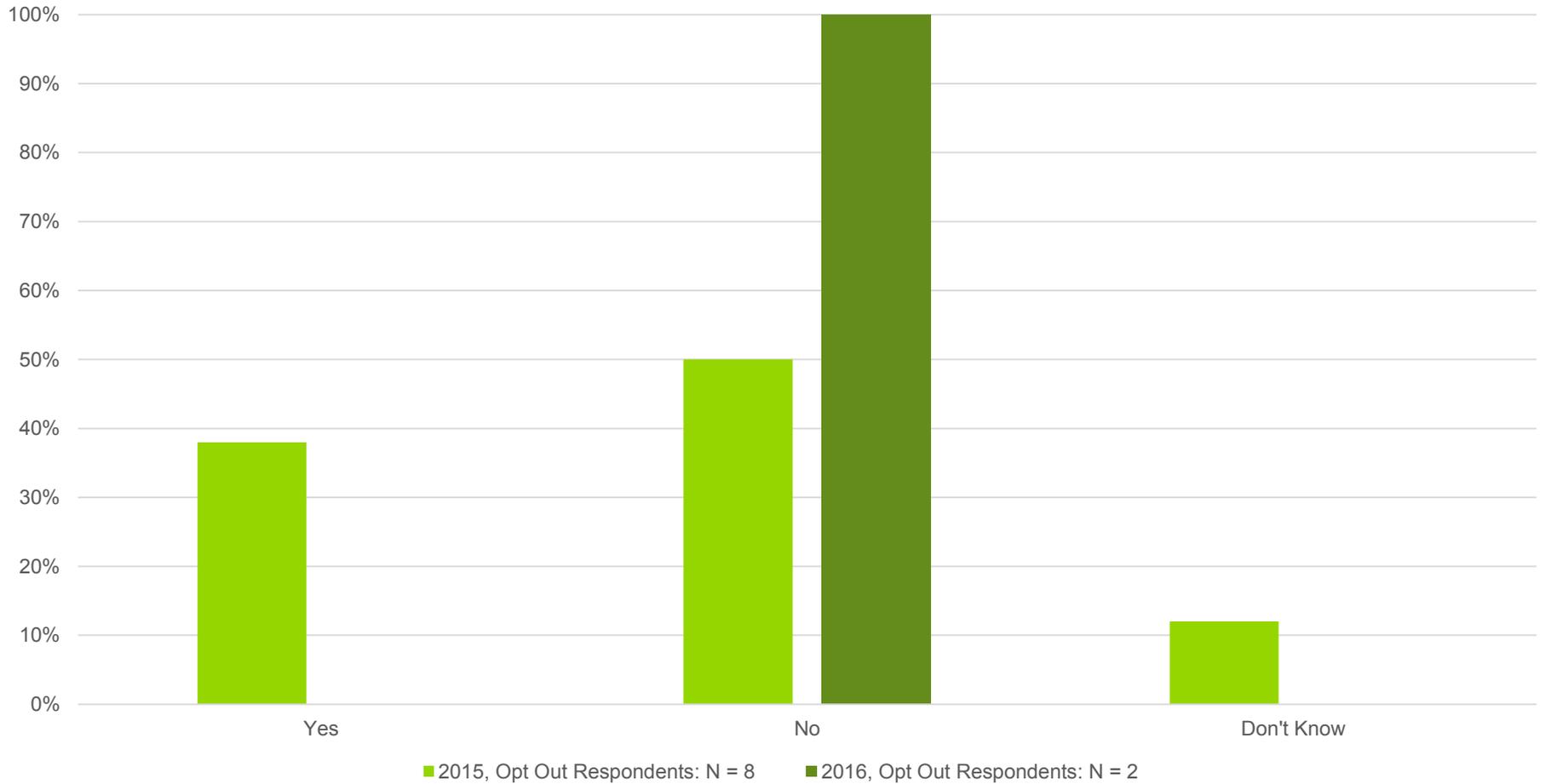
Over both summers, three out of the ten respondents couldn't get service from National Grid when they needed it

