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National Grid

New York Upstate Refrigerator and Freezer Recycling Energy Efficiency Program

Process Evaluation Report—Final

August 12, 2011





National Grid

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1. EXECUTIVE SUMMARY

This report presents the findings and recommendations resulting from the 2010 process evaluation of National Grid's Refrigerator-Freezer Recycling Program in upstate New York. We also report key impact evaluation findings, such as free ridership. This report is one of a series of process evaluation reports of National Grid's energy efficiency programs in New York.

1.1 PROGRAM AND EVALUATION OVERVIEW

The Refrigerator-Freezer Recycling Program ("the Recycling Program") is designed to encourage households to retire and recycle working secondary, inefficient refrigerators and freezers. The program offers customers an incentive of \$30 to recycle old working second refrigerators and freezers, plus free pick-up. National Grid's vendor, JACO Environmental (JACO), removes the appliances from participating customers' homes, and then safely dismantles and recycles the appliance in an environmentally responsible manner. In order to participate, customers need to schedule the free pick-up time, as well as complete the \$30 incentive rebate form.

To qualify, customers must be a National Grid electric customer in upstate New York and own the units for pick-up. In addition, the appliance must be:

- Between ten and 30 cubic feet, using inside measurements
- For refrigerators, the unit must be a secondary refrigerator and not the primary refrigerator
- Clean, empty, and in working order at the time of pick-up
- Accessible with a clear path for removal by the contractor.

Each participating household is limited to recycling two units. The refrigerator or freezer must be picked up at a National Grid electric service address.

The 2010 program goal was to remove 13,850 appliances from the residential market. Through the end of December 2010, the program reports recycling 7,430 appliances which was short of the participant goal, but about 87 percent of the net energy savings goal. Utilities are held to their savings and not participant goals. A later than anticipated program launch (July 2010) is cited by program staff as the main reason why the program did not achieve its goals. Additionally, the New York State Public Service Commission ruled that 2010 and 2011 savings goals would be combined together, so the strong six months of Program operation gives every indication that the combined 2010/2011 savings goal will be met.

As part of the process evaluation, Tetra Tech conducted in-depth interviews with five National Grid and JACO management staff, as well as 405 quantitative participant surveys in late 2010.

1.2 SUMMARY OF KEY FINDINGS

The relationship between National Grid and JACO is functioning well, with open and frequent communications. Both JACO and National Grid staff reported satisfaction with the frequency and quality of communications between the two entities. Staff from both sides reported that they felt their relationship was one of mutual respect and appreciation.



JACO's tracking system and dashboard are effective and useful. National Grid staff reported satisfaction with the usefulness of JACO's dashboard as well as its ease of use. When pulling data for reference or sampling, the evaluation team found the data to be well tracked, generally easy to understand, and complete in that there are no gaps in the data or missing information. The only area in which the JACO sample data did not match the survey data was in classifying the recycled refrigerator as a primary vs. secondary appliance.

A late start to the program launch is the main barrier to the program meeting its goals. The delay in starting program activities was due to an Order by the Public Service Commission of New York to wait until NYSERDA had completed their program. Appliance pick-up did not begin until July, giving program staff less than half the time originally allocated to operate the program in 2010. It is important to note that despite this late start, the program achieved 87 percent of its net savings goal in a six-month period. However, program goals changed near the end of 2010 to combine 2010 and 2011 goals together.

Almost 20 percent of the customers that sign up to participate in the program, change or cancel their pickup date or drop out of the program. This 20 percent rate, which includes change or cancellation of pickup date or not showing up for the appointment, is similar to other utility programs operated by JACO in other states. The no-show rate for the program is about four percent, with JACO not charging for these customers. JACO is in the process of both investigating reasons why customers drop out of the program. As of February 2011, JACO contacted customers who canceled their appointments or were no-shows in an attempt to re-recruit them.

Participants are very highly satisfied with the program, and with National Grid as a whole. Very few participants are dissatisfied or displeased with any aspect of the program; participants are especially pleased with their interactions with implementation staff. Ninety-seven percent of participants rated their satisfaction with the program overall as an eight or higher on a zero to ten scale, with zero being not at all satisfied and ten being very satisfied

The most important aspect of the program to customers is the free pick-up of the old appliance. The importance of this element on the participant's decision to participate in the program was rated on average a 9.0 (on a zero to ten scale). For comparison, the program's rebate was rated a 5.8 and the information provided by the program was rated a 6.8.

Marketing campaigns have been successful in reaching customers, and participants are spreading word of the program to their family and friends. Participants reported hearing of the program through many channels, including newspaper and television advertisements, bill inserts, and word-of-mouth (which can also be taken as an indicator of high customer satisfaction). Nearly all participants (all but two out of 405 respondents) indicated that they would recommend the program to others.

