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# Process Evaluation of The Residential Home Energy Monitoring System Pilot

DNV·GL

National Grid Rhode Island

**Date:** February 18, 2021



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# 1 EXECUTIVE SUMMARY



## 1.1 Background and Objectives

This is a process evaluation of National Grid’s Rhode Island Residential Home Energy Monitoring System Pilot. This pilot program, which started in 2018, provided Sense Monitors at no cost to a sample of National Grid residential customers.<sup>1</sup> The Sense Monitor, which connects to the customer’s circuit box, is designed to help residential customers better control their energy consumption through knowledge of where their energy is being used on a real-time basis. The Monitor can identify over 20 different electricity-consuming devices in a home.

National Grid promoted the program to five customer groups: 1) Demand response participants, 2) Home Energy Assessment participants, 3) High bill complaint customers, 4) Low to moderate income customers, and 5) A randomly selected group of customers who did not belong to the other four customer groups. Of the 801 customers who expressed interest in the program, National Grid selected 337 to receive the free Sense Monitor.

In 2019, National Grid engaged DNV GL to conduct a process evaluation of this pilot program. National Grid temporarily paused the study in Q1 2020 due to the onset of the COVID-19 pandemic. Project activity resumed in fall of 2020 and DNV GL successfully launched both a participant and a nonparticipant web survey. Ninety-nine participants and 344 nonparticipants completed the web surveys.

The primary research objectives of this process evaluation, as described in DNV GL’s detailed work plan, include:

1. *Drivers of participation and participant expectations:* Learning what motivated customers to join the program and how they expected to use the Sense Monitor.
2. *Device interaction:* Understanding the nature and frequency of participant interaction with the Sense Monitor as well as the interaction between the Monitor and other devices in the home.
3. *Changes in energy consumption behavior:* Determining whether and how participants changed their energy consumption behavior in response to the Sense Monitor and if those behaviors translated into energy savings that met their expectations.
4. *Program satisfaction:* Measuring participant satisfaction with the Sense Monitor as well as all the other aspects of the pilot program (outreach, enrolment, scheduling, onboarding, etc.)

<sup>1</sup> National Grid Partners is a founding member of Energy Impact Partners (EIP), a venture fund focused on shaping the energy landscape of the future. One of EIP’s investments is in the company, Sense. National Grid Partners is the venture capital and innovation arm of National Grid Ventures. National Grid Ventures is separate from National Grid’s core regulated businesses and offers a diverse portfolio of energy businesses that deliver competitive products and services for a broad range of customers. National Grid Ventures develop, operate and invest in energy projects, technologies, and partnerships to help accelerate the development of a clean energy future for consumers across the UK, Europe and the United States. <https://www.nationalgrid.com/our-businesses>

5. *Barriers to participation*: Understanding why customers who were invited to participate in the program chose not to.
6. *Nonparticipant energy consumption behavior*: Determining energy consumption behaviors for nonparticipants so they can be compared to those of the program participants.

## 1.2 The Approach

The primary sources for the information in this report are the participant and nonparticipant web surveys.

Table 1 shows the original populations of the five customer groups, the sample frames after some culling of these populations for eligibility and other reasons, the number of completed surveys, and the survey response rates. The survey completion rates were 32% for both the participants and “interested nonparticipants” (customers who had expressed interest in the Sense Monitor in 2018 but who were not selected for the program) and 2% for the uninterested nonparticipants. The overall response rate for nonparticipants, including both the interested and uninterested groups, was 3%.

The evaluation team also conducted an in-depth interview with multiple members of Sense to inform the design of the survey instruments. Finally, the team reviewed many documents related to the history of the pilot program and its interaction with participating customers. These included Sense’s original proposal to National Grid, Sense’s quarterly reports on the National Grid pilot program, the results from various analyses of pilot participant data that National Grid had requested, and information about how the program recruited and engaged customers.

**Table 1: Sample Frame and Survey Disposition**

Use Case	Group	Population	Sample frame	Total completed	Response rates
Demand Response (DR)	Non-participant	502	241	41	17%
	Interested	37	34	13	38%
	Uninterested	465	207	28	14%
	Participant	46	44	23	52%
Home Energy Audits (HEA)	Non-participant	7666	3234	228	7%
	Interested	347	328	111	34%
	Uninterested	7319	2906	117	4%
	Participant	45	42	16	38%
Low-to-Moderate Income (LMI)	Non-participant	8472	5615	60	1%
	Interested	39	29	5	17%
	Uninterested	8433	5586	55	1%
	Participant	81	80	22	28%
High Bill Complaints (HBC)	Non-participant	1629	1074	13	1%
	Interested	23	13	2	15%
	Uninterested	1606	1061	11	1%
	Participant	81	64	14	22%
General Population (RND)	Non-participant	18	11	2	18%
	Interested	18	11	2	18%
	Uninterested	N/A	N/A	N/A	N/A
	Participant	84	83	24	29%
Total	Non-participant	18287	10175	344	3%
	Interested	464	415	133	32%
	Uninterested	17823	9760	211	2%
	Participant	337	313	99	32%

## 1.3 Summary of Key Findings

The following is a summary of the survey findings which the report describes in more detail in Section 3.

- *There was mixed evidence as to whether the Sense Monitor may be encouraging energy-saving behaviors in the use of non-lighting and non-HVAC energy-using equipment.* The evaluation team asked both participants and nonparticipants whether in the past two years they had made any changes in the frequency with which they used their non-lighting/non-HVAC appliances/devices.<sup>2</sup> It then asked those who had reported recent changes in the use of these equipment what changes they had made.

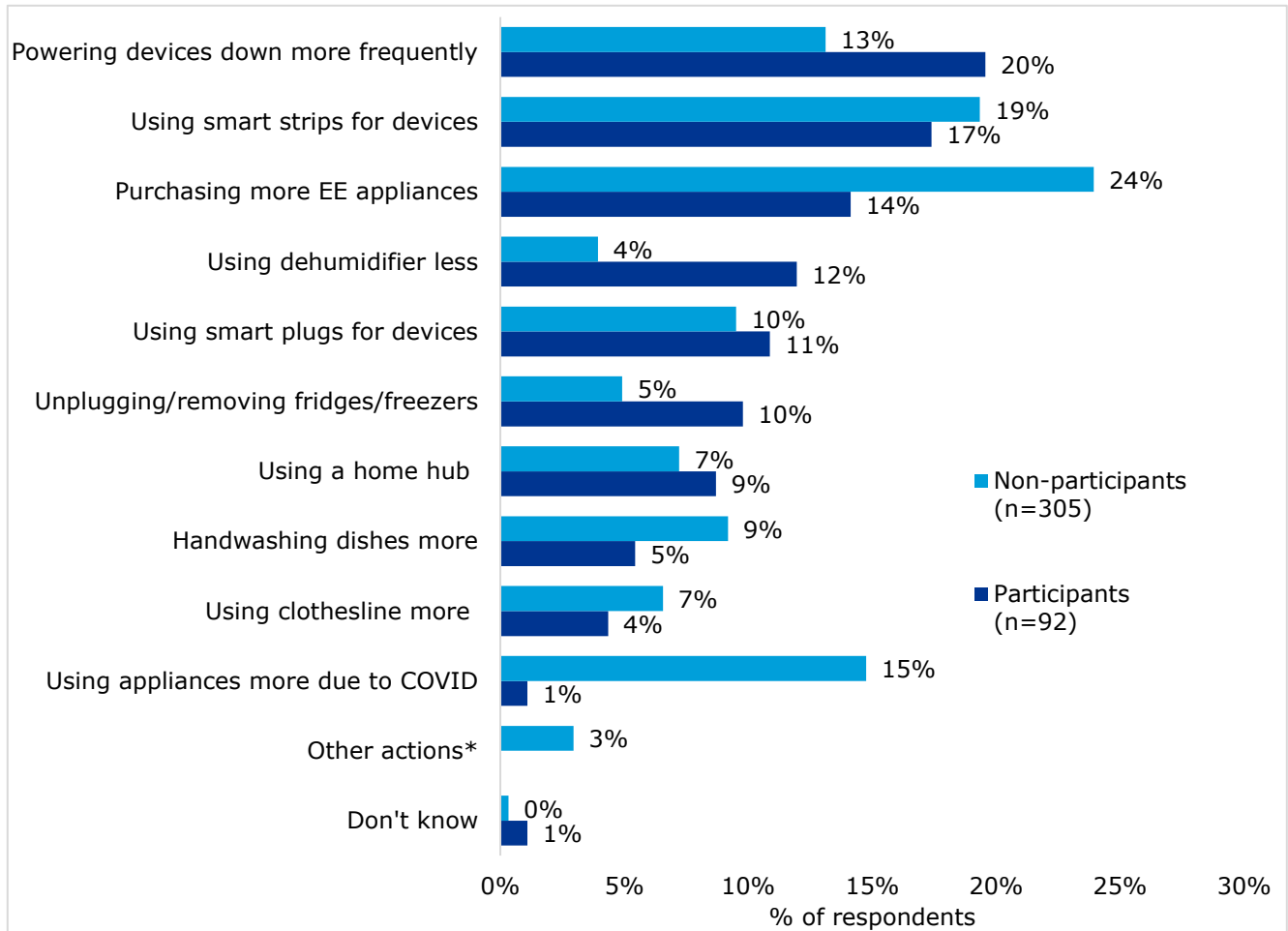
Figure 1 compares the responses of the participants and nonparticipants. At first glance, it appears to show that the Sense monitor may have encouraged energy-saving behaviors. Participants were more likely than the nonparticipants to say they were powering their devices down more frequently, using their dehumidifiers less, and unplugging or removing underused refrigerators and freezers. In addition, 83% of the participants said that the Sense Monitor was highly influential over these recent changes in their energy use.

However, a closer look at Figure 1 shows that the evidence for the influence of the Sense Monitor is not as strong as it first appears. Of the cases where the participants were more likely than nonparticipants to report an energy-saving action, only the difference in the reported reduced use of the dehumidifier was statistically significant. Furthermore, the nonparticipants were more likely than the participants, to a statistically significant degree, to report that they had recently purchased energy efficient appliances.

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<sup>2</sup> These were described in the question as including "refrigerators, washing machines, dryers, dishwashers, computers, televisions, chargers for electronic devices, cable boxes, gaming systems, or dehumidifiers." Throughout this report we will refer to the respondents of the participant survey as "participants" and respondents to the nonparticipant survey as "nonparticipants" with the understanding that these respondents are samples of larger participant and nonparticipant populations.

**Figure 1: How Participants and Nonparticipants Changed Other Energy Use in Past 2 Years**



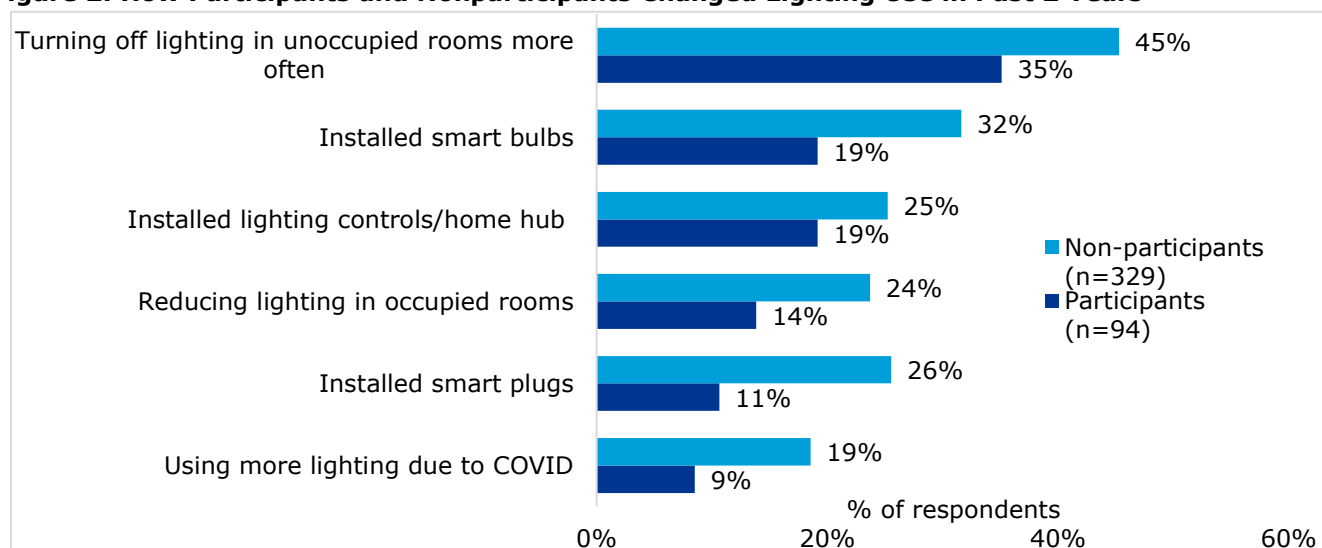
Note: Percentages exceed 100% because respondents could choose multiple options. \*Other actions included getting rid of a pool, running the clothes washer less frequently with larger loads, and using electricity for a plug-in electric vehicle.

- The nonparticipants reported energy-saving lighting behaviors more frequently than the participants:* The evaluation team asked both participants and nonparticipants whether they had made any changes in how often they used their lighting in the past two years. Figure 2 compares the responses of the participants and nonparticipants. It shows that the nonparticipants were more likely to report taking energy efficient lighting actions than the participants.

When asked if they had changed their lighting use in the past two years, 67% of the nonparticipants said they had compared to only 51% of the participants. In addition, when the team asked the participants and nonparticipants whether they had replaced any of their light bulbs or fixtures with new bulbs and fixtures that were more energy-efficient than their previous lighting technology, 93% of the nonparticipants said they had, compared to only 78% of the participants. However, as discussed in Section 3 of the report, some of these differences could be due to self-selection effects and baseline differences (e.g., the possibility that some participants had already converted most of their sockets to energy-efficient lighting and therefore their recent opportunities for “upgrading” the efficiency of their lighting were more limited).

Most participants did give the Sense Monitor credit for influencing their energy-saving lighting behaviors. The team asked the participants who had reported both using the Sense monitor to observe their lighting and recently replacing their lighting with more energy-efficient technology: “How influential was the information provided by the monitor in your decision to install this more energy-efficient lighting?” Two-thirds (67%) of the respondents said that the information from the Monitor was highly influential in their decision. When the team asked the participants who had reported recent lighting use changes: “How influential was the information provided by the Monitor in your decision to reduce your lighting use?” 64% said it was highly influential. In addition, when asked whether the Sense Monitor was able to show them the impacts of reducing their lighting use, 80% of them said that it had.

**Figure 2: How Participants and Nonparticipants Changed Lighting Use in Past 2 Years**



Note: Percentages exceed 100% because respondents could choose multiple options.