3. Please let us know why you are no longer interested in participating in Smart Rewards Pricing?



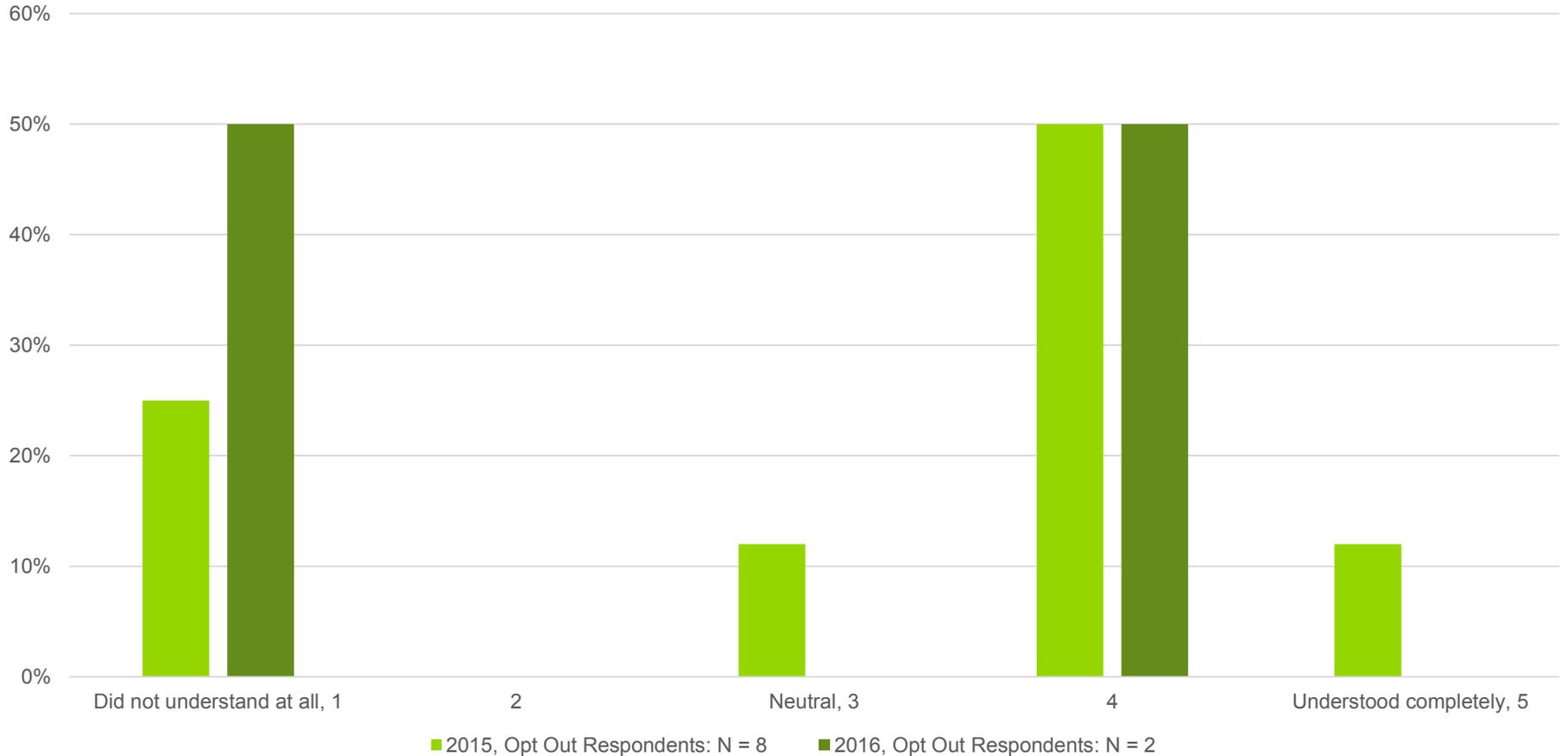
Over both summers, six out of the ten Opt Out customers were not aware of the Bill Protection feature

5. Were you aware of the Bill Protection feature of Smart Rewards Pricing?



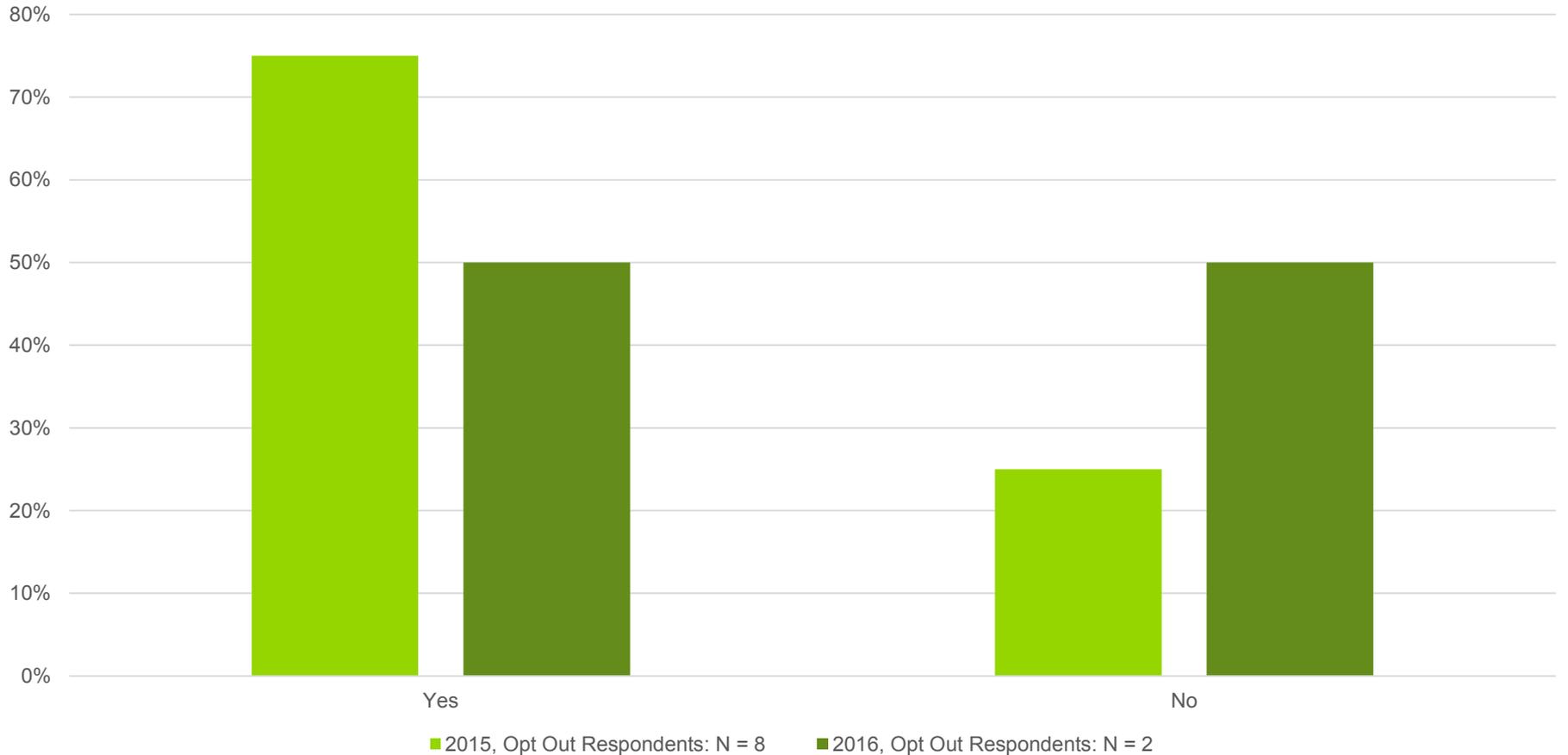
Over both summers, six out of the ten Opt Out customers rated their understanding of Smart Rewards Pricing with a '4'