Although they are not allowed per current program requirements, primary refrigerators are being recycled through the program. Twenty-two percent of participants reported that their refrigerator was a primary refrigerator. Notably, primary refrigerator pick-up is the highest in the Syracuse area (29 percent of refrigerators picked up there are primary) as compared to Buffalo (17 percent) and Albany (15 percent). However, the JACO dashboard only reported seven percent primary refrigerators in 2010 and nine percent in 2011.

Almost all customers report that their recycled appliance was in working condition. Although nearly all worked at the time of pick-up per eligibility criteria, there were some units that had not been used in the 12 months prior to pick-up. Freezer participants were significantly more likely than



refrigerator participants were to indicate that their appliance had been unplugged over the previous year (93 percent of refrigerators were plugged in, compared to 74 percent of freezers).

Free ridership rates for the program are in line with other similar appliance recycling programs. An analysis of responses to a series of questions designed to characterize what actions participants would have taken in the absence of the program resulted in a free ridership rate of 37 percent for refrigerators and 35 percent for freezers. These findings are in line with other appliance recycling programs. The free ridership numbers include customers whose appliances are unplugged, which would be double counting this customer segment since this circumstance was accounted for in the Consolidated Technical Manual, October 15, 2010.

Demographically, nearly one-half of participating households are comprised of older adults without children living in the home. Those over 65 years of age are more likely to prefer hearing about the program through newspaper advertisements or direct mailings, and less likely to prefer receiving program information through emails. However, the sample might be biased toward older adults since they tend to participate in more phone surveys than younger segments of the population.

1.3 CONCLUSION AND RECOMMENDATIONS

Overall, National Grid's Refrigerator-Freezer Recycling is functioning well. High satisfaction levels among program staff and participants indicate that the program is doing a good job serving its customer base, and program processes appear to generally function quite well.

Below are recommendations for retaining the high quality of the program, as well as several recommendations to resolve any current issues or problems.

More strictly control pick-up of the secondary appliances. Currently, the program does not allow primary refrigerators to be recycled, yet per participant self-report, 22 percent of refrigerators are primary. While JACO's call center used a script to screen out customers who wanted to recycle a primary refrigerator as ineligible, drivers found that seven percent and nine percent in 2010 and 2011 respectively had scheduled a pick-up of a primary unit. As a result, National Grid is revising the JACO call center script to reduce confusion about what constitutes a primary refrigerator, with customers being told that primary units will not be eligible for pick-up. Additionally, the policy of no primary units will be re-enforced with all JACO drivers.

National Grid and JACO are revising marketing materials to clearly state the requirements of the program, as well as brainstorming methods to reduce "gaming" of the system by customers. A review of National Grid's marketing materials show that the secondary appliance requirement is very clearly defined on the Power of Action website. However, it is not consistently mentioned as a requirement of the program on all marketing materials (e.g. television advertisements). This may indicate that a more direct approach in stating the requirements of the program may be needed within the marketing materials (see Appendix E for examples of National Grid's marketing materials). Designs for these revisions have begun that more clearly state the program's eligibility for secondary appliances only.

Continue to work with JACO staff to both address confusion on program requirements, but also gain their insight on any issues. Regular check-ins and meetings with implementation staff will ensure that any confusion or questions on program requirements are addressed in a timely matter. For example, based on early survey findings and examination of the JACO dashboard, National Grid staff met with JACO to discuss the issue of the high percentage of primary refrigerators being recycled, which are ineligible according to program design. In addition, JACO



staff may be able to give useful insight to issues within the program (for example, their staff may be able to best gauge whether the primary refrigerator issue stems from confusion among the pick-up staff, the customer base or both).

Reinforce screening efforts at the participant registration stage to screen out potential free riders.

While the free ridership estimates for the program were consistent with other evaluations and a certain amount of free ridership is inevitable, any effort that can be made to screen out free riders would result in higher net savings. To help reduce free ridership, the revised call center script emphasizes program requirements that appliances be plugged in and working in order to be considered eligible for the program. Additionally, the program has added a requirement that screens out appliances that have not been used at all in the six months prior to the pick up to eliminate this loss of savings and increase the likelihood of recycling secondary units..

Retain current rebate levels. Almost no participants indicated that they were dissatisfied with the current rebate amount; in fact, 81 percent of participants indicated that they would have participated in the program without the rebate. However, JACO staff warned against doing away with the rebate altogether, because it still remains an effective selling point and draw to those customers who may be on the fence as to whether to recycle their appliance or not.