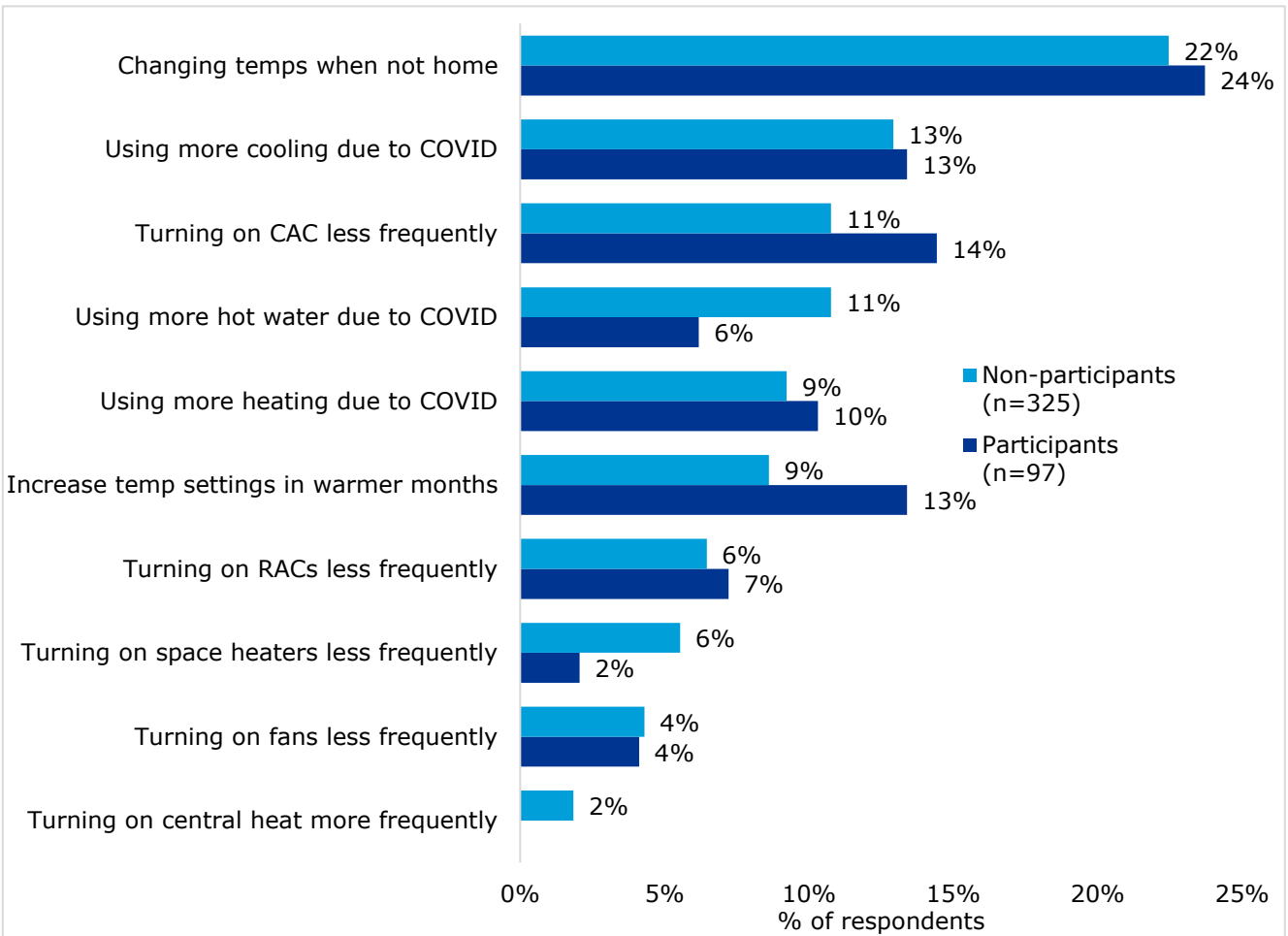
- *There was very limited evidence that the Sense Monitor is encouraging energy-saving behaviors in the use of HVAC equipment.* The evaluation team asked both participants and nonparticipants whether in the past two years they had: “made any changes in how you heat or cool your house such as temperature control or the frequency with which you turn on your heating or cooling equipment?” Figure 3 shows that the participants were more likely than the nonparticipants to have said that they had been turning on their central air conditioners less frequently and increasing home temperatures during warmer months.<sup>3</sup> In addition, 64% of the participants who reported changes in their heating/cooling practices said the Monitor was influential (either “somewhat influential” or “very influential”) in these changes with 33% saying the Monitor was very influential.

However, a closer look at Figure 3 shows that the evidence for the influence of the Sense Monitor is less strong than it first appears. None of the cases where the participants reported an energy-saving action more frequently than nonparticipants was the difference statistically significant. The nonparticipants were more likely than the participants, to a statistically significant degree, to say that they have been turning on their space heaters less frequently.

<sup>3</sup> Twenty-four percent of the participants also said that they reduce their home temperatures in the winter. However, since this response option was unintentionally left out of the nonparticipant survey, the evaluation team chose not to include it in the chart comparing participant and nonparticipant heating and cooling behaviors.



**Figure 3: How Participants and Nonparticipants Changed Heating/Cooling in Past 2 Years**

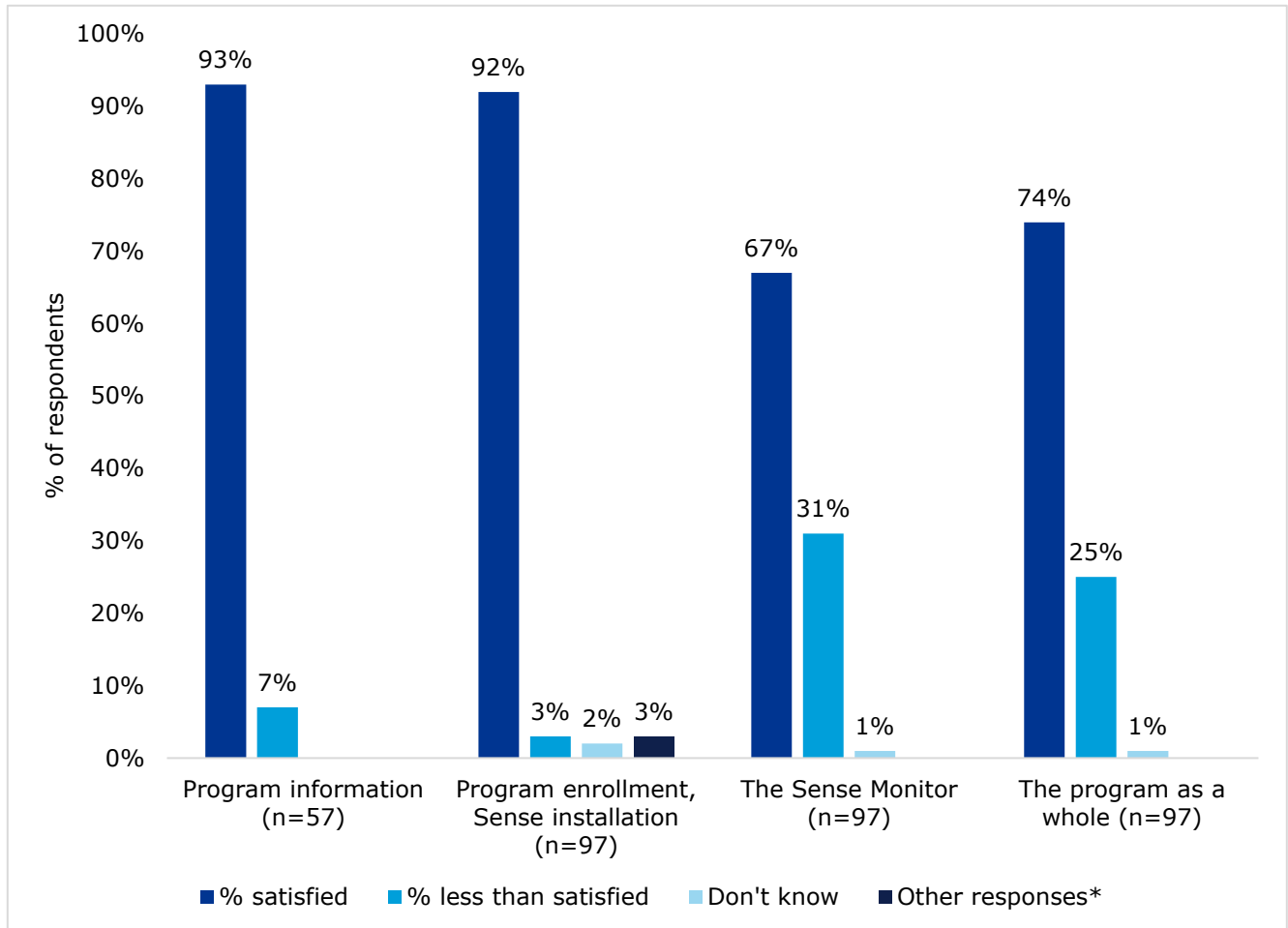


Note: Percentages exceed 100% because respondents could choose multiple options

The evaluation team also asked both participants and nonparticipants whether in the past two years they had replaced any of their heating or cooling equipment with new equipment that was more energy-efficient than their old equipment. Twenty-nine percent of the participants said they had upgraded the energy efficiency of their HVAC equipment compared to 36% of the nonparticipants.

- There was some dissatisfaction with the Sense Monitor:* Figure 4 shows that while the vast majority of participants were satisfied (either 4 or 5 satisfaction rating) with the program information and the program enrolment/Monitor installations processes, two thirds were satisfied with the Sense Monitor and about three quarters were satisfied with the program as a whole. When asked why they were less than satisfied with the Sense Monitor, the participants mentioned performance problems with the Monitor including taking too long to recognize their devices or simply not working. Some participants also questioned whether the Monitor was accurately measuring the energy consumption of their devices. Finally, some participants were unhappy that the Monitor only told them how they were using electricity and not how to reduce it.

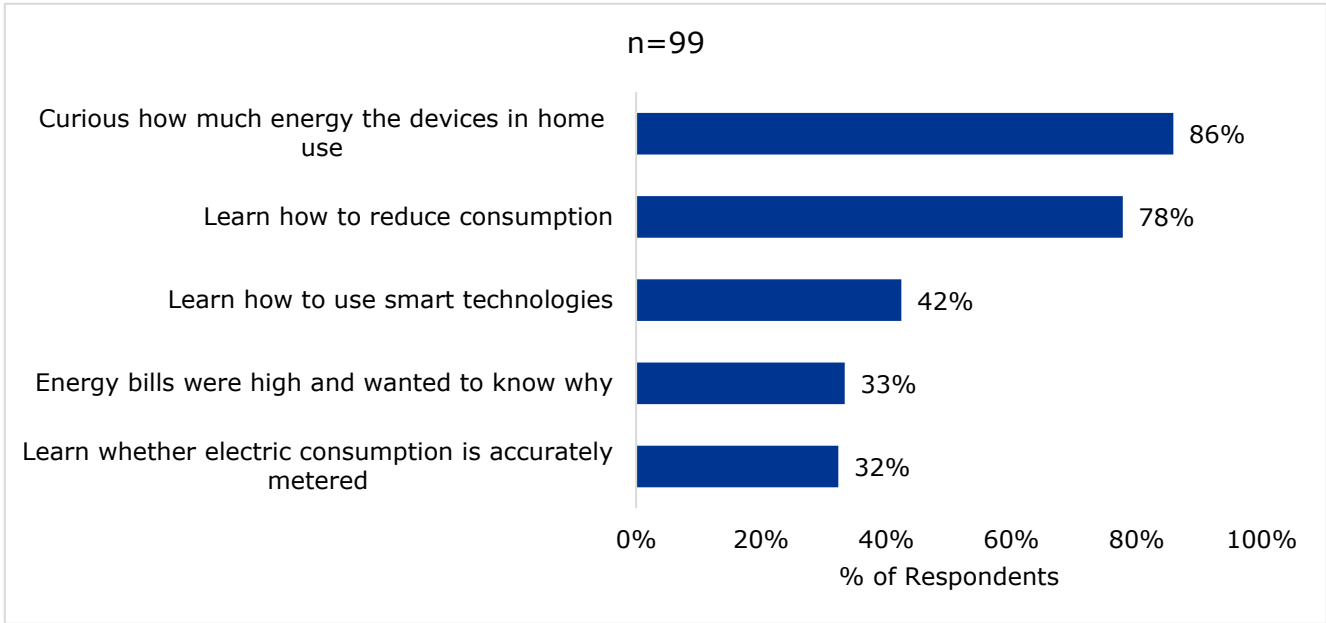
**Figure 4: Participant Satisfaction**



\*Other responses included: "I had to move the antenna to make it work," "I wish that they would had also covered the app and how to read it/understand it," and "Self-install"

- *Curiosity about how much energy the devices in their house were using and a desire to learn how to reduce their energy consumption were the most-cited reasons for getting the monitor:* The evaluation team asked the participants about their reasons for getting the Monitor.
- Figure 5: shows that curiosity about how much energy the devices in their house were using and a desire to learn how to reduce their energy consumption were the most-cited reasons for getting the monitor. The participants were much less likely to say that concerns about utility bills being inaccurate or high were motivations for getting the Monitor.

**Figure 5: : Reasons for Getting the Sense Monitor**



Note: Percentages exceed 100% because respondents could choose multiple options.

- *While interest in using the Monitor has declined over time, most of the participants still check the Monitor daily or weekly:* Over half of the participants (56%) said that they do not look at the Monitor as often as they did when they first received it. When asked why, the most common response was that the information provided by the Monitor was no longer as new or interesting as it once was. However, despite this decline in usage, a slight majority (52%) of the participants said that they still check the Monitor either daily or weekly.
- *Participants found other benefits to the Monitor:* When asked whether the Sense monitor had been useful to them in other ways besides telling them how their electricity was being used, a third of the participants mentioned other benefits including:
  - Notifying them when somebody is in their house
  - Telling them whether the power in their house is out due to a storm when they are not home
  - Helping them better understand the benefits of energy-efficient appliances
  - Making it easier for them to size their backup generator
  - Informing them of equipment that was not functioning properly
  - Reassuring them that their clothes dryer has turned off
  - Telling them how much electricity their solar panels are producing (through a Sense Monitor add-on).
- *Program participation increased customer satisfaction with National Grid:* The evaluation team asked the participants: “Based on your experience with this program and this Sense monitor, is your level of satisfaction with National Grid higher than it was before, lower than it was before, or about the same as

it was before?” Slightly over half (52%) of the participants were more satisfied with National Grid after the experience and only 5% were less satisfied with National Grid after participating.

- *The Monitor’s information did not meet the expectations of many participants:* The evaluation team asked the participants whether they had expectations about what kind of information the Monitor would provide. Slightly less than half (45%) of the participants said that they had such expectations. When the participants with expectations were asked how the Monitor’s information compared to these expectations, more than twice as many respondents said that the information from the Monitor was less useful than they expected vs. those who said the information was more useful than they expected.
- *There was a lot of interest in the Sense Monitor among nonparticipants:* The evaluation team asked the nonparticipants who had recalled receiving the program offer back in 2018: “If National Grid offered a new program that made a Sense home energy monitor or a similar device available, would you be interested in joining?” Ninety percent of the respondents said they would be interested.

## 1.4 Recommendations

In implementing the Rhode Island Residential Home Energy Monitoring System Pilot, National Grid was interested in knowing whether this program could be implemented as a full-scale program. Based on the findings in this report, the evaluation team’s recommendations include:

- *If National Grid is going to expand the Sense pilot program to a full-scale program, more customer education will be needed.* The evaluation team asked the participants for suggestions on how to improve the pilot program. While many of these recommendations focused on the need to improve the performance of the Monitor, many others suggested a need for better customer education, engagement, and support. These suggestions included in-person training on how to use the device and then follow-up support a few months after installation to help answer questions the participants may have come up with after using the Monitor for a certain period.
- *If National Grid is going to expand the Sense pilot program to a full-scale program, it will need to subsidize some of the costs of the Monitors:* The evaluation team asked the participants what would be the most they would be willing to pay for the Sense monitor, including both hardware and installation. Over half (53%) of the respondents said they would be willing to pay no more than \$100 and only 4% were willing to pay more than \$200. Currently the retail price for a Sense Monitor is more than \$250 not counting the cost of installation.
- *If National Grid decides to provide the Sense device to High-Bill Complaint customers, it should do so on a temporary, tool lending arrangement:* The High-Bill Complaint customers were more likely than the other four customer groups to report they no longer looked at the Monitor as much as they did when they first received it. In addition, when asked why they no longer look at the monitor as much as they once did, half the High Bill Complaint customers said it was because the information was no longer as new or interesting as it once was. The evaluation team theorized that this might be due to these customers losing interest in the Monitor once they learned the causes of their high bills. For such customers being able to use the Sense Monitor on a short-term basis to identify their most significant loads – e.g., through a tool lending arrangement – might be more practical than expecting these customers to pay the full cost of owning the Monitor. However, because Sense recommends that its Monitors only be installed by “qualified professionals,” any such program would have to provide the participants with free installation.