6. How well do you feel that you understood National Grid's explanation of Smart Rewards Pricing?



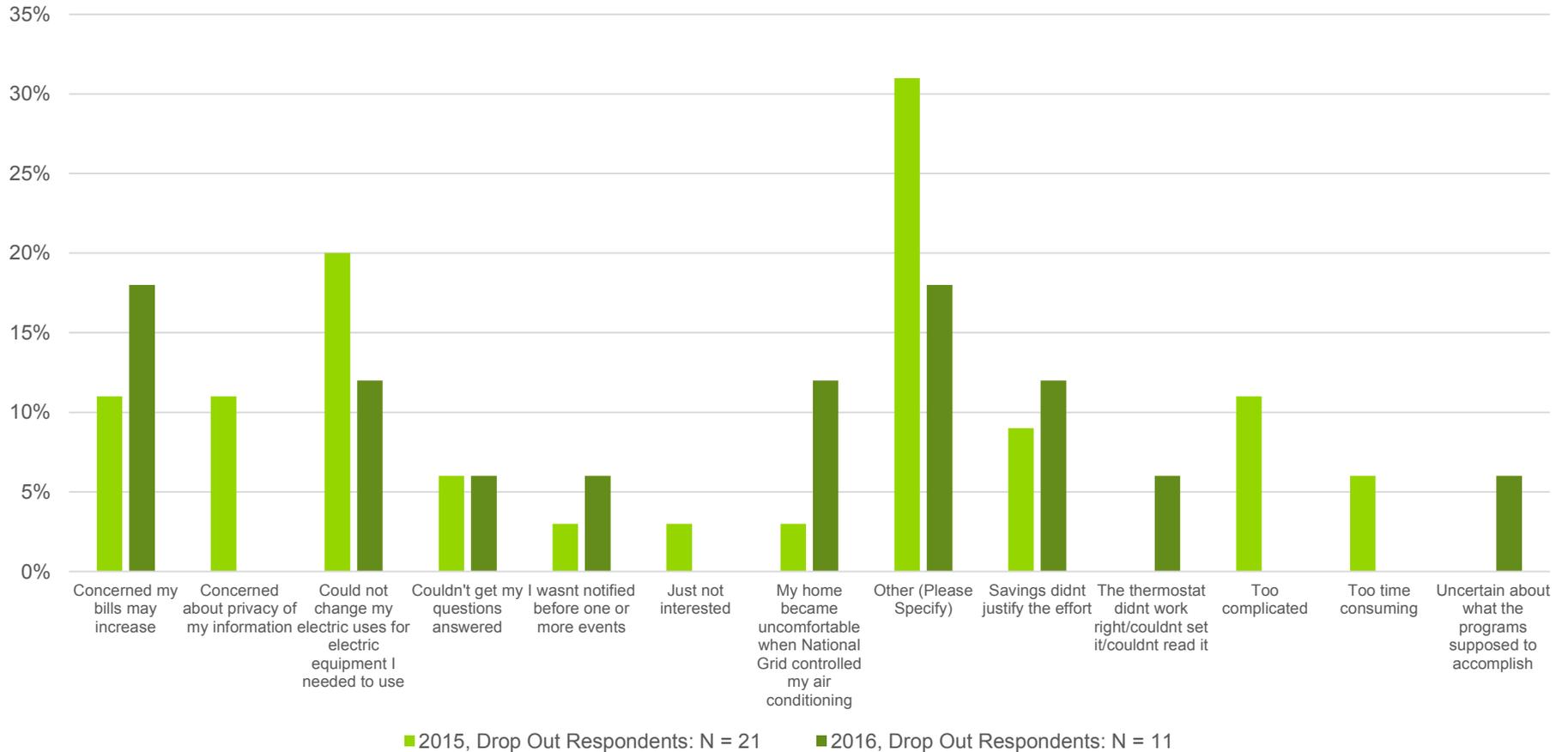
Over both summers, seven out of the ten Opt Out customers noticed a change in their monthly bills over the course of their participation in Smart Rewards Pricing