Continue to use a multi-pronged marketing strategy to reach the target market. Participants reported hearing of the program in multiple ways, with word-of-mouth was also noted as an effective method. While a majority of participants indicated they preferred to hear about programs via bill inserts, keeping up the current mix of marketing and advertising, and increasing the number of campaigns will help to ensure that the program goals are met in 2011. Since free pick-up of appliances was the main motivation for participation, marketing efforts should emphasize this aspect of the program and the ease of removal, as well as the fact that the appliance is being permanently recycled which is also important to participants.

Consider adding marketing efforts specifically targeted at “empty-nesters.” While the current marketing efforts appear to have been quite effective, program participants tend to be older, childless adults. Target marketing to this population might help boost participation numbers. As might be expected, this group does not frequently report emails or websites as preferred methods of program communication. More often, participants over 65 prefer to receive program information from bill inserts, newspapers, and direct mailings. While they were slightly more likely to cite “do not need or use anymore” as a reason for wanting to recycle their appliance through the program, they were also more likely to have an appliance older than 17 years than households of less than 65 years of age (76 percent vs. 58 percent, respectively).

Consider a leave-behind that includes education on ENERGY STAR appliances and information on other residential programs. When JACO picks up the appliance, they leave behind a sheet of information about the recycling process. Because the target market for this program are customers concerned about a good return on investment (according to interviews with program staff), the participant population for this program may be appropriate for other residential programs. National Grid may want to consider the possibility of promoting their other programs in this leave-behind material. Additionally, a little less than one-half of recycled refrigerators were replaced, compared with slightly more than one-fourth of freezers. Among customers replacing their appliance, most replaced their appliance with a new one. The program should seek to reinforce the choices made by participants by emphasizing how much energy and money they saved by getting rid of their inefficient model and will continue to save if they do not replace the appliance. If customers choose to replace the appliance, the program should encourage them to consider the more efficient ENERGY STAR labeled units.



JACO should continue to investigate techniques to reduce the number of participants who cancel their pickup date or drop out of the program. While JACO estimates that approximately 16 percent of customers change their scheduled appointments or drop-out of the program after signing up, only about four percent do not show up for their appointment. While in line with their experiences in other parts of the country, additional steps to retain or re-recruit customers have been undertaken to help the program reach its goals. These steps include calling the customer two weeks before the scheduled date, sending a reminder postcard, and calling customers to re-recruit them into the program. Additionally, National Grid is not charged for those customers who miss their appliance pick-up.

Avoid the creation of secondary appliances. Should National Grid ever offer an appliance replacement program in New York, National Grid should consider requiring that replaced appliances are recycled at the time of new appliance purchase.



2. INTRODUCTION

This report presents the findings and recommendations resulting from the 2010 process evaluation of National Grid's Refrigerator-Freezer Recycling Program in upstate New York. This report is one of a series of process evaluation reports of National Grid's energy efficiency programs in New York.

2.1 PROGRAM BACKGROUND

The Refrigerator-Freezer Recycling Program ("the Recycling Program") is designed to encourage households to retire and recycle working, secondary, inefficient refrigerators and freezers. The program offers customers an incentive of \$30 to recycle these secondary units, plus free pick-up. The program participant goal was to remove 13,850 appliances in 2010 from the residential market¹; savings goals are discussed in Section 2.2.1 below.

Through a competitive bid process, National Grid selected JACO Environmental (JACO)² as their implementation vendor. JACO removes the appliances from participating customers' homes, and then safely dismantles and recycles the appliance in an environmentally responsible manner. The company employs three operating groups with two teams in each core market (Syracuse, Albany, and Buffalo).

To qualify, customers must be a National Grid electric customer in upstate New York and own the units for pick-up. In addition, the appliance must be:

- Between ten and 30 cubic feet, using inside measurements
- For refrigerators, the unit must be a secondary refrigerator and not the primary refrigerator
- Clean, empty, and in working order at the time of pick-up
- Accessible with a clear path for removal by the contractor.

Each participating household is limited to recycling two units. The refrigerator or freezer must be picked up at a National Grid electric service address. Once the appliances are picked up, JACO dismantles the appliances and prepares all of the elements for in-house recycling, which includes removing and separating all metal, glass, plastic, and gas components of the appliances. These materials are periodically picked up and recycled by the recycling subcontractors.

The program began operation in July 2010. The planned launch was delayed by an Order from the Public Service Commission of New York, which had National Grid wait until NYSERDA had completed their program.

In 2010, customer marketing included bill inserts, email campaigns, television advertising, print advertising, kick-off events with media, collection truck signage, web links, and information

¹ This was the calendar year participant goal. However, the program did not commence until July 2010 when NYSERDA's program ended.