## 2 BACKGROUND, OBJECTIVES, AND METHODOLOGY

This is a process evaluation of National Grid's Rhode Island Residential Home Energy Monitoring System Pilot. This pilot program, which started in 2018, provides free Sense Monitors to a sample of National Grid residential customers. The Sense Monitor, which connects to the customer's circuit box, is designed to help residential customers better control their energy consumption through knowledge of where their energy is being used on a real-time basis. The Monitor can identify over 20 different electricity-consuming devices in a home.

### 2.1 Background

National Grid launched the program in 2018 and promoted it, via email, to the following five customer groups:

1. *Demand response (DR) participants*: These were customers who had participated in National Grid's Residential Connected Solutions Demand Response Program
2. *Home Energy Assessment (HEA) participants*: These were customers who had completed a home energy assessment and or weatherization within the previous three years (relative to 2018).
3. *High bill complaint (HBC) customers*: These were customers who had called the National Grid Call Center due to a high bill related question within the past year (relative to 2018)
4. *Low to moderate income (LMI) customers*: These were single family homeowners who were on the A-60 rate.
5. *Random/general population (RND)*: These were a randomly selected group of customers who did not belong to any of the four customer groups described above.

Of the 801 customers who expressed interest in the program, National Grid selected 337 to receive the Sense Monitor at no cost. National Grid used a first-come, first served criterion (within a given customer group) for selecting customers for participation in the pilot.

In 2019 National Grid engaged DNV GL to conduct a process evaluation of this pilot program. In late 2019 it approved DNV GL's detailed work plan. In Q1 2020, before DNV GL's launch of a web survey of program participants, National Grid suspended project activity for several months due to the onset of the COVID-19 pandemic.

The study later resumed and DNV GL launched both the participant and nonparticipant web surveys in October 2020. Survey work was completed in mid-November 2020. Ninety-nine participants and 344 nonparticipants completed the web surveys.<sup>4</sup> The nonparticipants included:

- 133 "interested nonparticipants": These were customers who had expressed interest in the Sense Monitor in 2018 but who were not selected for the program; and
- 211 "uninterested participants": These were customers who had never responded to National Grid's 2018 email promoting the program.

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<sup>4</sup> The 344 nonparticipants were those who completed the full nonparticipant surveys. There were an additional 489 nonparticipants who completed the initial survey questions but were screened out of the rest of the survey because they did not recall National Grid reaching out to them about the program.

It is important to note that when the pilot participants received the Monitors in 2018 the technology was at an early stage of its development. Sense has subsequently made improvements to the technology that are designed to address some of the issues raised by program participants in this report. For example, because pilot participants often had trouble finding the power meter, Sense reconfigured the app’s user interface to make it more prominent. It also added links enabling customers to learn more about a particular feature, such as “How to reduce your Always On.”

## 2.2 Research Objectives

The primary research objectives of this process evaluation, as described in its detailed work plan, include:

1. *Drivers of participation and participant expectations:* Learning what motivated customers to join the program and how they expected to use the Sense Monitor.
2. *Device interaction:* Understanding the nature and frequency of participant interaction with the Sense Monitor as well as the interaction between the Monitor and other devices in the home.
3. *Changes in energy consumption behavior:* Determining whether and how participants changed their energy consumption behavior in response to the Sense Monitor and if those behaviors translated into energy savings that met their expectations.
4. *Program satisfaction:* Measuring participant satisfaction with the Sense Monitor as well as all the other aspects of the pilot program (outreach, enrolment, scheduling, onboarding, etc.)
5. *Barriers to participation:* Understanding why customers who were invited to participate in the program chose not to.
6. *Nonparticipant energy consumption behavior:* Determining energy consumption behaviors for nonparticipants so they can be compared to those of the program participants.

## 2.3 Methodology

As noted, National Grid offered the Sense Pilot to five different customer groups. Table 2 shows how many customers National Grid contacted in 2018 with the promotional email. The table also provides counts of the customers who installed the Sense Monitor as well as those who did not participate in the pilot program.

**Table 2. Sense Pilot Use Cases with Participant and Non-participant Counts**

Status	EE Participants					
		Home Energy Audits (HEA)	Demand Response (DR)	Low-to-Moderate Income (LMI)	High Bill Complaints (HBC)	General Population (RND)
Contacted for Pilot		7,711	548	8,553	1,710	N/A
Installed Sense (Participants)	Count	45	46	81	81	84
	Rate	0.5%	8.4%	0.9%	4.7%	N/A
Nonparticipants	Count	7,666	502	8,472	1,629	N/A
	Rate	99.5%	91.6%	99.1%	95.3%	N/A

DNV GL issued the first survey invitations on October 19, 2020. As Table 3 shows, the participant survey was completed in late October and the nonparticipant survey in mid-November. No reminder emails were

needed for the participants since the \$20 incentive was sufficient to produce the target number of respondents.

**Table 3. Survey Data Collection Schedule**

Group Invited	Survey Invitation	Reminder Email	Survey Close
Participants	10/19/2020		10/24/2020
Non-participants	10/19/2020	10/28/2020	11/06/2020
		11/03/2020	

From the original list of customers who received the National Grid program solicitation in 2018, DNV GL removed customers whose names and address could not be verified or who had opted out of receiving emails from National Grid. This culling reduced the customer populations listed in Table 4 to the sample frames which appear in the adjoining column.

The survey included screener questions (verifying residence, and receipt of the device for participants and recall of offer for non-participants). Only if a customer in the sample frame passed these screeners could the survey move them to the next questions. As noted, hundreds of nonparticipant survey entries were dropped because they could not recall National Grid’s 2018 program solicitation.

DNV GL completed surveys with 99 participants.<sup>5</sup> It could have completed more, but it was paying a \$20 incentive for each completed participant survey and its incentive budget anticipated only 65 completed participant surveys (based on a 20% response rate assumption in the evaluation work plan).

Table 4 shows the survey response rates. As expected, response rates were significantly higher among participants and interested non-participants (32% for each) than uninterested non-participants (only 3%). The overall response rate for nonparticipants, including both the interested and uninterested groups, was 3%

The 32% participant response rate is much higher than participant survey response rates (typically in the 10%-15% range) that DNV GL has observed from other recent program evaluations it has conducted or reviewed. Therefore, we believe that the participant survey results in this study are reasonably representative of the larger participant population.

As discussed in the report, the 3% response rate for nonparticipants does raise questions about self-selection effects. It is possible that the small percentage of nonparticipants who were willing to complete the web survey were more energy-conscious than the typical nonparticipant. It is also worth noting that the nonparticipants had to have recalled the 2018 National Grid program solicitation to be allowed to complete the survey. The fact that they recalled this solicitation might be another indicator of their energy consciousness.

However, there is other evidence which points to the comparability of the participants and nonparticipants. As noted, the participants and nonparticipants came from the same five customer groups. In addition, the participant and nonparticipant demographics were very similar except that nonparticipants were, on average, more highly educated (Table 5).

<sup>5</sup> The evaluation team established a target of 100 completed participant surveys. After the survey was out of the field, one of the participant surveys was discovered to have been a duplicate.

**Table 4. Sample Frame and Survey Disposition**

Customer Use Case	Group	Population	Sample frame	Total completed	Response rates
Demand Response (DR)	Non-participant	502	241	41	17%
	Interested	37	34	13	38%
	Uninterested	465	207	28	14%
	Participant	46	44	23	52%
Home Energy Audits (HEA)	Non-participant	7666	3234	228	7%
	Interested	347	328	111	34%
	Uninterested	7319	2906	117	4%
	Participant	45	42	16	38%
Low-to-Moderate Income (LMI)	Non-participant	8472	5615	60	1%
	Interested	39	29	5	17%
	Uninterested	8433	5586	55	1%
	Participant	81	80	22	28%
High Bill Complaints (HBC)	Non-participant	1629	1074	13	1%
	Interested	23	13	2	15%
	Uninterested	1606	1061	11	1%
	Participant	81	64	14	22%
General Population (RND)	Non-participant	18	11	2	18%
	Interested	18	11	2	18%
	Uninterested	N/A	N/A	N/A	N/A
	Participant	84	83	24	29%
Total	Non-participant	18287	10175	344	3%
	Interested	464	415	133	32%
	Uninterested	17823	9760	211	2%
	Participant	337	313	99	32%

### 3 DETAILED FINDINGS

This section presents the detailed findings from both the participant and nonparticipant web surveys.

#### 3.1 Reasons for Getting the Sense Monitor

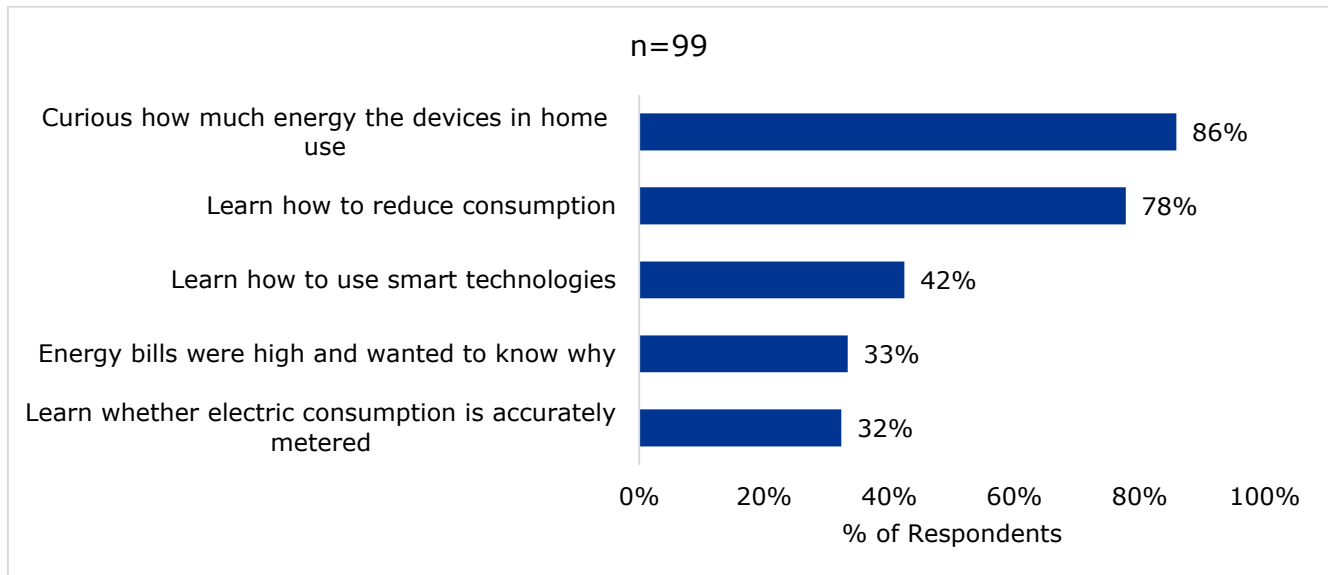
The evaluation team asked the participants: “When you told National Grid you would like to receive the Sense home energy monitor, what were your reasons for getting this Monitor?”

Figure 5: shows that curiosity about how much energy the devices in their house were using and a desire to learn how to reduce their energy consumption were the most-cited reasons. The participants were much less likely to say that concerns about utility bills being inaccurate or high were their motivations for getting the Monitor.<sup>6</sup>

<sup>6</sup> There were a couple of statistically significant differences among the customer groups. HEA participants were much more likely than the other participant groups to cite learning how to use smart technologies as well as learning how to reduce their energy consumption as reasons for getting the Monitor.



**Figure 5: Participant Reasons for Getting the Sense Monitor**



Note: Percentages exceed 100% because respondents could choose multiple options.

## 3.2 Interaction with the Monitor

The evaluation team asked the participants several questions about how they interacted with the Monitor. These questions covered how many household members were using the Monitor, how they accessed it, how frequently they were looking at it, whether the frequency with which they looked at it had changed over time, and what were their reasons for looking at the Monitor less frequently or more frequently than they once did.

### 3.2.1 Who Used the Monitor

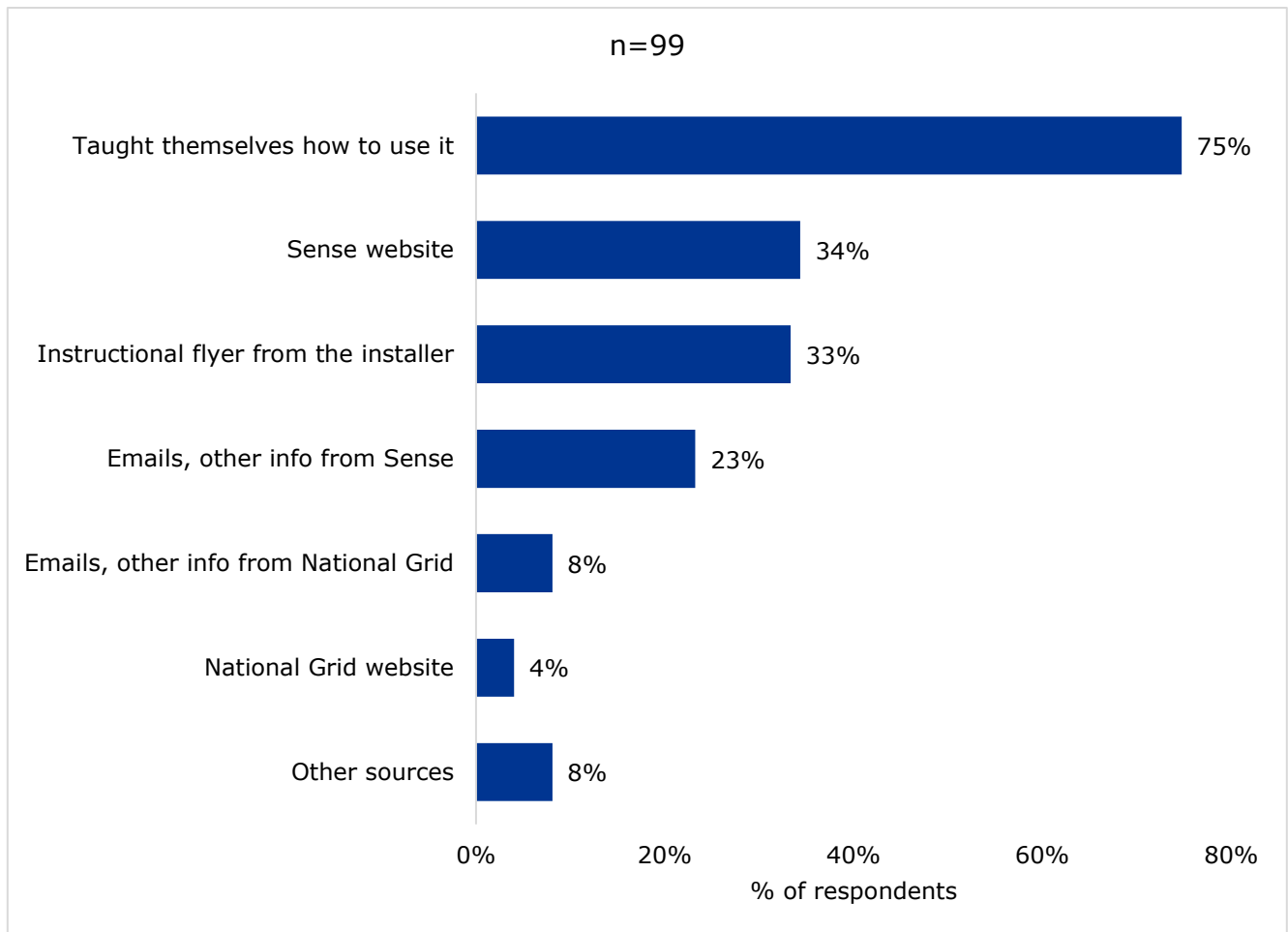
The large majority (73%) of participants said only a single household member was using the Monitor even though only 27% of the participating households had a single occupant.