8. Did you notice any changes in your monthly bills over the course of your participation in Smart Rewards Pricing?



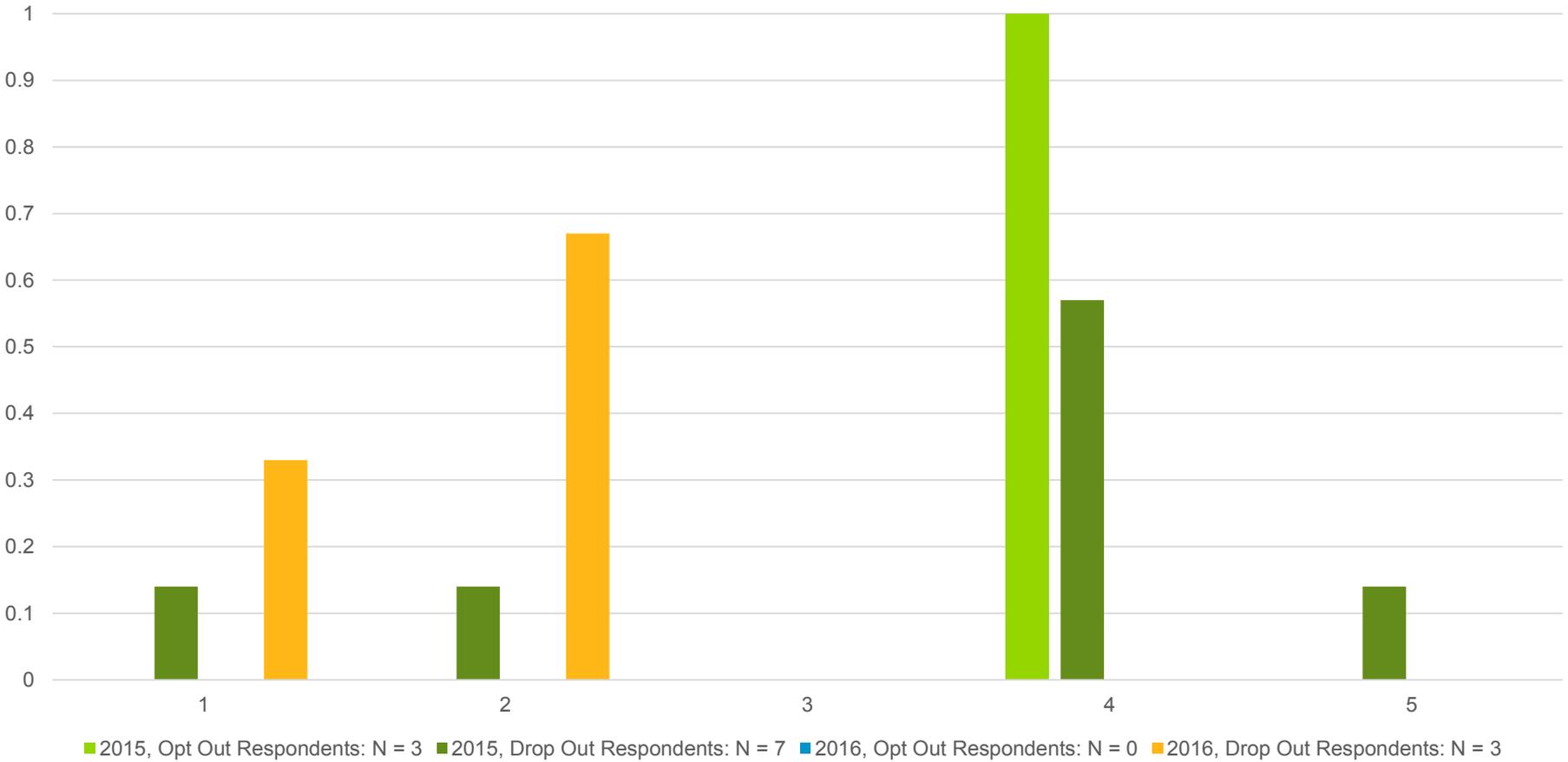
Reasons for losing interest in the Smart Energy Solutions program varied

18. Please let us know why you are no longer interested in participating in the Smart Energy Solutions program?



This year (2016), the three Drop Out respondents rated their experience with the in-home technology as a '1' or '2'

20. Please rate your experience with the in-home technology you received through the pilot, where 1 is "very negative" and 5 is "very positive" and 3 is "neutral".



VERBATIM RESPONSES

What, if anything, could National Grid have done or explained that would make this program more appealing to you?

“Make it easier to understand. I was only able to learn my savings by having to do the math myself. Too time consuming.”

“I needed better coordination between this program and the sourcing. It kept causing a conflict when I was trying to switch over to 100% wind power sourcing. It shouldn't be a problem, but the kinks haven't been ironed out.”

“Somehow make it cheaper for me and cost effective for me to live with a family of five.”

Is there anything else you would like to tell us about your experience with Smart Rewards Pricing or the Smart Energy Solutions program?

“Everything was fine, except they called everyday. Nobody seemed to know how to take me off the program. Not enough communication.”

“I don't know what the program was. All they did was give a picture frame hooked up to the meter. I called to fix it. They promised me this and that, but I just got a picture frame.”

“I didn't have much of an idea about it, so I don't have much to say about this.”

Division 5-46

Request:

Regarding the VVO Pilot Delivery incentive mechanism:

- a. Please provide the baseline reduction in energy consumption and peak demand that will be used in the VVO Pilot Delivery incentive mechanism.
- b. Please provide all supporting documents for the development of the baseline.

Response:

- a. The Company will establish a baseline reduction in energy and capacity benefits by using Measurement and Verification once the Pilot is installed. The Company described the process for establishing a baseline in its response to Division Data Request R-I-33, which was included within Attachment PUC 1-1-1 filed in Docket No. 4783. That request and the corresponding response is attached as Attachment DIV 5-46.

The Company expects to achieve an approximately one percent incremental reduction, over baseline VVO/CVR-only operation in energy consumption and peak demand by integrating interval voltage data from AMF meters into the optimization algorithms of the VVO/CVR expansion.

- b. Please see Attachment R-I-33 in Docket No. 4783, which is reproduced in Attachment DIV 5-46 for supporting documentation for baseline development. This documentation shows the Automated CVR Protocol No. 1 from Utilidata, the Company's VVO vendor.

(This response is identical to the Company's response to Division 1-46 in Docket No. 4780.)

The Narragansett Electric Company
d/b/a National Grid
In Re: Division's Review of FY 2019 Proposed Electric ISR Plan
Responses to Division's First Set of Data Requests
Issued October 19, 2017

R-I-33

Request:

How do you propose measuring the incremental benefit of AMI over the VVO benefit?

Response:

The measurement and verification (M&V) process would be accomplished by operating the pilot area in both AMI-Enhanced VVO and non-VVO modes on alternating days. A constant Conservation Voltage Reduction (CVR) factor is assumed over the service voltage range observed during the M&V evaluation period in both the AMI-enhanced VVO and non-VVO operating modes. The CVR factor will be estimated using M&V Protocol #1. See Attachment R-I-33.