² As subcontractors to JACO, Univar provides hazmat materials handling services and Runyon Saltzman & Einhorn provides marketing and public relations support.



presented at Go Green Day events. In order to participate, customers submit a request and pick-up time via the website or by calling the call center. JACO's target is to pick up appliances within 17 days, and to deliver the rebate check within four weeks of pick-up. JACO also provides a "courtesy call" to participants within two days of their pick-up to remind them of their appointment.

A detailed process flow map of the program's implementation can be found in Appendix A.

2.2 PROGRAM TRACKING

All appliance and customer information is tracked by JACO in a database. It is integrated with an online dashboard accessible to National Grid and JACO staff for tracking purposes. Customer contact information is monitored, along with appliance characteristics (size, age, color, primary versus secondary, etc.). JACO also tracks order progress, such as whether the customer has scheduled an appointment or has been sent their rebate. Additionally, JACO tracks canceled appointments in order to determine whether they can be re-recruited or not. When a customer signs up for the program either by phone or online, JACO checks against utility zip code and name information in order to ensure they are only recycling appliances for National Grid customers.

2.2.1 Program Objectives and Achievements To-date

Through the end of December 2010, the program reports recycling 7,430 appliances, achieving 7,836,887³ of net kWh savings (or 87 percent of its kWh savings goal), as show in Table 2-1. It is important to note that despite this late start, the program achieved 87 percent of its 12-month net savings goal in a six-month period. Additionally, late in 2010, the 2010 and 2011 savings goals for this program were combined. The program is on track to meet these new combined goals.

Table 2-1. 2010/2011 Net Achieved Savings and Net Savings Goal

	Achieved	Goal
2010 Savings	7,836,887 kWh	8,998,335 kWh
2011 Savings		12,866,806 kWh
2010/2011 Combined Savings Goal		21,865,141 kWh

Source: National Grid

In Table 2-2 below, participation by climate zone is detailed, calculated from order data in JACO's dashboard and population numbers provided by National Grid. Similar to climate zone information, JACO used order data to also calculate a "metro" variable (Buffalo, Syracuse, and Albany). The metro variable was used in our survey analysis in order to determine if there are any differences by JACO-assigned area of residence, which will be discussed subsequently.

As shown in Table 2-2, the percentage of appliances recycled compared to eligible customer population varies by climate zone. While it appears that Binghamton is recycling the highest

³ The savings for 2010 were based on the December 16, 2009, Technical Manual, using average DOE nameplate energy usage for the refrigerators and freezers.



percentage of appliances, only three appliances have been recycled as it has the smallest relative National Grid account population. Among the other four climate zones, Syracuse has the highest percent of appliances recycled compared to the eligible population (0.64 percent). Overall, 0.50 percent of the eligible population in upstate New York recycled in 2010. The percentage of eligible customers recycling appliances in 2010 in New York is lower than what was estimated by JACO in National Grid's Rhode Island territory (approximately one percent).

Table 2-2. Recycling Orders by Climate Zone

Climate Zone	Number of recycled appliances	Number of accounts	Percent recycled by climate zone	Percent recycled overall
Albany	2,494	505,383	0.49%	0.50%
Binghamton	3	283	1.06%	
Buffalo	1,976	479,988	0.41%	
Massena	298	72,511	0.41%	
Syracuse	2,660	415,992	0.64%	

Source: National Grid⁴

2.2.2 Program Logic Model

The first activity in the program logic model (see Figure 2-1 below) is to develop a program infrastructure. National Grid works collaboratively with JACO to implement the program. JACO, in turn, works with several subcontractors for both marketing, appliance pick-up, and recycling. National Grid has also hired a process evaluator to assist in identifying needed refinements to the program.