### 3.2.2 How the Monitor was Accessed

The team also asked the participants whether they mostly used the Monitor on a smart phone, a personal computer, or a tablet. Eighty-three percent said they mostly used the Monitor on their smartphones.

The evaluation team asked the participants how they learned how to operate the Sense Monitor. Three-quarters of them said that they taught themselves to use it, with the Sense website and the instructional flyer left by the Monitor installer also receiving frequent mention. Figure 6 shows all the information sources the participants reported.

**Figure 6: How Participants Learned How to Use the Monitor**

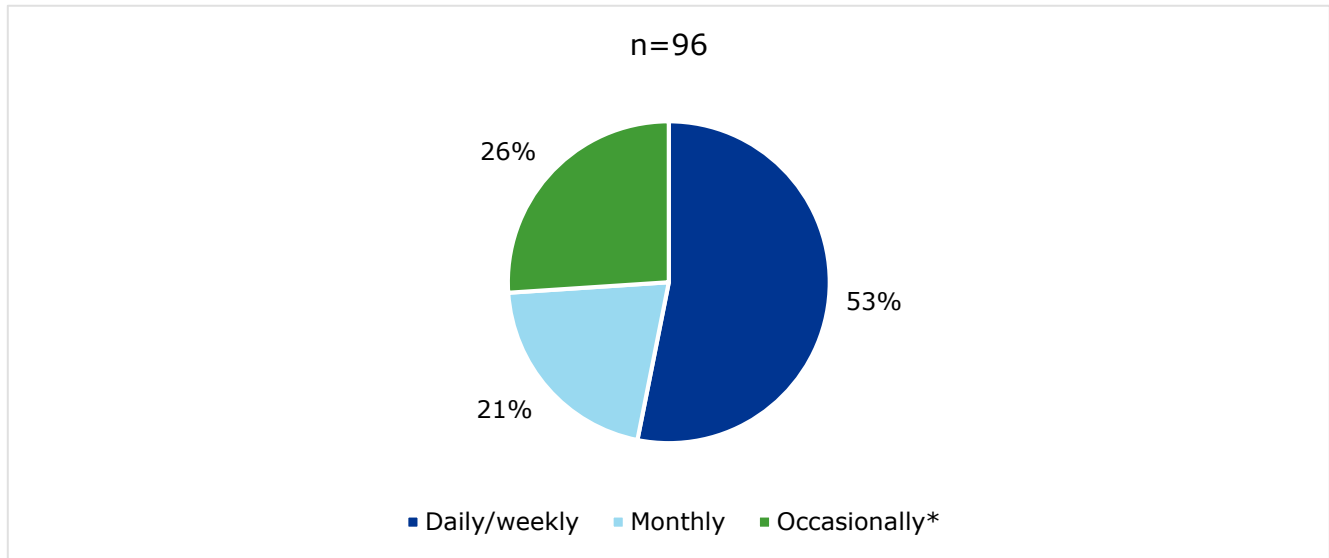


Note: Percentages exceed 100% because respondents could choose multiple options.

### 3.2.3 The Frequency of Accessing the Monitor

When asked how often they currently look at the Sense Monitor, slightly over half (57% of respondents) said they currently look at it on a daily or weekly basis (Figure 7).

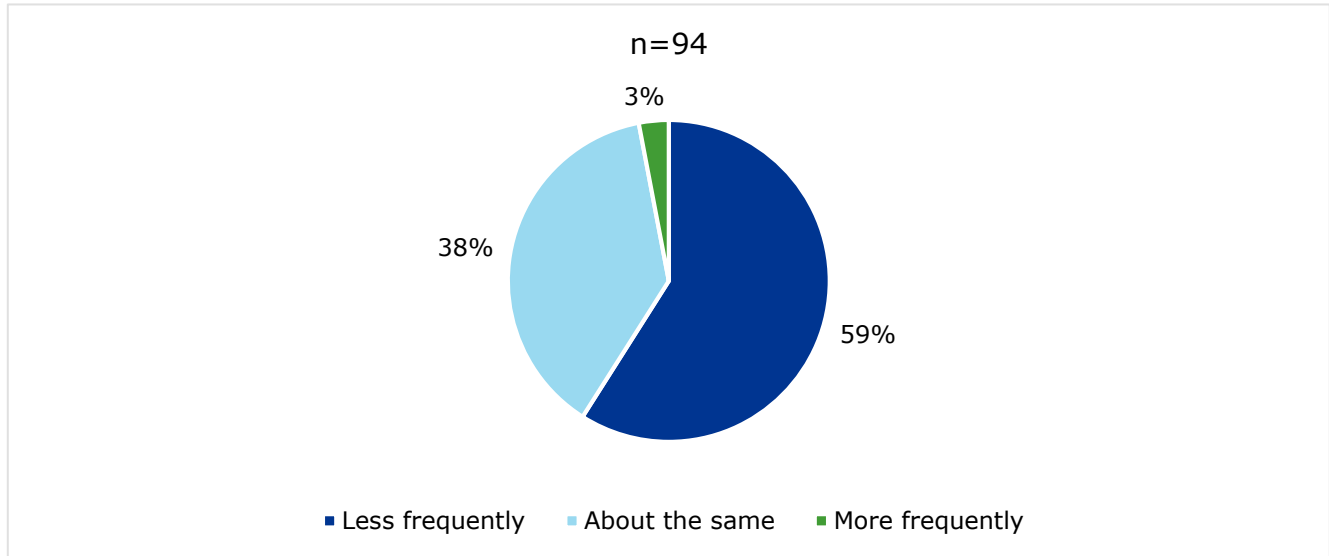
**Figure 7: Frequency of Looking at the Monitor**



<sup>7</sup> Note: "Occasionally" groups together participants who said either: "Every few months" or "A few times a year."

The evaluation team asked the participants whether they currently look at the Sense Monitor more frequently, less frequently, or at about the same frequency as they did when they first received the device.<sup>8</sup> The majority (56%) said that they look at it less frequently (Figure 8).

**Figure 8: Current Frequency of Observing the Monitor vs. When First Received It**

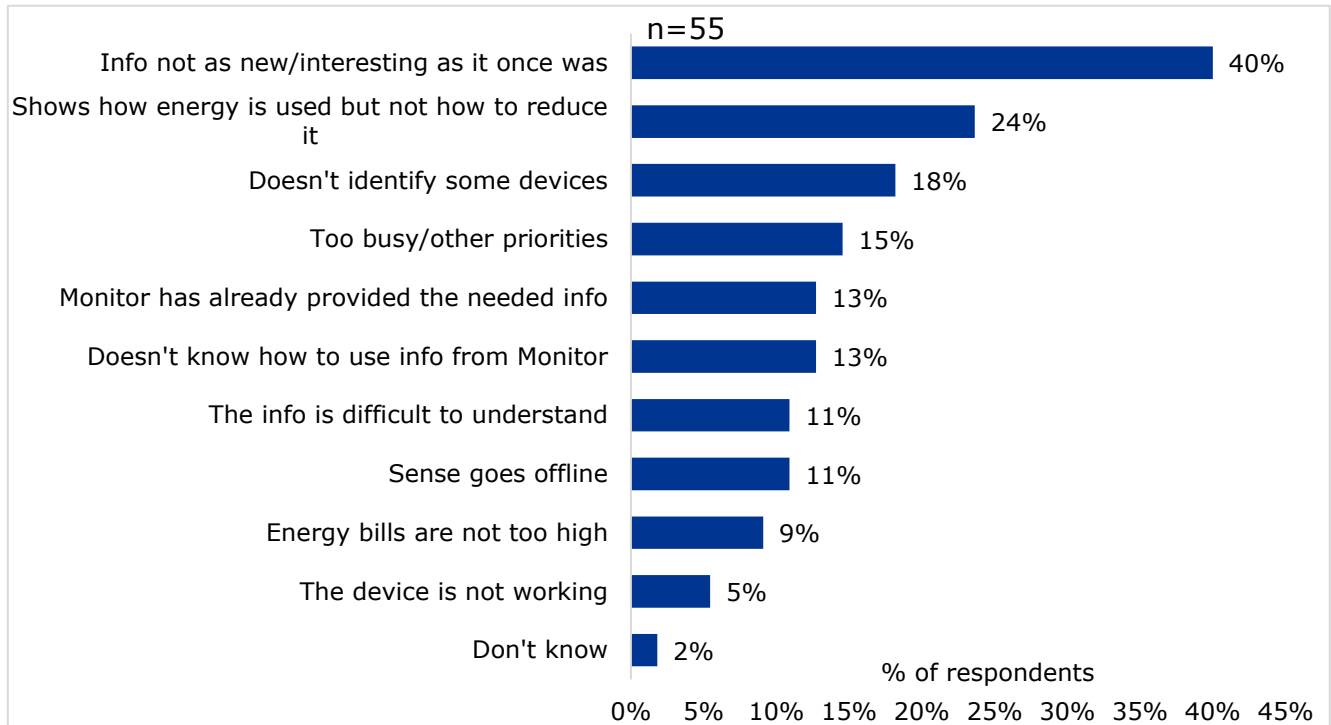


The team also asked the participants who reported checking the monitor less frequently why they reduced this frequency. Figure 9 shows participants cited many different reasons with loss of interest in the information, not knowing how to use the information, and technical problems with the monitor being among the most common.

<sup>7</sup> There was one statistically significant difference among the customer groups. HBC participants were much less likely than the other customer groups to say they look at their Monitors daily or weekly.

<sup>8</sup> The Sense Monitors were installed in April-May 2018 and the participants were surveyed in October 2020,

**Figure 9: Why Participants Look at the Monitor Less Frequently Than They Once Did**



Note: Percentages exceed 100% because respondents could choose multiple options.

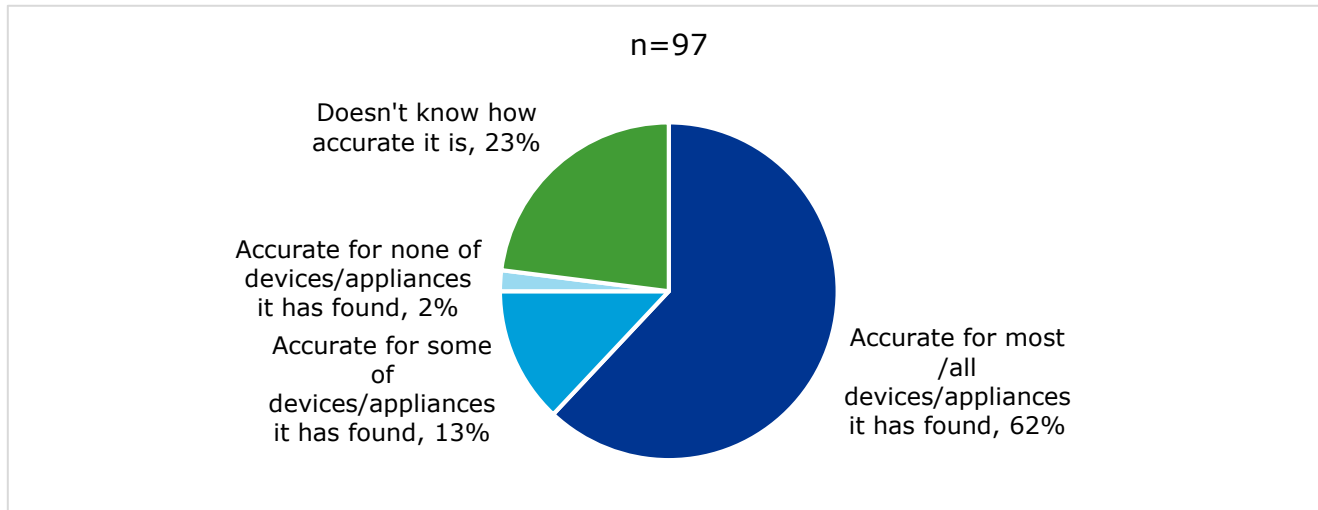
### 3.3 Satisfaction with the Monitor and the Program

The evaluation team asked the participants about the accuracy of the monitors and their satisfaction with the program information, the program enrolment process, the Monitor, and the whole program. The Team also asked the participants how the Monitor performed compared to their pre-participation expectations; whether it changed their expectations concerning bill accuracy; whether the Monitor had other benefits besides telling them how they were using their electricity; whether they had concerns about the security of the Sense data; whether they would recommend the Sense Monitor to a friend, family member or neighbor; and whether program participation had changed their level of satisfaction with National Grid.

#### 3.3.1 The Accuracy of the Monitors

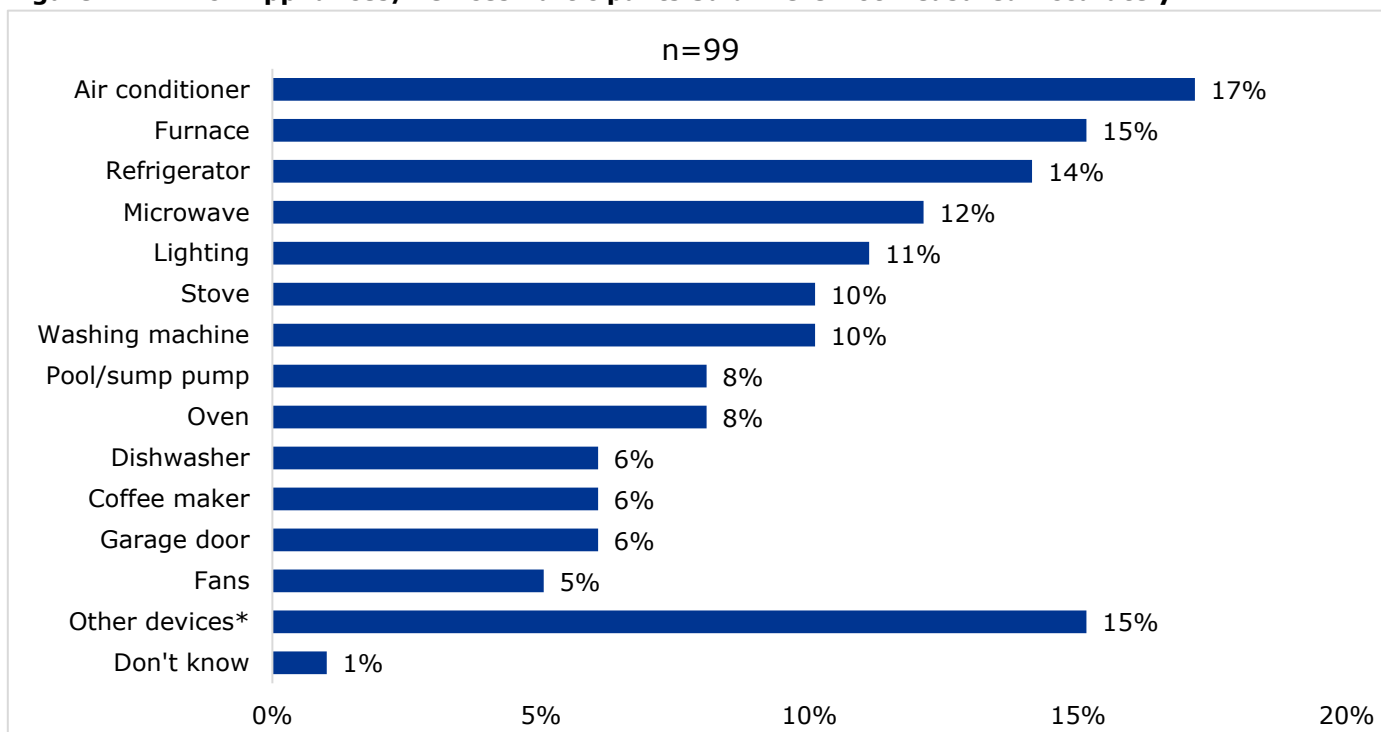
The evaluation team asked the participants how accurate they thought the Sense Monitor was at reporting their home's actual energy consumption. Figure 10 shows that nearly two thirds of the participants thought that Monitor was accurate for all or most of their devices and appliances and only 2% of the respondents thought the Monitor was totally inaccurate.