When operating in AMI-enhanced VVO mode, voltage and demand data from each AMI meter is evaluated to determine whether the targeted voltage at the distribution primary level can be reduced from what it would have been if only primary voltage sensing and assumed secondary voltage drops were considered. The incremental benefit of incorporating AMI data will be computed by assessing the difference between what the primary voltage setting would have been when operating VVO without AMI and what the primary voltage setting actually was when operating AMI-enhanced VVO. A calculated demand reduction for operating VVO without AMI will be determined by applying the CVR factor to the difference in primary voltage settings with and without AMI data.

Automated CVR Protocol No. 1

Primary Sector and End-Use:

Electric utility distribution feeders and substations feeding residential, commercial and industrial customers; large industrial or commercial customers that have the ability to implement automated conservation voltage regulation (CVR) within their facility.

Application Specifications:

This method applies to automatic CVR systems. These automated systems can be turned on and off on a daily basis, have the voltage set-points changed on a daily basis, have the ability to measure and record period average bus and end-of-line voltages, period kWh, period kVARh on a per feeder basis and measure and record period average temperature. The method is applicable where no previous energy usage information is available

The ideal application would be where the automatic CVR control components could also monitor and store the period data.

Method Description:

Primary Method

The primary method of verifying energy savings is to operate the system in such a way as to operate at different voltage levels on alternating days. The initial verification period would last one year. The verification would begin with 90 days or three months of one day at full voltage reduction, one day with voltage set at the controlled nominal midpoint above full reduction and one day of open loop (automated CVR off). During the next 9 months the automated CVR would be on continuously. Three out of these nine months would be selected based on season and other factors such as geographic weather patterns etc., to operate the system so that on alternate days the system is at full voltage reduction, and the next day at the controlled nominal midpoint.

Time series analysis procedures, robust statistical methods, and temperature compensation methods are then used to evaluate the total energy conservation by comparing energy use on similar days at different voltage levels. For instance, winter weekdays would be compared against winter weekdays, summer weekdays against summer weekdays, etc. Conservation voltage regulation factors (CVRf) then computed for each feeder the different seasons for weekdays and for weekends.

CVRfs are used to estimate total ongoing energy conservation. CVRfs are verified during similar periods in following periods by running alternating days with full end of line voltage reduction and 2 volts above full end of line voltage reduction for two to four week periods.

Program Savings

The program savings are estimated by using the following definition:

$$E_{\text{saved}} = E_{\text{used}} [(CVRf * Vr\% / (1 - CVRf * Vr\%)]$$

In which:

E_{saved} = Energy Conserved for period in kWh, MWh or GWh

E_{used} = Measured Energy used for period in kWh, MWh or GWh

CVRf = Period conservation voltage reduction factor as computed using time series analysis and robust statistical methods with temperature compensation for specific seasons. CVRf will be different for weekday and weekend. (See estimation method below.)

Vr = Average period end of line voltage reduction

Vr% = Average period end of line voltage reduction in percent

Voc = measured average end of line voltage with automated CVR non operational

Vcvr = measured average end of line voltage with automated CVR operational

$V_r = V_{oc} - V_{cvr}$

$V_r\% = V_r/V_{oc} * 100$

CVRf Estimation (applies to the performance evaluation period)

Integrated demand profiles, one each for the automated CVR system active and inactive, are estimated on a common ambient temperature basis using the UtiliData CVR Estimation Method ("Estimation of Automated CVR System Performance Using Observed Energy Demand Load Profiles"); the 24-hour sum of the difference between these profiles is the estimated conserved energy for the evaluation. The mean difference of the end of circuit voltages for the automated CVR system active and inactive is estimated. The CVRf is then determined from the ratio of these two quantities, and can be expressed on an absolute or per unit basis (the per unit basis is recommended).

Recognizing (1) the stochastic nature of the energy observations as discussed in the UtiliData CVR Estimation Method, (2) the requirement to evaluate the performance of candidate automated CVR systems using the smallest (least duration) set of energy observations, and (3) that the probability densities of the relevant observations clearly exhibit non-homogeneous variance and are also clearly not Gaussian processes, the required estimations should be carried out using robust statistical procedures. Specifically, the Minimum Covariance Determinant estimators should be applied, because (1) their breakdown point is high and (2) they do not require that the observations exhibit a symmetrical probability density.

Automated CVR Performance Forecasting

The UtiliData CVR Estimation Method referenced above, estimates CVR using the observations of the automated CVR system inactive state as a reference. In principle, forecasting for a given circuit then simply requires a base demand profile, a projected end of circuit voltage reduction, and the estimation results from the evaluation period.

Special Considerations:

Temperature

Correct temperature data is essential to the accurate use of this verification method. It is recommended that the automated CVR system records period temperatures at the substation. Because the substation is usually at the geographic center of the area served this temperature will usually suffice. However, if significant microclimates are known to exist, temperature monitoring and recording may also be required at the feeder end-of-line location, so that an average temperature for the feeder may be obtained.

Metering and Data

Data recording periods should be no greater than one hour, and can be as short as the system allows. Weather data should be collected on the same time period as the load data. Data collected is subject to audit.

Instrumentation

Voltage monitors should have linearity of better than ½% within the expected ranges of voltage and temperature drift should be less than ½% from -40 degrees C to 65 degrees C. Power monitors should be revenue grade accuracy but need not be revenue class.

Shop Calibration and Field Verification

Instruments and meters should be shop calibrated. Field verification and inspections are required to verify correct installation and correct readings.

Baseline

The baseline voltage levels are established by the historical regulator or LTC control settings. One or more years of historical regulator or LTC setting information should be made part of the verification data records.