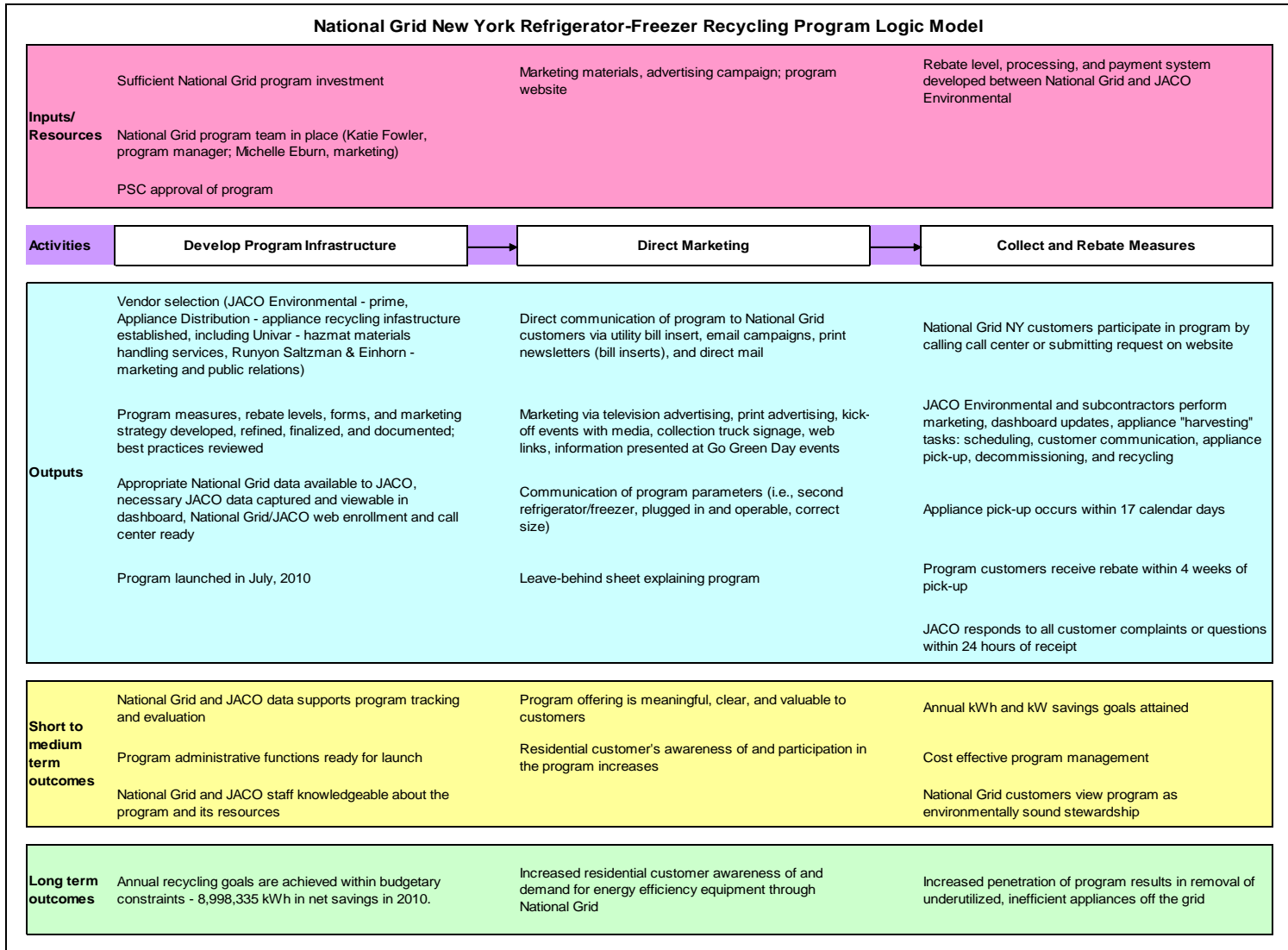
JACO and National Grid coordinate on the second activity in the program logic model—marketing the program—to ensure there is an integrated marketing effort. JACO, National Grid, and a marketing subcontractor conduct various marketing activities for the program as enumerated in the logic model outputs for this activity.

JACO leads the third activity in the program logic model, collecting and rebating refrigerators and freezers. JACO manages nearly all of the implementation of the program, from appliance pick-up, recycling, data documentation and database management, and rebate processing.

⁴ This table totals 7,431 recycled appliances, which is the number of records in the 2010 JACO dashboard data provided by National Grid.



Figure 2-1. National Grid New York State Refrigerator and Freezer Recycling Program Logic Model (upstate)





2.3 EVALUATION METHODOLOGY

The researchable issues identified for the process evaluation are organized around eight primary activities. These issues were refined in interviews with program managers.