**Figure 10: How Accurately the Sense Monitor Reports Home Energy Consumption**



The team asked the participants which of their appliances or devices they thought the Monitor was not accurately reading. Figure 11 shows that they identified a wide variety of appliances/devices with air conditioners, furnaces, and refrigerators being the most cited.

**Figure 11: Which Appliances/Devices Participants Said Were Not Measured Accurately**

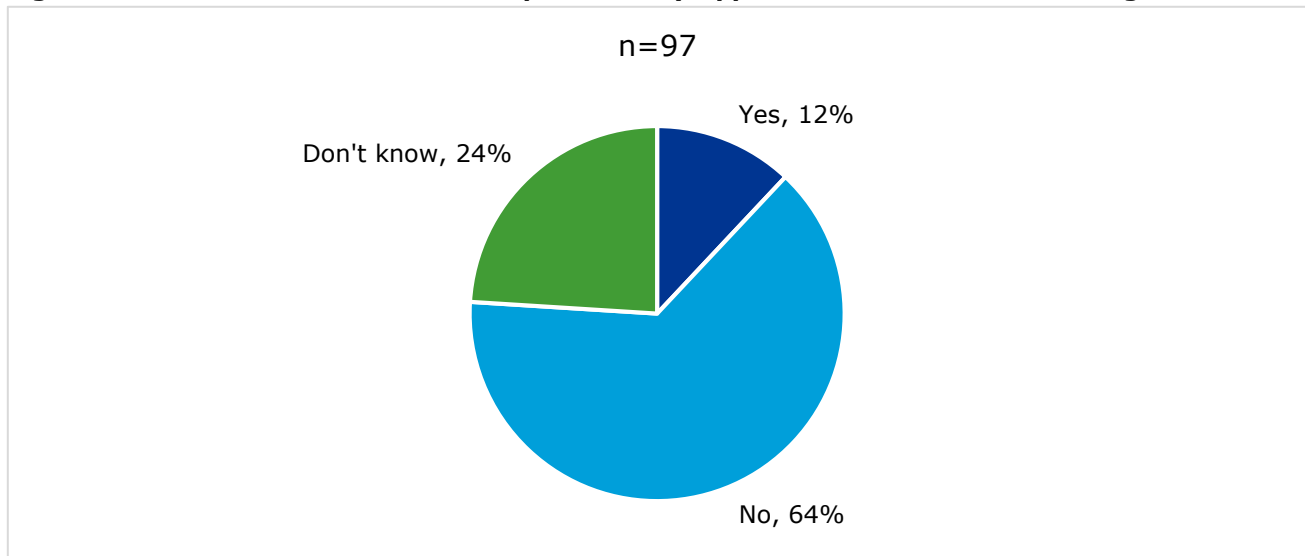


Note: Percentages exceed 100% because respondents were asked to list all appliances/devices that they believed the Sense Monitor was not providing accurate information for. \*Other devices include refrigerator lights (3%), ice makers (3%), dehumidifiers (3%), electric water heaters (2%), garbage disposals (2%), and laser printers (2%).

The evaluation team asked the participants whether the Sense Monitor helped them identify any home devices or appliances which were not operating properly. Twelve percent of the participants said that the

Monitor did identify an appliance/device which was not working properly (Figure 12). When asked which non-working appliances/devices the Monitor identified, the participants named 16 different appliances/devices with the most common being refrigerators, electric water heaters, and pool/sump pumps (three mentions each).

**Figure 12: Whether Sense Monitor Helped Identify Appliances/Devices Not Working**

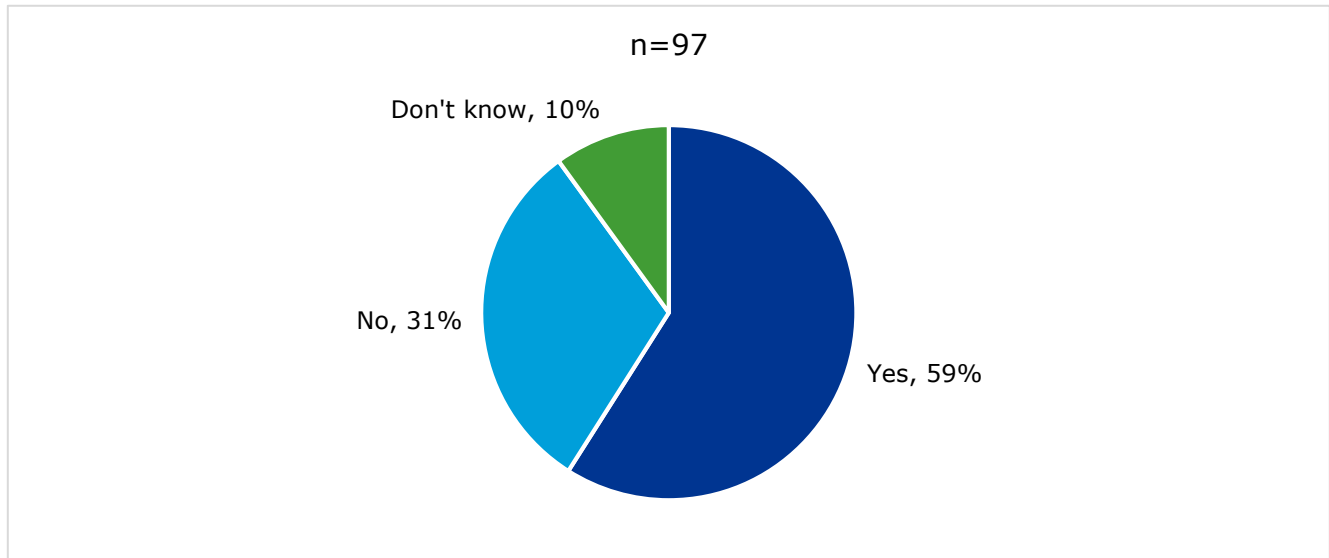


### 3.3.2 Recall of Program information

The evaluation team asked the participants whether they recalled any of the information which described how the program, or the Sense Monitor, would work. Slightly more than half (59%) of the participants recalled the program information (Figure 13).<sup>9</sup>

<sup>9</sup> There was one statistically significant difference among the response rates of the different participant groups. Home Energy Audit participants were much more likely to recall the program information than the whole participant group. The fact that they had the home audit done indicates that they had a greater interest in their home's energy consumption – and the information on this that the Sense Monitor could potentially provide – than the average participant.

**Figure 13: Whether Participants Recall Program Information**



### 3.3.3 Program Satisfaction

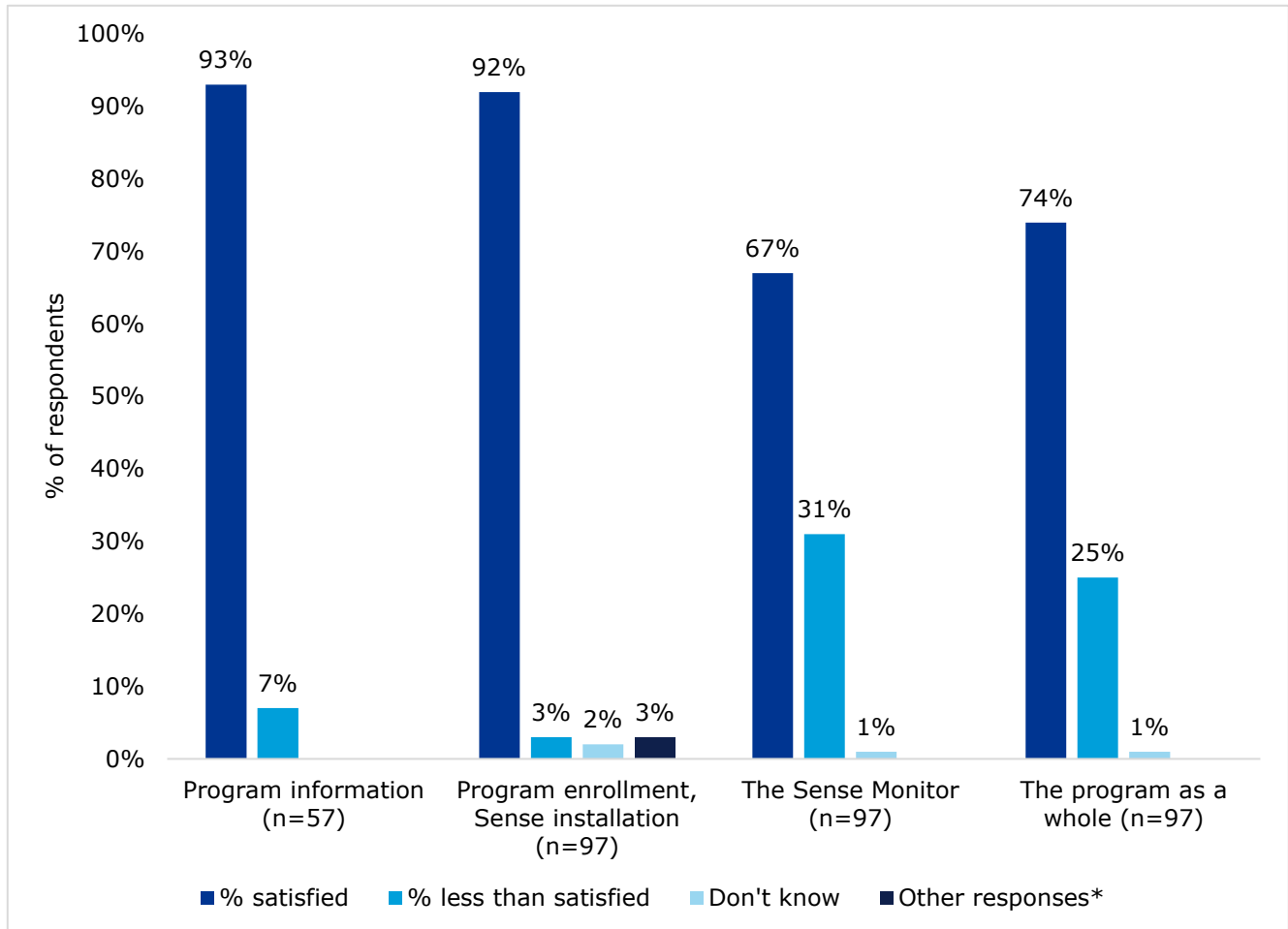
The evaluation team asked the participants about their satisfaction with different aspects of the pilot program. These included the program information (if the participants had recalled seeing it), the enrolment process (including the installation of the Sense Monitor), the Sense Monitor, and the Sense Monitor as a whole. For each of these satisfaction questions, the survey gave them a five-point satisfaction scale, where:

- 5 indicated "very satisfied"
- 4 indicated "satisfied"
- 3 indicated "Unsure if I'm satisfied"
- 2 indicated "Dissatisfied"
- 1 indicated "Very dissatisfied"

For all these questions, if the respondent gave a satisfaction rating of 3, 2, or 1, the evaluation team asked them why they were less than satisfied with the program attribute. For the question about participant satisfaction with the Sense Monitor, the team also asked them why they were satisfied with the Monitor.

Figure 14 shows that while the vast majority of participants were satisfied (either 4 or 5 satisfaction rating) with the program information and the program enrolment/Monitor installations processes, two thirds were satisfied with the Sense Monitor and about three quarters were satisfied with the program as a whole. As noted earlier, 74% of the participants had reported that they had taught themselves how to use the Monitor. This could indicate that the program information was useful or alternatively possibly superfluous.

**Figure 14: Participant Satisfaction**



\*Other responses included: "I had to move the antenna to make it work," "I wish that they would had also covered the app and how to read it/understand it," and "Self-install"

The evaluation team asked the participants why they were less-than-satisfied with some of the program attributes and the program as a whole. Areas of dissatisfaction included:

- *The program information:* Less-than-satisfied participants found the program information too dense and hard-to-read, lacking useful information, and not being "memorable."
- *Program enrolment/Monitor installation:* Less-than-satisfied participants faulted the installation contractor for not providing enough information about how the Monitor works. One of the participants said that she had informed the installer that the person who would be home for the installation did not speak English. Yet the installer did not send someone who could speak Spanish and instead called her several times for assistance when she was at work
- *The Sense Monitor:* The evaluation team asked the participants both why they were satisfied and why they were less than satisfied with the Sense Monitor.
  - *Reasons for satisfaction:* Satisfied participants cited their fascination with smart technologies and their appreciation of being able to identify where they needed to reduce their electric load.



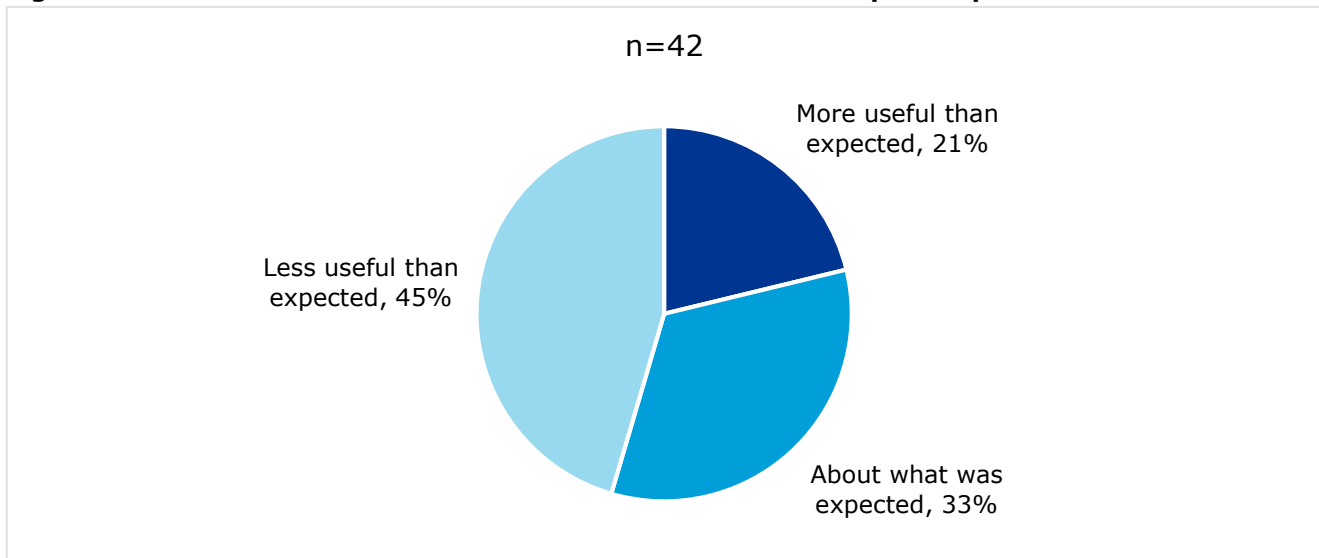
One participant said he was able to use the information from Sense to better size his backup generator.