Re-verification Triggers

Re-verification will be required when there is a +/- 10% shift in temperature adjusted total annual load, a +/-10% shift in temperature adjusted total load during heating regime hours, a +/-10% shift in temperature adjusted total load during cooling regime hours, or a permanent reconfiguring of the distribution system (not including re-conductoring, transformer replacement, capacitor banks, or other distribution system efficiency project).

If re-verification is triggered by a shift in the loads during heating or cooling regimes, the re-verification protocol will consist of one sixty day period during either the heating or cooling period. If re-verification is triggered by a shift in total annual load or a permanent re-configuration the re-verification protocol will consist of two sixty day periods, one in the heating period and one in the cooling period. During the re-verification periods the system will alternate daily, operating one day at full voltage reduction and the next day at the controlled nominal midpoint.

The new CVRfs determined by these re-verifications will be used in lieu of the original CVRfs.

Model

The current model used for the time series analysis includes compensation for temperature. There are a number of additional factors that affect energy use and could be added to the model. Addition of these factors will tend to improve the predictive accuracy and reduce "outlier" data points. Factors that may be considered for inclusion in the model in the future will include daylight and dark hours, solar intensity, day of week, humidity, etc.

Adding any or all of these to the model should not change the basic measurement and verification protocol.

Control Group:

No control group required because with on-off and variable voltage set point capability, the application group can act as its own control group during testing periods.

Recommended Models and Tools:

UtiliData Automated CVR Estimation Method Tools

MatLab® (©1994-2003 by the MathWorks, Inc.) tools are available from PCS UtiliData to use with this protocol.

References:

1. Rousseeuw, P J, Leroy AM, 'Robust Regression and Outlier Detection', Wiley 1987.
2. Rousseeuw, P J, 'Introduction to Positive Breakdown Methods', in Handbook of Statistics, Volume 15: Robust Inference, editors G S Maddala and C R Rao, Elsevier 1997.
3. "Estimation of Automated CVR System Performance using Observed Energy Demand Profiles", David Bell, March 15, 2004. (available at www.pcsutilidata.com)

Division 5-47

Request:

Regarding the Time to Interconnection Service Agreement (ISA) metric:

- a. Please provide the average time measured in business days necessary for the Company to provide a customer with an executable ISA (commencing from the date a completed application is received) over all processes for the last five years.
- b. Please provide the annual number of ISAs completed for the last five years.
- c. Please provide the annual number of ISAs completed within the number of business days allowed by the Interconnection Tariff.
- d. Please provide the annual number of ISAs not completed within the number of business days allowed by the Interconnection Tariff.

Response:

- a. The average number of business days to issue an executable Interconnection Service Agreement (ISA) to a customer was calculated by finding the average number of business days from all applications received to ISAs issued. The reported time excludes force majeure (required storm duty work), customer hold time (throughout the entire process), and State and Federal holidays, the data reported is based on the date the ISA was issued.

	Average Business Days from Application Received to ISA Issued
2013	43
2014	69
2015	69
2016	34
2017	44

- b. Please see the table below. The Company used the same assumptions as in the response to Division 5-47, part a.

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	Number of ISAs Issued
2013	89
2014	156
2015	643
2016	1,792
2017	2,165

- c. Please see the table below. The Company used the same assumptions as in its response to Division 5-47, part a.

	Total Number of ISAs Issued on Time	Percentage on Time
2013	87	98%
2014	153	98%
2015	632	98%
2016	1,788	99.8%
2017	2,125	98%

- d. Please see the table below. The Company used the same assumptions as in its response to Division 5-47, part a.

	Total Number of ISAs Not Issued on Time	Percentage Not on Time
2013	2	2%
2014	3	2%
2015	11	2%
2016	4	0.2%
2017	40	2%

(This response is identical to the Company's response to Division 1-47 in Docket No. 4780.)

Division 5-48

Request:

Regarding the Average Days to System Modification metric:

- a. Please provide the average time measured in business days necessary for the Company to complete system modifications (commencing from the date of execution of the ISA) over all processes for the last five years.
- b. Please provide the annual number of system modifications completed for the last five years.
- c. Please provide the annual number of system modifications completed within the number of business days allowed by the Interconnection Tariff.
- d. Please provide the annual number of system modifications not completed within the number of business days allowed by the Interconnection Tariff.

Response:

- a. The average business days to system modifications metric is the average number of business days between the date any system modification payments were received and the date system modifications were completed by the Company. The working days exclude force majeure days and State and Federal holidays. All Standard projects (as defined by the Interconnection Tariff) require a witness test, and this must be scheduled a minimum of 10 days before the witness test and/or authority to interconnect is granted. Given that the Company was not tracking the system modification completion date for Standard applications in its tracking system (it was tracking the date when the authority to interconnect was granted), the Company has assumed the date of system modification completion is 10 business days before the date of authority to interconnect. For Expedited applications, the system modification completion date is assumed to be the date authority to interconnect is granted.

Year SM Completed	Average Number of Business Days to Complete System Modifications
2013	95
2014	113
2015	205
2016	230
2017	310

- b. Please see the table below. The Company used the same assumptions as in its response to Division 5-48, part a.

Year SM Completed	Total Number of System Modifications Completed Per Year
2013	13
2014	10
2015	6
2016	15
2017	17

- c. Prior to July 1, 2017, there was no timeframe in the Rhode Island Interconnection Tariff to which the system modification completion date can be compared.
- d. Prior to July 1, 2017, there was no timeframe in the Rhode Island Interconnection Tariff to which the system modification completion date can be compared.

(This response is identical to the Company's response to Division 1-48 in Docket No. 4780.)

Division 5-49

Request:

Regarding the Interconnection Support Estimate versus Actual Cost incentive:

- a. Please discuss whether the employees developing the actual costs will have access to the cost estimates.
- b. If the answer to (a) is yes, please discuss how the Company will mitigate the incentive for an employee to modify the actual cost so that it better matches the estimated cost.
- c. Please discuss whether any independent review of the data is contemplated.