Table 2-3. Key Researchable Issues

Researchable Question	Activity to Support the Question
Customer Awareness and Marketing	
How is the program promotion working? What improvements can be made?	Program and implementation staff interviews Participant survey
How do participants most commonly hear about and become involved in the program?	Participant survey
What additional marketing and outreach is needed?	Program and implementation staff interview
Program Administration, Processes and Resources	
How effective is the collaboration between all National Grid and JACO?	Program and implementation staff interviews
Is the support to JACO sufficient? If not, what additional training and education support can be provided?	Program and implementation staff interviews
Are program goals clearly understood and communicated?	Program and implementation staff interviews
Do program manager and JACO feel they have sufficient staffing resources to efficiently deliver the program? What additional information or resources are needed?	Program and implementation staff interviews
Trade Ally Participation	
Are there any internal or external barriers to JACO effectively delivering the program? Are program requirements clearly understood and correctly implemented?	Program and implementation staff interview
Use of other trade partners (e.g., new and used appliance retailers, Community Action Agencies) in providing program information and encouraging participation?	Program and implementation staff interview Participant survey
Ease of Participation	
What are the characteristics of the participating customer population and how does that compare to the eligible population? Are there any groups not reached by the program that also have financial and efficiency needs?	Program and implementation staff interview Participant survey
What barriers exist for customers' participation in the program? What marketing and outreach efforts are most successful in generating customer leads?	Program staff interviews Participant survey
Program Satisfaction	
How is the program working? How could it be improved? What enhancements are needed in the design and delivery of the program?	Program and implementation staff interview Participant survey
Are customers satisfied with the program? What do they believe could be offered to improve program services?	Program and implementation staff interview Participant survey
Customer Characteristics and Decision Making Processes	
Did customers replace the secondary refrigerator?	Participant survey
Why did customers decide to recycle their secondary appliance?	Participant survey



Researchable Question	Activity to Support the Question
How was the secondary appliance being used?	Participant survey
Does participation affect participants' perception of the utility and, if so, how?	Participant survey
To what extent is the program reaching all segments of the population?	Participant survey
Program Saturation	
Is the program delivering the intended benefits to participants and are they achieving planned energy impacts?	Program and implementation staff interview Participant survey
Is the appropriate information being collected to support future evaluation activities (i.e., impact evaluation)?	Program and implementation staff interview
Are program goals set appropriately?	Program staff interviews
Will the program be on target to reach its savings and spending goals? Why or why not?	Program staff interviews
Program Impacts	
What are the bill impacts and savings of program participation?	Onsite metering ⁵ Participant survey
Explore free ridership and spillover issues for the purpose of informing program design	Participant survey

2.4 EVALUATION METHODOLOGY

As part of the process evaluation, Tetra Tech conducted in-depth interviews with five program and implementation staff, as well as 405 quantitative participant surveys. Below, we present the study methodology, including sampling and data collection protocols.

2.4.1 Sampling

The sample for the participant survey was randomly selected using customer data downloaded from the JACO dashboard. To ensure a high response rate and good customer recall, the households were sampled using the following criterion: recycled an appliance in September or October of 2010, and had received their rebate (per the JACO database).

The sample was pulled from two separate files: one containing order and appliance information and one containing customer contact information. The sample was also screened for incomplete data, checked for duplicates, and aggregated to the household level in instances where customers recycled more than one appliance.

2.4.2 Data Collection

Tetra Tech interviewed the key management staff from National Grid and JACO. These interviews included one program manager and one marketing analyst at National Grid, as well as one program development manager, one regional manager, and one warehouse manager at JACO. Key researchable issues explored in the in-depth interviews included marketing effectiveness,

⁵ The onsite metering is being conducted as part of the impact evaluation; the onsite results will be reported at a later date.



collaboration between National Grid and JACO staff, program goals, barriers to program implementation, program design and delivery, and customer satisfaction. Where applicable in this report, detailed findings from the National Grid and JACO staff interviews are integrated with findings from the customer survey.

In addition to in-depth interviews with implementation staff, this evaluation included 405 quantitative surveys with participating customers who recycled an appliance.⁶⁶ The objectives of this survey were to capture customer perceptions of and experiences with the program, equipment characteristics (e.g., appliance age, condition), customer views regarding the program incentive, and attitudes towards energy efficiency practices. The survey also collected information on customer decision-making for use in estimating free ridership as part of the impact evaluation. Prior to implementing the survey, Tetra Tech pretested the survey instrument and revised the instrument as needed based on the results of the pretest.

The surveys were conducted between October 21, 2010, and November 24, 2010. At the survey onset, sampled customers were mailed an advance letter explaining the purpose of the call, asking for their cooperation, and inviting customers to call a toll-free number to complete the survey at their convenience. In order to maximize the response rates, we averaged up to six attempts to reach nonrespondents over different days of the week and weeks of the month. The final cooperation rate was 53 percent (see Appendix D for the detailed survey cooperation rate).

In order to limit respondent burden and keep the interview below twenty minutes, participants who recycled both a refrigerator and a freezer were only asked appliance-specific questions about the freezer, as they were less commonly recycled than refrigerators. Survey data was then weighted to be consistent with the ratios of those who recycled refrigerator(s) only, freezer(s) only, and both refrigerator(s) and freezer(s) within the 2010 population at the time of analysis. Additionally, responses of “don’t know” and “refused” were dropped from analysis except where noted. Therefore, there will be variability in the total number of responses (“n”) question to question.