- *Reasons for dissatisfaction:* Less-than-satisfied participants said their Monitor had performance problems including taking too long to recognize some of their appliances/devices and not providing accurate information. Other participants said that insufficient information was provided on how to use the Monitor and that the Monitor did not provide information on how to reduce their electric use.
- *The program as a whole:* Comments from participants who were less than satisfied with the whole program included program information being incomplete or too technical, the Monitor having difficulty finding devices or producing accurate information, and wishing that Sense could integrate with their home security system.

### 3.3.4 How the Monitor Measured Up to Expectations

The evaluation team asked the participants: “Before you received the Sense Monitor, did you have any expectations about what kind of information this monitor would provide?” Slightly less than half (45%) of the participants said that they had such expectations. The team then asked the participants with expectations: “Was the information that the Sense Monitor provided more useful than you had expected, less useful than you had expected, or about what you had expected?” Figure 15 shows that more than twice as many respondents said that the information from the Monitor was less useful than they expected vs. those who said the information was more useful than they expected.

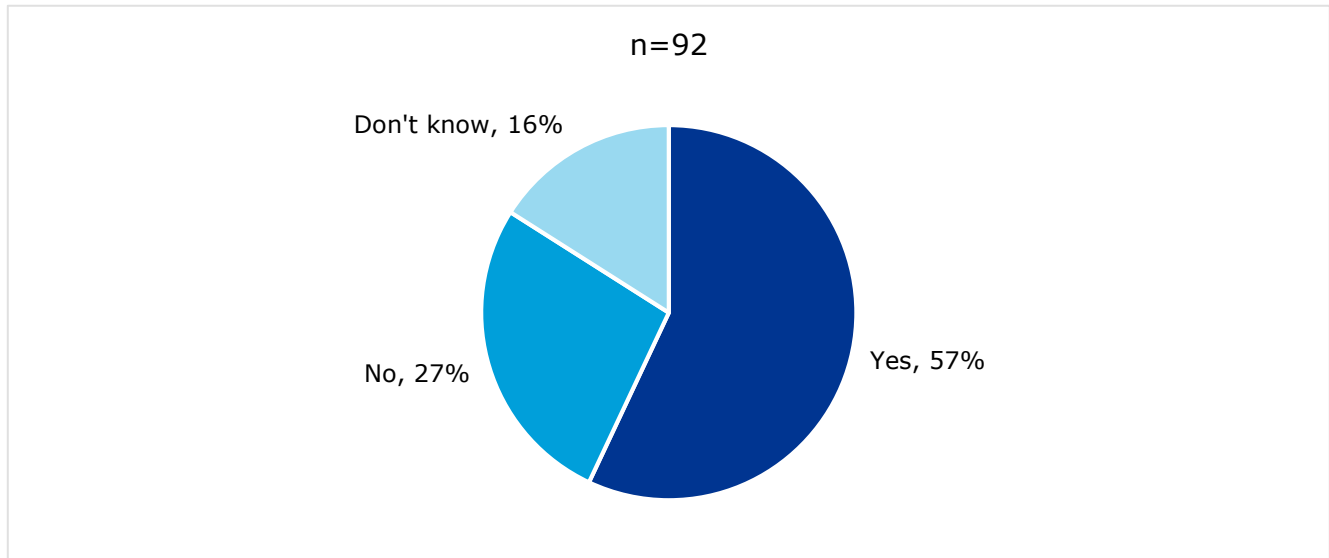
**Figure 15: Whether Usefulness of Sense Information Met Participant Expectations**



### 3.3.5 Whether the Monitor Increased Confidence in Bill Accuracy

The evaluation team asked the participants: “Has the Sense Monitor given you more confidence that your electric bills accurately reflect your home’s electric use?” Figure 16 shows that over half of the participants did think that the Monitor made them more confident about the accuracy of their electric bills.

**Figure 16: Whether the Monitor Increased Participant Confidence in Bill Accuracy**



### 3.3.6 Whether the Monitor Had Other Benefits

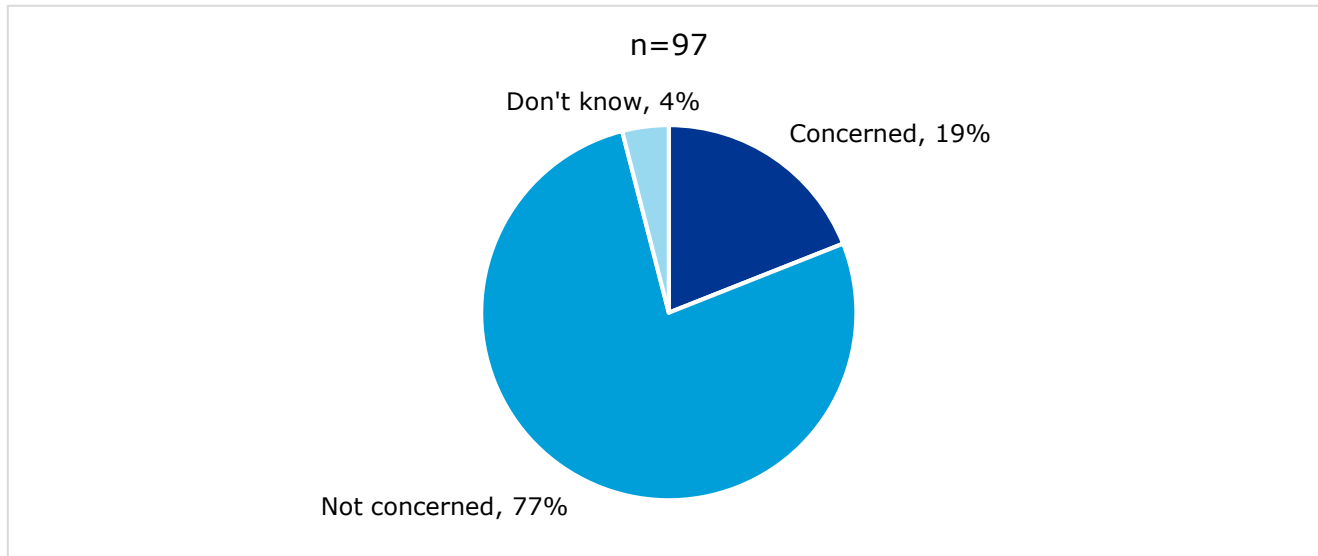
The evaluation team asked the participants whether the Sense monitor had been useful to them in other ways besides telling them how their electricity was being used. A third of the participants did say it had other benefits. Some of these other benefits they mentioned included:

- Notifying them when somebody is in their house
- Telling them whether the power in their house is out due to a storm when they are not home
- Helping them better understand the benefits of energy-efficient appliances
- Making it easier for them to size their backup generator
- Informing them of equipment that was not functioning properly
- Reassuring them that their clothes dryer has turned off
- Telling them how much electricity their solar panels are producing (through a Sense Monitor add-on).

### 3.3.7 Concerns About Data Security

The evaluation team asked the participants: "How concerned are you that the information the monitor collects about your home might be accessed by unauthorized persons?" Figure 17 shows that only a small minority of participants had concerns about the security of their Sense data.

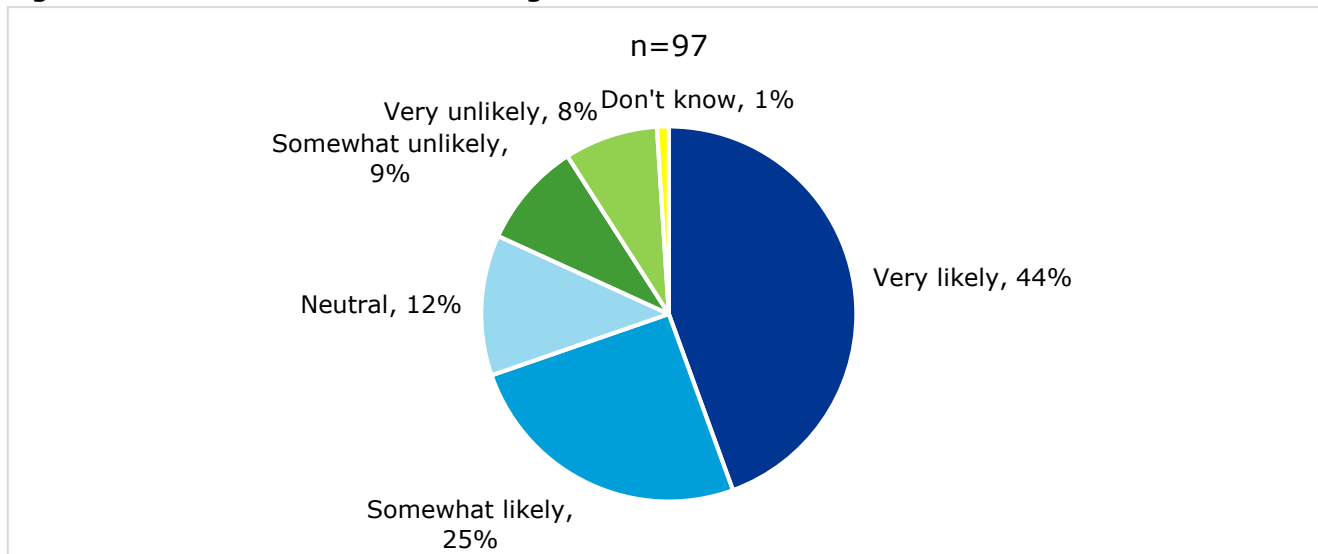
**Figure 17: Concerns About Data Security**



### 3.3.8 Likelihood of Recommending Sense

The evaluation team asked the participants how likely they were to recommend the Sense Monitor to a friend, family member, or neighbor using five-point Likert scale. Figure 18 shows that 69% of the participants were “very likely” or “somewhat likely” to recommend the Monitor. This percentage was very close to the percentage of participants who were satisfied with the Monitor (67%). When asked why they would not recommend the Monitor to their friends, family members, or neighbors, the reasons were very similar to those mentioned previously concerning their dissatisfaction with the Monitor.

**Figure 18: Likelihood of Recommending Sense**

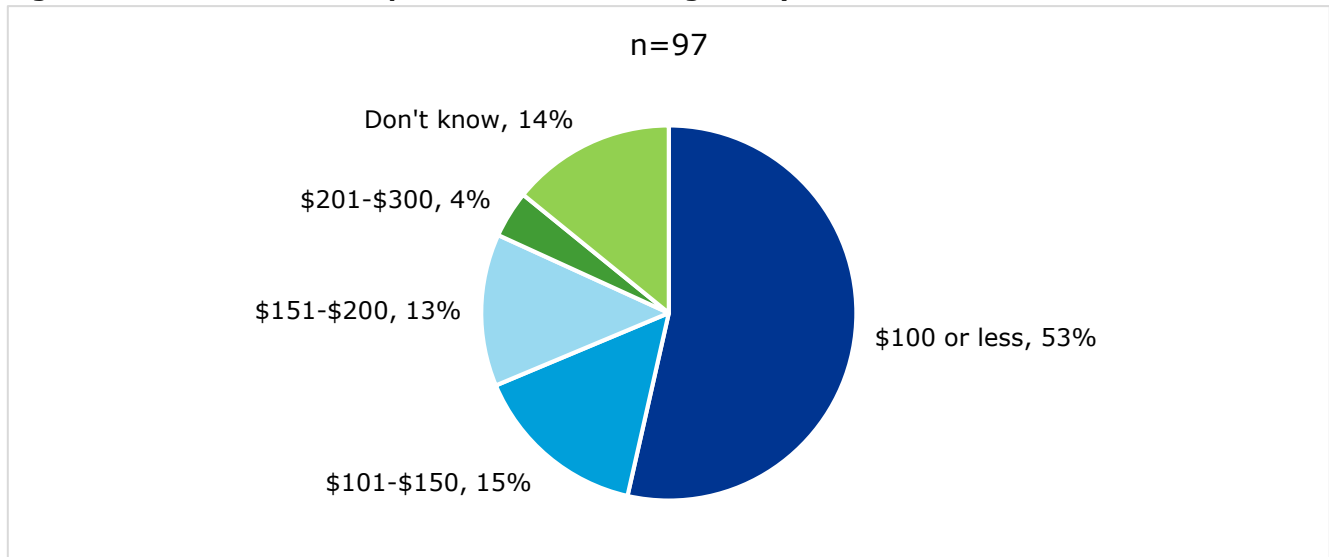


### 3.3.9 Willingness to Pay for the Monitor at Their Own Cost

Another possible indicator of satisfaction with the Sense Monitor is how much participants would be willing to pay for the device at their own cost. The evaluation team asked the participants: “If you had to purchase this Sense monitor yourself, including both the cost of the hardware and the installation, what would be the

most you would be willing to pay?" Figure 19 shows that over half of the respondents said they would be willing to pay no more than \$100 and only 4% were willing to pay more than \$200.

**Figure 19: How Much Participants Would Be Willing to Pay for the Monitor**



### 3.3.10 Suggestions for National Grid Improving the Program

The evaluation team asked the participants: "What suggestions do you have for National Grid for improving this program or the Sense Monitor itself?" Most of the suggestions centred around improving the performance of the Monitor or providing them with better education, engagement and support.

A sample of the suggestions included:

- *Improving the performance of the Monitor:* Suggestions for improving the performance of the Monitor included:
  - *Improve device recognition:* Several participants recommended that the device recognition feature of the Monitor be improved. "I think the detection of the right equipment could be enhanced," said one participant. "At times the Sense system tells me a light just went on, but it was the dishwasher that went on." Another participant reported that when she turns on her hair dryer it appears on her Sense device as "furnace." One participant claimed that the Sense Monitor did not detect many smart light switches.