Response:

- a. The employees who compile the actual costs will have access to the original cost estimate to determine variances. The original cost estimate is documented within the Impact Study provided to the Interconnecting Customer and also within the Interconnection Service Agreement.
- b. Actual costs (i.e. costs spent on the project) are reconciled against cost estimates only after upgrades have been built. The reconciliation exercise is undertaken by the final accounting group – this group would have no ability to modify actual costs.
- c. An independent review of the data is not being contemplated as the Company continues to provide more accurate estimates based on the reconciliations performed.

(This response is identical to the Company's response to Division 1-49 in Docket No. 4780.)

Division 5-50

Request:

Please provide the calculations used to arrive at the Company WACC that is used in Workpaper 9.4 – Incentive Benefits in a machine-readable Excel document.

Response:

Attachment DIV 5-50 provides the calculations used to arrive at the Company WACC in Workpaper 9.4 – Incentive Benefits. The Company used the after-tax WACC calculated in Attachment DIV 5-50.

Note that the Company used a value of 0.075 in Workpaper 9.4 – Incentive Benefits, rather than the 0.0751 shown in Attachment DIV 5-50. In both this analysis and the individual Power Sector Transformation Plan program benefit cost analyses (with the exception of AMF), the value was rounded to three decimal places.

Because the performance incentive mechanisms included in Workpaper 9.4 apply only to Narragansett Electric, the Company may have more appropriately used the electric-only after-tax WACC of 0.0743. However, the Company opted to use the combined gas and electric WACC to provide for consistent assumptions across the various benefit cost analyses included in the Power Sector Transformation Plan.

(This response is identical to the Company's response to Division 1-50 in Docket No. 4780.)

THE NARRAGANSETT ELECTRIC COMPANY
COST OF CAPITAL FOR RATE YEAR

Electric & Gas Distribution Cost of Capital

	<u>Capitalization</u>		<u>Weighted Average</u>	<u>Weighted Average</u>
	<u>Ratio</u>	<u>Cost Rate</u>	<u>Cost (After-Tax)</u>	<u>Cost (Pre-Tax)</u>
Long-Term Debt	48.5%	4.84%	2.34%	2.34%
Short-Term Debt ¹	0.4%	1.76%	0.01%	0.01%
Preferred Stock	0.1%	4.50%	0.00%	0.00%
Common Equity	51.0%	10.10%	<u>5.15%</u>	<u>7.92%</u>
Total ²	100.0%		7.51%	10.28%

¹ Cost rate is the average short-term debt interest rate projected for the Rate Year.

² Capitalization ratios include impact of refinancing and exclude goodwill and accumulated other comprehensive income.

Division 5-51

Request:

Please provide estimates of savings from reduced capacity share that will benefit customers in the years 2020 and 2021 from the Forward Capacity Market Peak Demand Reduction targets.

Response:

Estimates of the potential savings to customers in 2020 and 2021 due to capacity share reductions that result from the Company's achievement of the minimum, target, and maximum Forward Capacity Market Peak Demand Reduction targets in 2019 and 2020 are provided in the table below. Detailed calculations are provided in Attachment DIV 5-51.

	2020	2021
Min	\$ 370,660	\$ 707,130
Target	\$ 722,456	\$ 1,493,560
Max	\$ 1,206,880	\$ 2,283,953

(This response is identical to the Company's response to Division 1-51 in Docket No. 4780.)

Estimate of potential savings from capacity share reductions in 2020 and 2021 due to Forward Capacity Market peak reduction target

1. Approximation of projected capacity share of total ISO-NE peak based on peak forecast

a. Peak Forecast

	2019	2020
Company	1,691	1,679
ISO-NE	26,409	26,298
b. Capacity share	0.0640	0.0638

Note: assumes 100% peak coincidence in both years; ISO-NE forecast from 2017 ISO-NE CELT Report, reference case accounting for BTM PV and passive DR; Company forecast adjusted for PV and energy efficiency

2. Estimate of change in capacity share calculated in CY 2019 and 2020 due to achievement of peak reduction targets

a. Peak Reduction Targets for 2019 and 2020 Expressed as Incremental Reduction to Company Forecast

	2019	2020
Min	7	13
Target	13	27
Max	22	42

b. Company Peak Adjusted for Targets (1.a-2.a)

	2019	2020
Min	1,684	1,666
Target	1,677	1,651
Max	1,668	1,637

c. ISO-NE Peak Adjusted for Company Targets (1.a-2.a)

	2019	2020
Min	26,403	26,285
Target	26,396	26,271
Max	26,387	26,256

d. Capacity Share after Target Achievement (2.b/2.c)

	2019	2020
Min	0.0638	0.0634
Target	0.0635	0.0629
Max	0.0632	0.0623

e. Change in Capacity Share after Target Achievement (1.b-2.d)

	2019	2020
Min	0.0002	0.0005
Target	0.0005	0.0010
Max	0.0008	0.0015

3. Calculation of CY 2020 and 2021 Savings

Relevant CY 2021 Capacity Load Obligation and NRCP by Month

	CCP 2019-2020					CCP 2020-2021						
	2020-01	2020-02	2020-03	2020-04	2020-05	2020-06	2020-07	2020-08	2020-09	2020-10	2020-11	2020-12
a. Capacity Load Obligation (MW)	N/A	N/A	N/A	N/A	N/A	34,284	34,284	34,284	34,284	34,544	34,544	34,544
b. NRCP (\$/kW-month)	N/A	N/A	N/A	N/A	N/A	6.341	6.341	6.341	6.341	6.325	6.325	6.324

Source: ISO-NE Forward Capacity Market Net Regional Clearing Price and Effective Charge-Rate Forecast

c. 2020 Avoided MW of CLO due to reduced 2019 capacity share (3.a*2.e)