2.5 REPORT ORGANIZATION

The next section of this report presents the results of the process evaluation. We present the detailed process findings in the following categories:

- Program Administration and Oversight
- Program Goals and Participation
- Sources of Program Information
- Appliance Characteristics
- Rebates
- Program Satisfaction
- Energy Awareness
- Demographics.

⁶⁶ This number of completed surveys provides a 95/5 level of precision.

2. Introduction



Section 3 of this report discusses process-related findings from the customer survey, while Section 4 presents the free ridership estimates and key impact findings from the impact evaluation. Section 5 discusses key recommendations. The technical appendices contain the process flow diagram (Appendix A), program staff in-depth interview guide (Appendix B), participating customer survey (Appendix C), the customer survey cooperation rate (Appendix D), and examples of National Grid marketing materials (Appendix E).



3. PROCESS EVALUATION FINDINGS

This section presents the detailed findings resulting from the process evaluation completed for upstate New York customers. It should be noted that appliance-specific customer survey results were examined by appliance type (refrigerator or freezer), as well as by key demographic questions (i.e., income, age of members of household), climate zone, and pick-up area (assigned by JACO). In this section, we note where responses differed by appliance type, demographics or geography.

On the whole, feedback from staff interviewees and customers involved with the Refrigerator-Freezer Recycling program indicate the program is functioning well and participant satisfaction is very high (over 90 percent). At the same time, the program faced several challenges in 2010, most specifically those associated with ramping up a program quickly mid-year with a short amount of time to achieve its goals. The following detailed findings summarize both areas that are working well as well as opportunities for improvement. Chapter 5 contains more detailed conclusions and recommendations.

Detailed findings are presented in the following categories: program administration and oversight, program goals and participation, source of program information, appliance characteristics, rebates, program satisfaction, awareness of energy-related issues, and demographics.

3.1 PROGRAM ADMINISTRATION AND OVERSIGHT

Per the qualitative program staff interviews, the relationship between National Grid and JACO has been working well. National Grid and JACO expressed satisfaction in both the level and quality of communication in regards to the program. JACO staff report that they cooperate with National Grid to address issues as they come up, and feel that they have “plenty of support.” Staff from both National Grid and JACO have also been attending a standing biweekly meeting to discuss any non-urgent issues. National Grid staff expressed approval with the relationship with JACO staff, one staff member noting that they “feel comfortable talking to” JACO and it is “refreshing” to work with staff that understand their regulatory needs so clearly. National Grid staff are also satisfied with the program dashboard maintained by JACO and typically access it several times a day to track program progress.

National Grid staff reported that JACO has been extremely responsive to the few pick-up related complaints (i.e. damage to customer property), responding within 24 hours. JACO also indicated that they have extensive quality control processes in place for both the customer call center and the pick-up staff. These quality control processes include tracking the percentage of on-time pick-ups and having pick-up crews immediately check in with managers if there is an issue.

Program functions, such as scheduling the appliance pick-up and sending out the rebate check, occur in a timely manner. JACO staff aim to pick up the majority of appliances within 17 calendar days (if convenient for the respondent). According to program participants, two-thirds of appliances are picked up within this timeframe. When appliances are picked up, JACO leaves behind a sheet with information on the recycling.

JACO staff noted that most participants receive their rebate check between 14 and 16 days after recycling their appliance (at most, within four weeks). A majority of participants indicated that they received their rebate check between two and four weeks after pick-up (70 percent). Fifteen



percent indicated that they received their check more than 4 weeks after their appliance was picked up.

In order to maximize efficiency, JACO has developed an extensive planning and mapping system method to minimize travel times between pick-up sites in upstate New York, and has assigned crews to one of three territories. This focus on efficiency positively affects both the ability to increase customer uptake in the program, as well as participant satisfaction.

Internally, both National Grid and JACO staff noted that initially there had been some difficulties using InDemand to enter invoices. These issues were solved within a few months. While InDemand is consistently being tested and undergoing updates, vendors often have difficulty in the beginning uploading their invoices on an unfamiliar system.