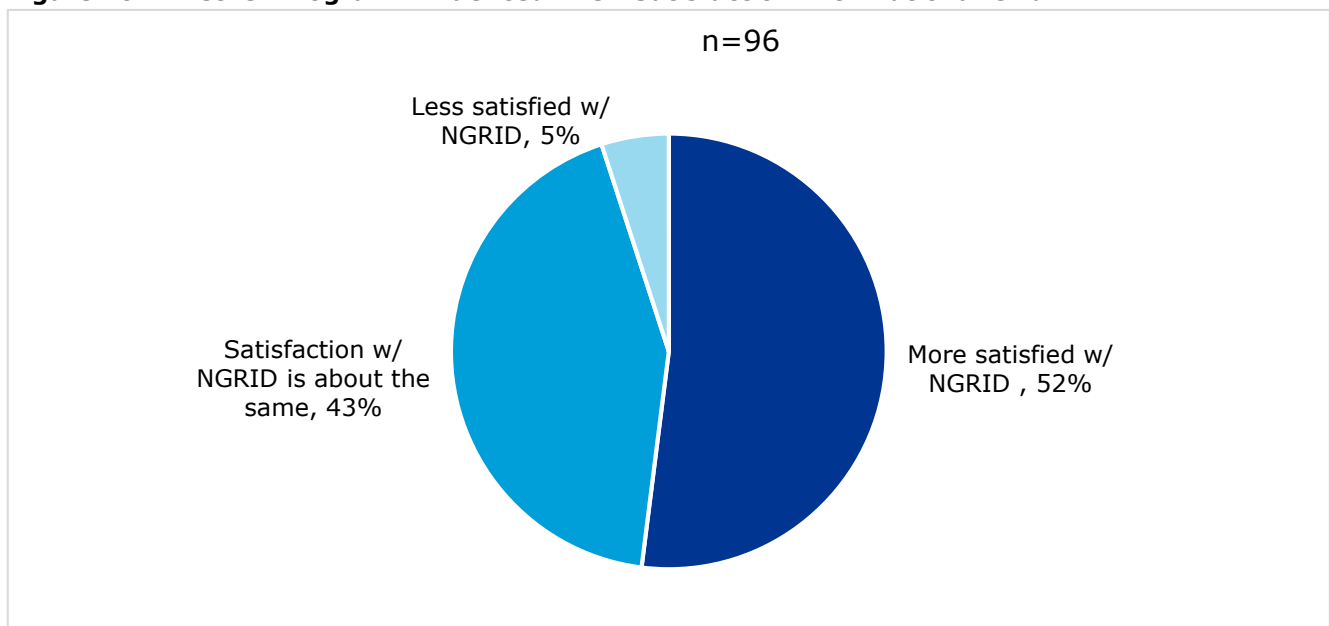
A related suggestion was for the Monitor to better distinguish multiple appliances of the same type. "It numbers the appliances [of the same type] .... but it would be nice if I knew exactly what it was that was running," said one participant. "It would be nice if there was an easy way to match an identified device to an actual appliance," said another participant. "As the monitor identifies more and more items it becomes like an Easter egg hunt where the eggs are hidden in spots that cannot be found."
  - *Improve the Monitor's internet connections:* "[The Monitor] Needs to be more reliable in its connection to the internet," said one participant. Another participant said that he had to install a signal booster because the router in his house was having trouble communicating with the Monitor in his basement.

- *Better customer education, engagement, and support:* Several participants recommended that the program include in-person training on how to use the device and then follow-up support a few months after installation to help answer questions the participants may have come up with after using the Monitor for a certain period. "Four to six weeks after installing Sense, schedule a one-to-one session with an analyst and the end user to show how to better use the information, understand, reconfigure things etc," one participant recommended. "Possibly having someone come out to evaluate it several months after being installed," said another participant. "Check on the program after a couple of months to make sure it is up and running.... If it isn't, provide support to get it going," said a third participant.
- *Suggested product enhancements:* The participants offered several suggestions for enhancing the Sense Monitor including giving customers a tool to predict their energy bill for the coming month, giving the Monitor the capability to turn off an appliance, and integrating the Monitor with home security systems.
- *Other suggestions:*
  - *Suggestions on which customers to target the program at:* "Install it for customers who are constantly calling about high bills. Potentially find some low-income funding for some type of program."
  - *Cost support:* "If not provided free of charge by National Grid, then perhaps at cost and allow for short term financing when needed. The greater cost may be the safe installation charges by an electrician. It would be great to read the household electric meter on my smartphone to monitor my net metering values."

### 3.3.11 Whether Program Influenced Their Satisfaction with National Grid

The evaluation team asked the participants: "Based on your experience with this program and this Sense monitor, is your level of satisfaction with National Grid higher than it was before, lower than it was before, or about the same as it was before?" Figure 20 shows that slightly over half (52%) of the participants were more satisfied with National Grid after the experience.

**Figure 20: Whether Program Influenced Their Satisfaction with National Grid**



### 3.4 Changes in Energy Consumption Behavior

While this was primarily a process evaluation, the study did collect information from both participants and nonparticipants as to whether they had recently made changes in how they use energy. It also asked the participants whether program participation had influenced these changes in energy consumption. This section compares the reported energy consumption behaviors of the participants and nonparticipants. Table 5 compares the demographic and housing characteristics of the groups. It shows that the groups were similar except that nonparticipants were, on average, more highly educated.

**Table 5: Demographic and Housing Characteristics – Participants vs. Nonparticipants**

Demographic Category	Participants (n=99)	Nonparticipants (n=319)
<b>Home Ownership</b>		
Own	99%	95%
Rent	1%	5%
<b>Year House Built</b>		
Before 1940	14%	19%
1940-1969	35%	34%
1970-1989	25%	26%
1990-2009	23%	17%
2010-2020	3%	3%
<b>House Sq. Ft.</b>		
Less than 1,000	8%	4%
1,001-1,500	29%	27%
1,500-2,000	18%	27%
2,001-2,500	17%	20%
2,501-3,000	13%	10%
3,000 or greater	10%	9%
Don't know	4%	3%
<b>Education</b>		
HS degree or less	21%	12%
Associate's degree	12%	16%
Bachelor's degree	39%	35%
Graduate degree	24%	33%
Refused	4%	4%
<b>Household Income</b>		
Less than \$25,000	10%	5%
\$25,000-\$49,999	6%	8%
\$50,000-\$74,999	11%	13%
\$75,000-\$99,999	11%	18%
\$100,000-\$149,999	19%	19%
\$150,000-\$199,999	9%	8%
\$200,000 or greater	8%	13%
Refused	25%	16%

#### 3.4.1 Changes in Lighting Practices

The evaluation team asked the participants whether they used the Sense Monitor to learn how and when they were using the lighting in their house. About half (51%) of the respondents said they were using the Monitor to learn about additional loads.

### 3.4.1.1 Installing more EE lighting

The evaluation team asked both participants and nonparticipants whether in the past two years they had replaced any of their light bulbs or fixtures with new bulbs and fixtures that were more energy-efficient than their previous lighting technology.<sup>10</sup> The nonparticipants were more likely (93% of respondents) than the participants (78%) to say they had recently upgraded the efficiency of their lighting. At first glance, these survey results were puzzling because one would assume that the customers who had self-selected themselves into the Sense program were more energy-conscious than their nonparticipating counterparts. However, it is possible that some participants had already converted most of their sockets to energy-efficient lighting and therefore their recent opportunities for “upgrading” the efficiency of their lighting were more limited.

There was evidence that the Sense Monitor had influenced these lighting upgrades. The team asked the 36 participants who had reported both using the Sense monitor to observe their lighting and recently upgrading their lighting: “How influential was the information provided by the monitor in your decision to install this more energy-efficient lighting?” Two-thirds of them (67%) said that the information from the Monitor was highly influential in their decision.

In addition, when asked whether the Sense Monitor had shown them the impacts of this new energy-efficient lighting on their electric consumption, 75% of them said that it had. It is reasonable to assume that this “feedback mechanism” – e.g., seeing the immediate evidence of the new energy efficient lighting on their electric consumption -- would encourage these participants to purchase more energy efficient lighting.

### 3.4.1.2 Changing Lighting Use

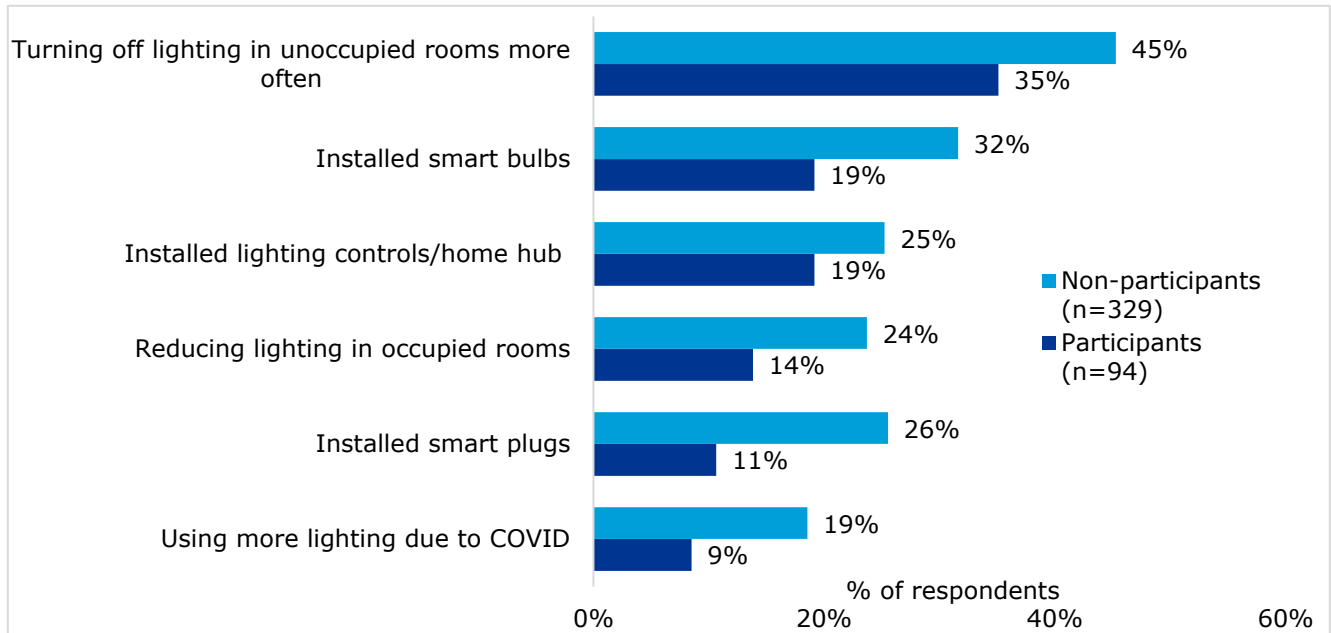
The evaluation team asked both participants and nonparticipants whether in the past two years they had made any changes in how often they used their lighting. Considering that the Sense Monitor is supposed to encourage energy saving behavior, it was surprising to find that the nonparticipants reported *more* energy saving lighting actions than the participants. When asked if they had changed their lighting use in the past two years, 67% of the nonparticipants said they had compared to only 51% of the participants. Furthermore, when asked how they had changed their lighting use in the past two years, the nonparticipants were more likely to report taking energy efficient lighting actions than the participants, as Figure 21 shows.

It is possible that some of this may be due to self-selection effects. The survey response rates for the nonparticipants was only 3% compared to 32% for the participants. Therefore, it is possible that the small percentage of nonparticipants who were willing to complete the web survey were more energy-conscious than the typical nonparticipant. It is also worth noting that the nonparticipants had to have recalled the 2018 National Grid program solicitation to be allowed to complete the survey. The fact that they recalled this solicitation might be another indicator of their energy consciousness.

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<sup>10</sup> The question was asked slightly differently for the participants and nonparticipants. For the participants the question was: “*Since getting the monitor, have you replaced any of your light bulb or fixtures with new bulbs and fixtures that are more energy-efficient than your previous lighting technology?*” For the nonparticipants the question was: “*In the last couple of years, have you replaced any of your light bulb or fixtures with new bulbs and fixtures that are more energy-efficient than your previous lighting technology?*” Since the participants acquired their Sense Monitors in 2018 and the participant survey was conducted in 2020, we view the responses to these questions as reasonably equivalent. Other of the behavioral questions had this same difference (participants were asked “since getting the Monitor” vs. nonparticipants being asked “in the last couple of years”).

**Figure 21: How Participants and Nonparticipants Changed Lighting Use in Past 2 Years**



Note: Percentages exceed 100% because respondents could choose multiple options.

Even though the participants were less likely to report taking energy-saving lighting actions than the nonparticipants, most participants who did report energy-saving lighting actions gave the Sense Monitor some credit for these actions. When the team asked them: “How influential was the information provided by the Monitor in your decision to reduce your lighting use?”, 64% said it was highly influential. In addition, when asked whether the Sense Monitor was able to show them the impacts of reducing their lighting use, 80% of them said that it had.

### 3.4.2 Changes in Heating and Cooling Practices

The evaluation team asked the participants whether they used the Sense Monitor to learn how and when they were using heating and cooling in their house. Sixty-five of the respondents said they were using the Monitor to learn about this.

#### 3.4.2.1 Installing More EE HVAC Equipment

The evaluation team asked both participants and nonparticipants whether in the past two years they had replaced any of their heating or cooling equipment with new equipment that was more energy-efficient than their old equipment. Twenty-nine percent of the participants said they had upgraded the energy efficiency of their HVAC equipment compared to 36% of the nonparticipants.

For the participants there was evidence that the Sense Monitor had influenced these HVAC upgrades. The team asked the participants “How influential was the information provided by the monitor in your decision to install this more energy-efficient heating, cooling or water heating equipment?” Fifty-six percent said that the information from the Monitor was highly influential in their decision.<sup>11</sup> In addition, when asked whether the Sense Monitor had shown them the impacts of this new energy-efficient HVAC equipment on their electric consumption, 61% of them said that it had.

<sup>11</sup> These included the 22% of respondents who said the Monitor information was “extremely influential” and 33% of respondents who said it was “Very influential.”



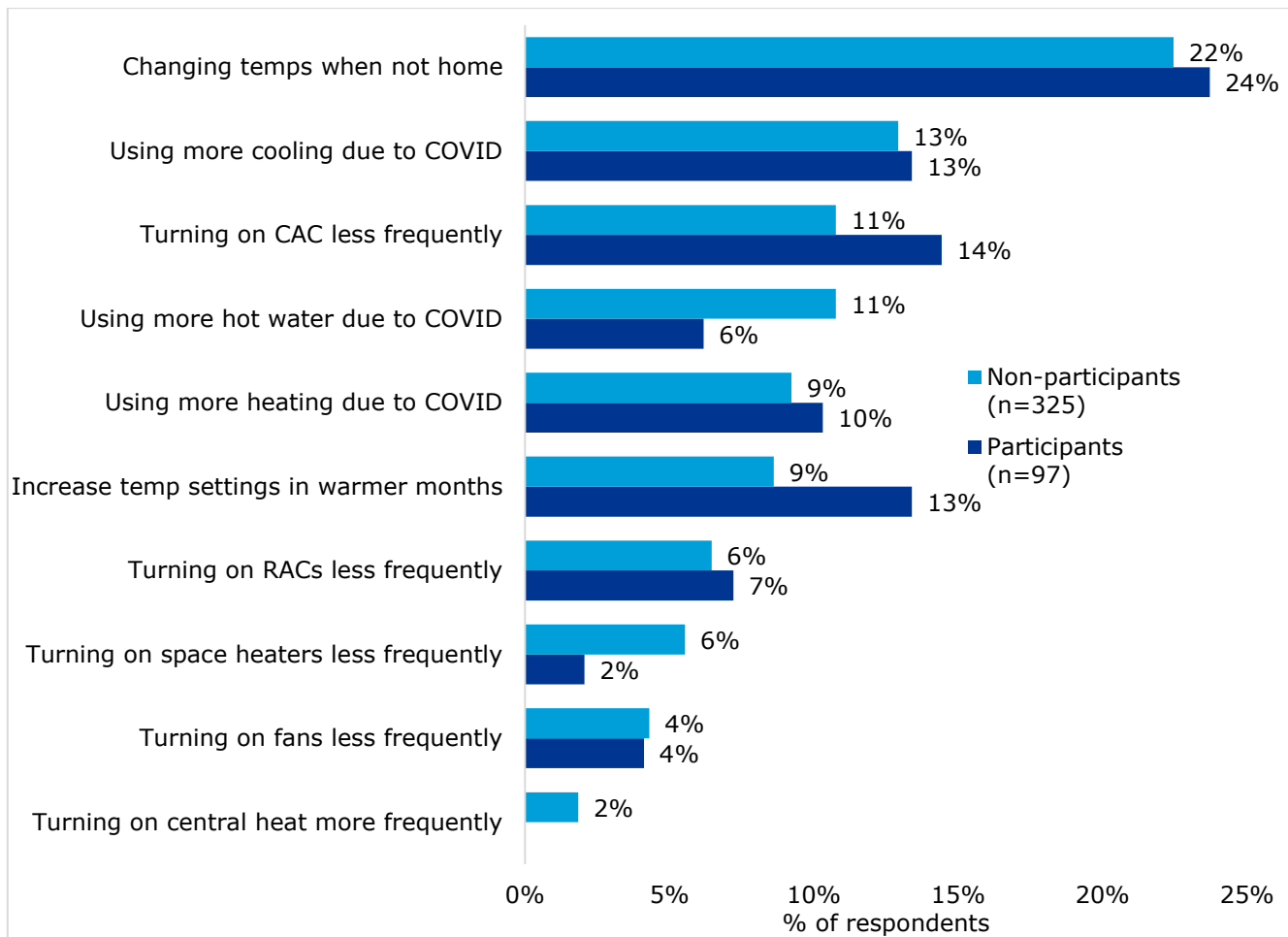
### 3.4.2.2 Changing Heating and Cooling Practices

The evaluation team asked both participants and nonparticipants whether in the past two years they had: “made any changes in how you heat or cool your house such as temperature control or the frequency with which you turn on your heating or cooling equipment?” Nearly half (46%) of the participants and nearly half (45%) of the nonparticipants reported such recent changes in their heating/cooling usage.