	2020-01	2020-02	2020-03	2020-04	2020-05	2020-06	2020-07	2020-08	2020-09	2020-10	2020-11	2020-12
Min						8.33	8.33	8.33	8.33	8.40	8.40	8.40
Target						16.24	16.24	16.24	16.24	16.36	16.36	16.36
Max						27.13	27.13	27.13	27.13	27.34	27.34	27.34

d. 2020 Savings (3.c*3.b*1000)

	2020-06	2020-07	2020-08	2020-09	2020-10	2020-11	2020-12	Total
Min	\$ 52,838	\$ 52,838	\$ 52,838	\$ 52,838	\$ 53,105	\$ 53,105	\$ 53,096	\$ 370,660
Target	\$ 102,988	\$ 102,988	\$ 102,988	\$ 102,988	\$ 103,507	\$ 103,507	\$ 103,491	\$ 722,456
Max	\$ 172,044	\$ 172,044	\$ 172,044	\$ 172,044	\$ 172,911	\$ 172,911	\$ 172,884	\$ 1,206,880

Relevant CY 2021 Capacity Load Obligation and NRCP by Month

	CCP 2020-2021					CCP 2021-2022						
	2021-01	2021-02	2021-03	2021-04	2021-05	2021-06	2021-07	2021-08	2021-09	2021-10	2021-11	2021-12
e. Capacity Load Obligation (MW)	34,544	34,544	34,544	34,544	34,544	34,544	34,544	34,544	34,544	34,544	34,544	34,544
f. NRCP (\$/kW-month)	6.324	6.324	6.324	6.324	6.325	6.325	6.325	6.325	6.325	6.325	6.325	6.325

Source: ISO-NE Forward Capacity Market Net Regional Clearing Price and Effective Charge-Rate Forecast (forecast for CCP 2021-2022 not available, so values assumed to remain at 5/2021 levels)

g. 2021 Avoided MW of CLO due to reduced 2020 capacity share (3.e*2.e)

	2021-01	2021-02	2021-03	2021-04	2021-05	2021-06	2021-07	2021-08	2021-09	2021-10	2021-11	2021-12
Min	15.97	15.97	15.97	15.97	15.97	15.97	15.97	15.97	15.97	15.97	15.97	15.97
Target	33.73	33.73	33.73	33.73	33.73	33.73	33.73	33.73	33.73	33.73	33.73	33.73
Max	51.59	51.59	51.59	51.59	51.59	51.59	51.59	51.59	51.59	51.59	51.59	51.59

f. 2021 Savings (3.g*3.f*1000)

													Total	
Min	\$ 101,003	\$ 101,003	\$ 101,003	\$ 101,019	\$ 101,019	\$ 101,019	\$ 101,019	\$ 101,019	\$ 101,019	\$ 101,019	\$ 101,019	\$ 101,019	\$ 101,019	\$ 707,130
Target	\$ 213,332	\$ 213,332	\$ 213,332	\$ 213,366	\$ 213,366	\$ 213,366	\$ 213,366	\$ 213,366	\$ 213,366	\$ 213,366	\$ 213,366	\$ 213,366	\$ 213,366	\$ 1,493,560
Max	\$ 326,227	\$ 326,227	\$ 326,227	\$ 326,279	\$ 326,279	\$ 326,279	\$ 326,279	\$ 326,279	\$ 326,279	\$ 326,279	\$ 326,279	\$ 326,279	\$ 326,279	\$ 2,283,953

Division 5-52

Request:

Please describe the value the EV Off-Peak Charging Rebate is expected to provide in understanding customer response to time-differentiated price signals. Please provide examples of how this understanding will assist the development of time-differentiated price signals via AMF deployment.

Response:

Narragansett Electric's proposed EV Off-Peak Charging Rebate will inform the design of potential time-differentiated Standard Offer Service pricing under AMF deployment, as well as the design of relevant customer outreach and education.

The Off-Peak Charging Rebate Pilot's simple pricing structure (rebate of 6 cents per kWh in summer months and 4 cents per kWh in all other months) will seek to demonstrate the effectiveness of easily-understandable, energy price differentials that apply to discrete time periods. The Pilot will test the response rate to an opt-in program that is tailored and targeted to a specific type of energy user (*i.e.*, EV drivers) and evaluate the system impacts from this response. An understanding of how these self-selected (and, therefore, prone to be responsive) customers behave under this pricing structure can help Narragansett Electric understand customer expectations for, and potentially identify improvements in the design of, future electric supply rates that may broadly apply to all customers. Although the Pilot will test a rebate mechanism as a means of encouraging off-peak charging, rather than imposing a higher price for charging at peak times, the lessons learned from participating customer behavior and customer satisfaction will be valuable as it defines the considerations and approach to progressing towards design time-varying electric supply rates that are understandable and provide opportunities for customers to save on their electricity bills.

Experience gained in designing and targeting a program to a specific type of energy user will help Narragansett Electric develop outreach strategies for future time-varying electric supply rates. Surveys of participating customers will help the Company identify any potential improvements in customer outreach and education that can be improved upon when AMF enables new rate options.

(This response is identical to the Company's response to Division 1-52 in Docket No. 4780.)

Division 5-53

Request:

Refer to Schedule PST-1, Chapter 9, page 21. Please list the system efficiencies that are expected to occur through the combination of AMF and VVO/CVR.

Response:

The integration of interval voltage data from AMF meters into the optimization algorithms of the VVO/CVR expansion has the potential to deliver a 1 percent incremental reduction in energy consumption and peak demand, over and above the 3 percent reduction that is expected through VVO/CVR on a standalone basis.

(This response is identical to the Company's response to Division 1-53 in Docket No. 4780.)