The evaluation team asked the participants and nonparticipants who had reported recently changing their heating/cooling usage what changes they had made. Figure 22 shows that the participants were more likely than the nonparticipants to have said that they had been turning on their central air conditioners less frequently and increasing home temperatures during warmer months. In addition, 64% of the participants who reported changes in their heating/cooling practices said the Monitor was influential (either “somewhat influential” or “very influential”) in these changes with 33% saying the Monitor was very influential.

However, a closer look at Figure 22 shows that the evidence for the influence of the Sense Monitor is less strong than it first appears. None of the cases where the participants reported an energy-saving action more frequently than nonparticipants was the difference statistically significant. Furthermore, the nonparticipants were more likely than the participants, to a statistically significant degree, to say that they have been turning on their space heaters less frequently. Figure 22 also shows that a significant share of both participants and nonparticipants reported greater heating, cooling, and hot water use due to the COVID-19, presumably because of spending more time at home.

Figure 22: How Participants and Nonparticipants Changed Heating/Cooling in Past 2 Years




Note: Percentages exceed 100% because respondents could choose multiple options.

The participants who had made recent changes in their heating and cooling practices were less likely than those who had made recent changes in their lighting practices to say that the Sense Monitor had influenced these changes. While 64% of the participants who had made recent lighting changes had said that the Sense Monitor had been highly influential, only 33% of the participants who had made recent heating and cooling changes said that the Sense Monitor had been highly influential.

One possible explanation is that while almost all the reported changes in recent lighting usage were energy saving in nature, many of the recent changes in heating/cooling were not energy saving behaviors. Figure 22 shows that many participants reported increasing their heating, cooling, and water heating consumption due to the COVID-19 pandemic. Since participants would be unlikely to say the Sense Monitor was influential in these behaviors, this would dilute the overall influence of the Sense Monitor on recent changes in heating and cooling.

### 3.4.3 Changes in Other Energy Uses

The evaluation team asked the participants: "Have you used the Sense Monitor to learn about other electric loads in your house such as refrigerators, washing machines, dryers, dishwashers, computers, televisions,



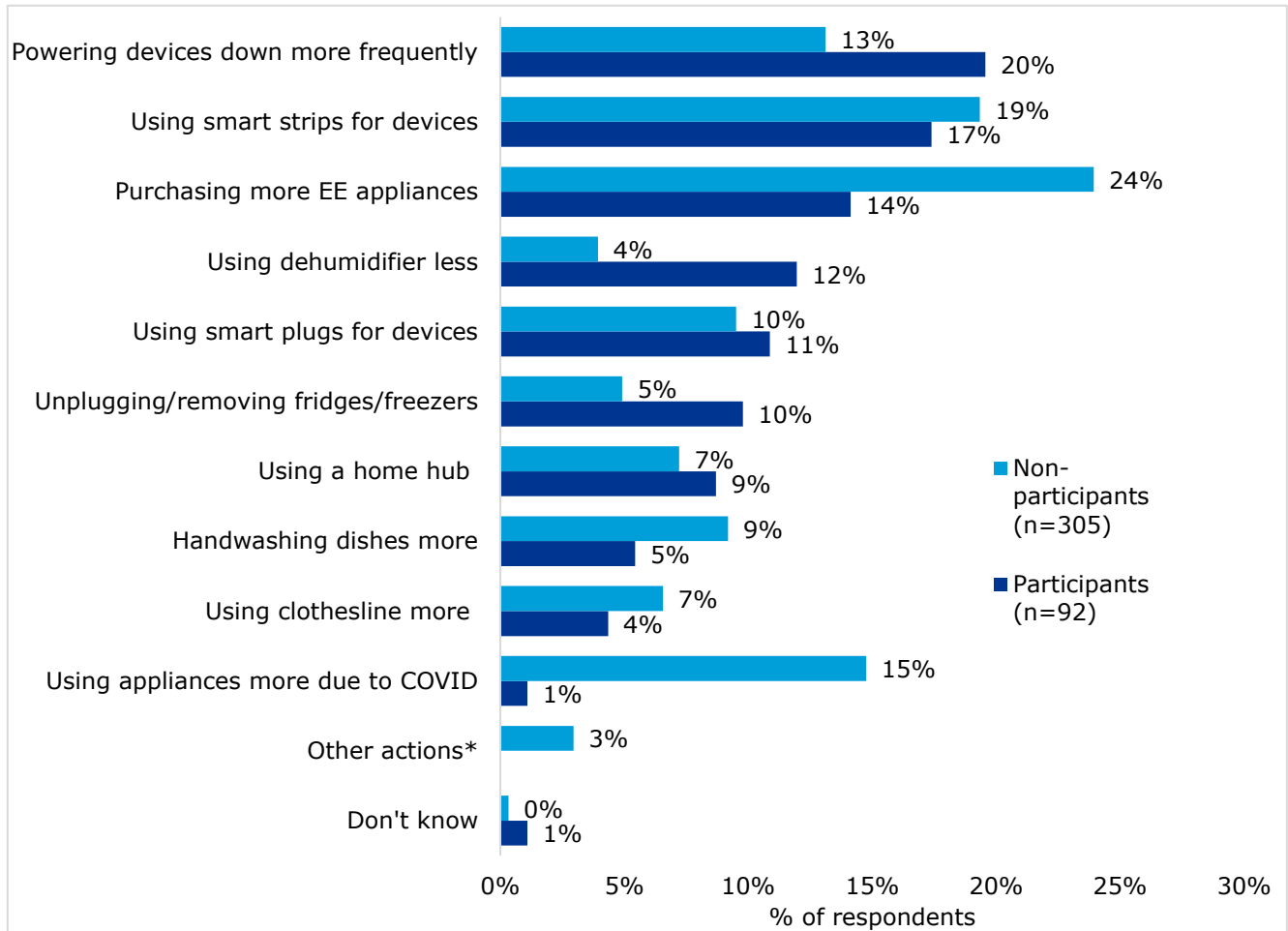
chargers for electronic devices, cable boxes, gaming systems, or dehumidifiers?” Seventy-two of the respondents said they were using the Monitor to learn about this.

### **3.4.3.1 Changing Use Patterns of Other Energy-Using Equipment**

The evaluation team asked both participants and nonparticipants whether in the past two years they had made any changes in the frequency with which they use these non-lighting/non-HVAC appliances/devices. Forty-five percent of the participants and 46% of the nonparticipants said that they had made such changes

The market evaluation team asked the participants and nonparticipants who had reported recent changes in the use frequency of these non-lighting/non-HVAC appliances/devices what changes they had made. Figure 23 compares the responses of the participants and nonparticipants. It shows that the participants were more likely than the nonparticipants to say they were powering their devices down more frequently, using their dehumidifiers less, and unplugging or removing underused refrigerators and freezers. Yet of these differences, only the difference in the reported reduced use of the dehumidifier was statistically significant. In addition, the nonparticipants were more likely than the participants, to a statistically significant degree, to report that they had recently purchased energy efficient appliances. The nonparticipants were much more likely to report increased appliance use due to the COVID-19 pandemic.

**Figure 23: How Participants and Nonparticipants Changed Other Energy Use in Past 2 Years**



Note: Percentages exceed 100% because respondents could choose multiple options. \*Other actions included getting rid of a pool, running the clothes washer less frequently with larger loads, and using electricity for a plug-in electric vehicle.

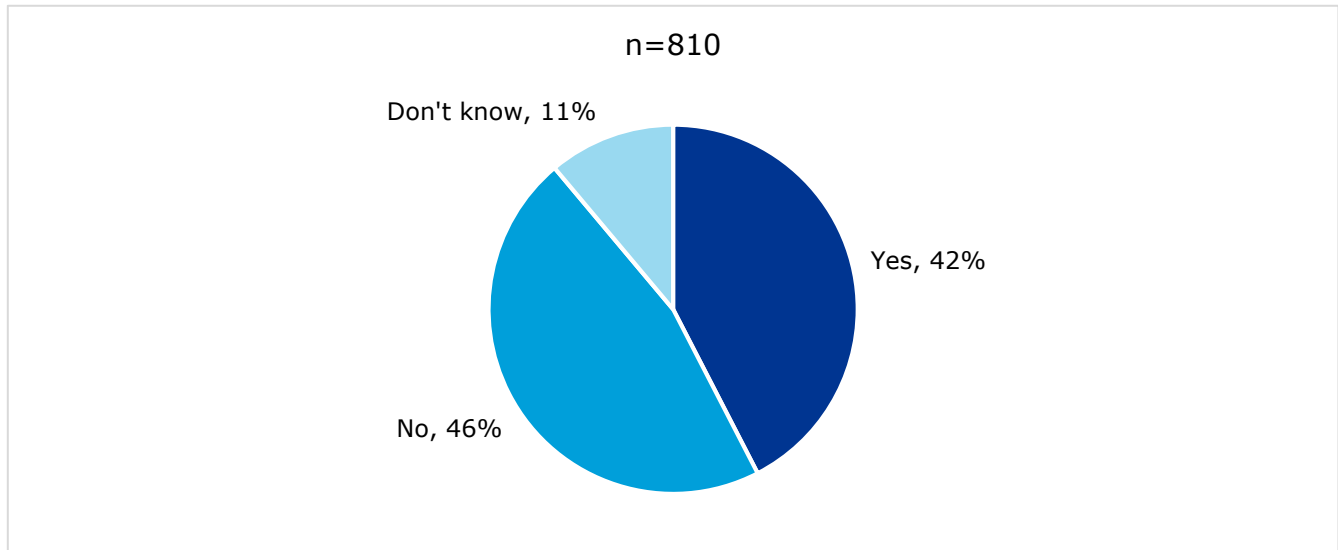
The participants gave greater credit to the Sense Monitor for influencing these recent changes in their other energy use than they had for recent changes in their lighting or heating/cooling use. Eighty-three percent of the participants said that the Sense Monitor was highly influential over these recent changes in their energy use. This compares with 64% of participants saying that the Monitor was highly influential over recent changes in their lighting practices and only 33% of the participants saying it was highly influential over recent changes in their heating or cooling practices.

### 3.5 Reasons for Nonparticipation

#### 3.5.1 Whether Nonparticipants Recalled the Program Solicitation

Lack of program awareness is one of the most common reasons why customers do not participate in energy programs. The evaluation team asked the nonparticipants: "According to our records, a couple of years ago National Grid offered you a Sense Home Energy Monitor that allows you to see on your smartphone or computer how much energy the devices in your house are using. Do you recall National Grid offering you this Sense monitor? Figure 24 shows that less than half (42%) of the nonparticipants recalled the program solicitation.

**Figure 24: Nonparticipant Recall of the Program Solicitation**



### 3.5.2 Why Nonparticipants Did Not Respond to the Offer

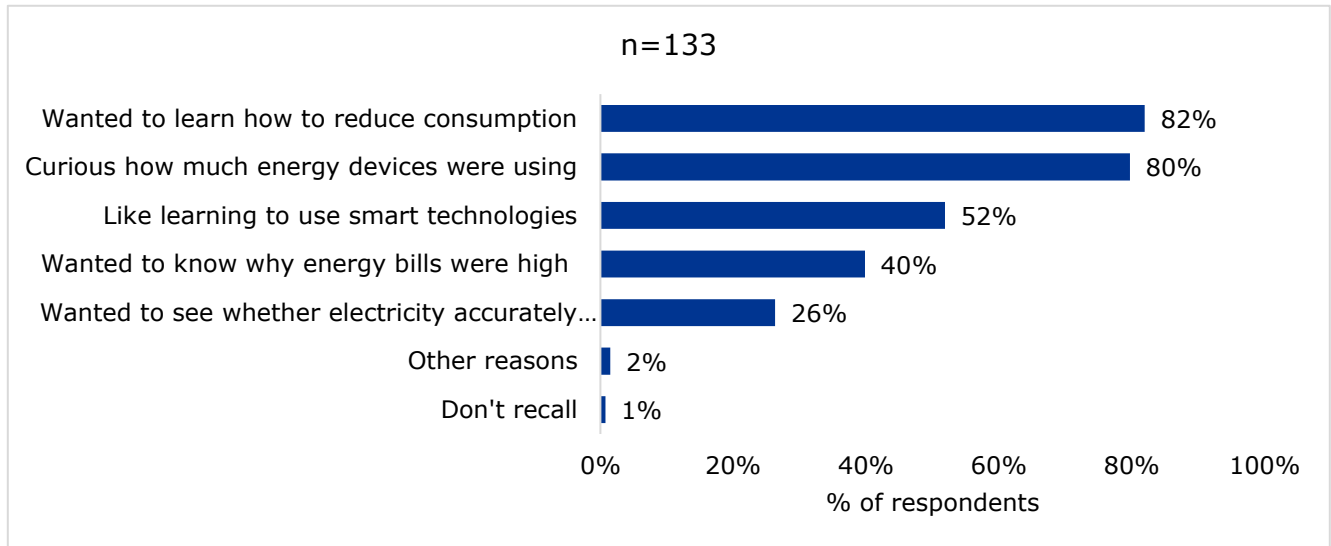
The evaluation team asked the 344 nonparticipants who said they had recalled the program offer why they had not responded to the offer. The most common response (21% of the respondents) was that they did not recall getting an email from National Grid.<sup>12</sup> Other reasons included being too busy (11% of respondents) and not having enough information about whether the Monitor would benefit them (10% of respondents).

### 3.5.3 Why Interested Nonparticipants Wanted the Monitor

The evaluation team asked the “interested nonparticipants” -- who in 2018 had expressed interest in the Sense Monitor but had not made it into the pilot program -- why they had been interested in the Monitor. Figure 25 shows that the most common reasons given by these interested nonparticipants included wanting to learn how they could reduce consumption and curiosity as to how much energy their devices were using.

<sup>12</sup> This is a confusing response because in the previous question they had claimed to have recalled the program offer and National Grid said that the email solicitation was the only way they had promoted the program.

**Figure 25: Why Some Nonparticipants Were Interested in the Monitor**



The team also asked the interested nonparticipants whether they recalled whether National Grid had explained why they did not receive the Sense Monitor even though they had requested one. Only 26 percent recalled getting an explanation from National Grid.

### 3.5.4 Interest in Monitor if Newly Offered

The evaluation team asked the nonparticipants who had recalled receiving the program offer back in 2018: "If National Grid offered a new program that made a Sense home energy monitor or a similar device available, would you be interested in joining?" Ninety percent of the respondents said they would be interested.



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