3.2 PROGRAM GOALS AND PARTICIPATION

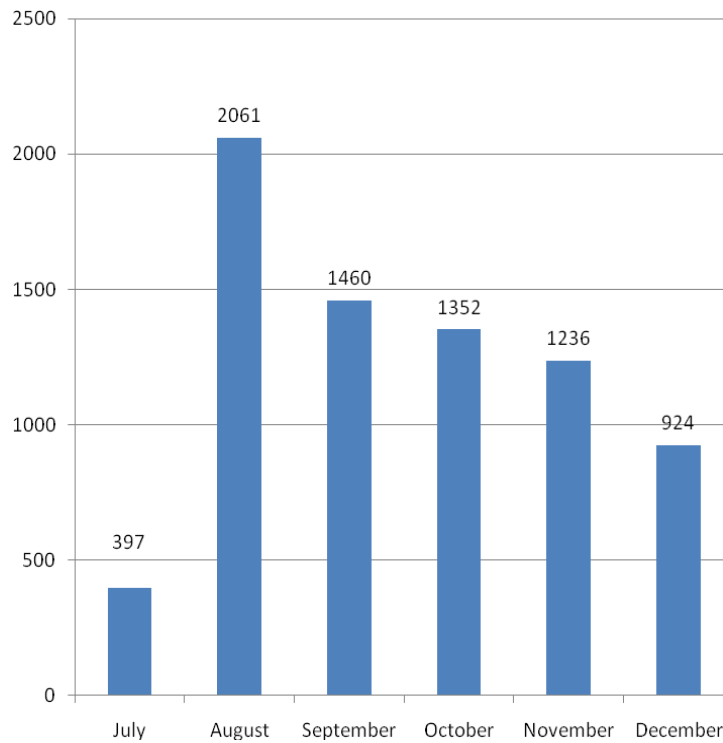
While the goals for 2010 were very aggressive due to the delayed kickoff, at the time of the interviews staff generally felt that the goals could have been achieved under a full year timeline, and were cautiously optimistic that they would reach 60 percent of their 12 month participant goal in a six-month period. Earlier this year, NYSERDA was implementing an appliance recycling program in New York. Because NYSERDA and National Grid were targeting the same market for their appliance recycling programs, National Grid's Refrigerator-Freezer Recycling Program was delayed to allow the NYSERDA program to wrap up. National Grid's program did not begin recycling appliances until July.

Also, staff indicated that there are "cyclical, seasonal changes" to uptake in appliance recycling programs. Homeowners tend to use their secondary refrigerator or freezer most often during the holiday season between Thanksgiving and the Super Bowl, leading to a possible slowdown in uptake levels as the year progresses. This, coupled with the late start, made reaching the 2010 participant goals more challenging.

Both National Grid and JACO staff hoped that recent marketing efforts (such as several large direct mailings and bill inserts) would push participation numbers higher as the year progressed. Figure 3-1 details the number of appliances recycled per month in 2010.



Figure 3-1. Number of Appliances Recycled by JACO per Month in 2010



Source: JACO Dashboard data, provided by National Grid

While the program does set participant goals, net savings goals are what program staff report. Adjustments to the savings calculations made near the end of the calendar year revealed that the program was actually much closer to reaching its savings goals than originally expected (see Table 3-1). The program actually achieved 87 percent of their 12-month savings goal in the six-month period. Additionally, at the end of 2010, the 2010 and 2011 program goals were combined. The program is on track to meet this combined goal.

Table 3-1. 2010/2011 Net Achieved Savings and Net Savings Goal⁷

	Achieved	Goal
2010 Savings	7,836,887 kWh	8,998,335 kWh
2011 Savings		12,866,806 kWh
2010/2011 Combined Savings Goal		21,865,141 kWh

Source: National Grid

⁷ The savings for 2010 were based on the December 16, 2009, Technical Manual, using average DOE nameplate energy usage for the refrigerators and freezers.



In 2011, staff noted that the implications of the program closing in 2012 may make meeting 2011 goals a challenge. If the program is not approved in 2012, simultaneously ramping down the program while still trying to meet 2011 program goals may be difficult. Ideally, JACO and National Grid prefer to market the program throughout the year so that demand for the program remains relatively steady. If the program will not be offered in 2012, marketing efforts in the last half of 2011 would need to inform customers that the program will no longer exist in 2012.

Finally, JACO program staff estimate that approximately 16 percent of customers change their original pick-up date or drop out of the program. Four percent of customers miss their appointment. However, none of these events add to the cost of the program since National Grid is only charged for those appliances that are picked up and recycled. JACO said these percents are in-line with other recycling programs in other parts of the country. As of February, JACO has attempted to re-recruit these customers. Other ways JACO tries to reduce no shows is to call the customer two weeks before the scheduled date and send a reminder postcard.

JACO staff currently is not able to discern a pattern for drop-outs; one staff member noted that often “something just happens the day of the appointment” and then the customer never reschedules their missed appointment. JACO reports that they leave a door hanger on the doors of customers who are not home at the time of the scheduled pick-up, which provides instructions for re-scheduling

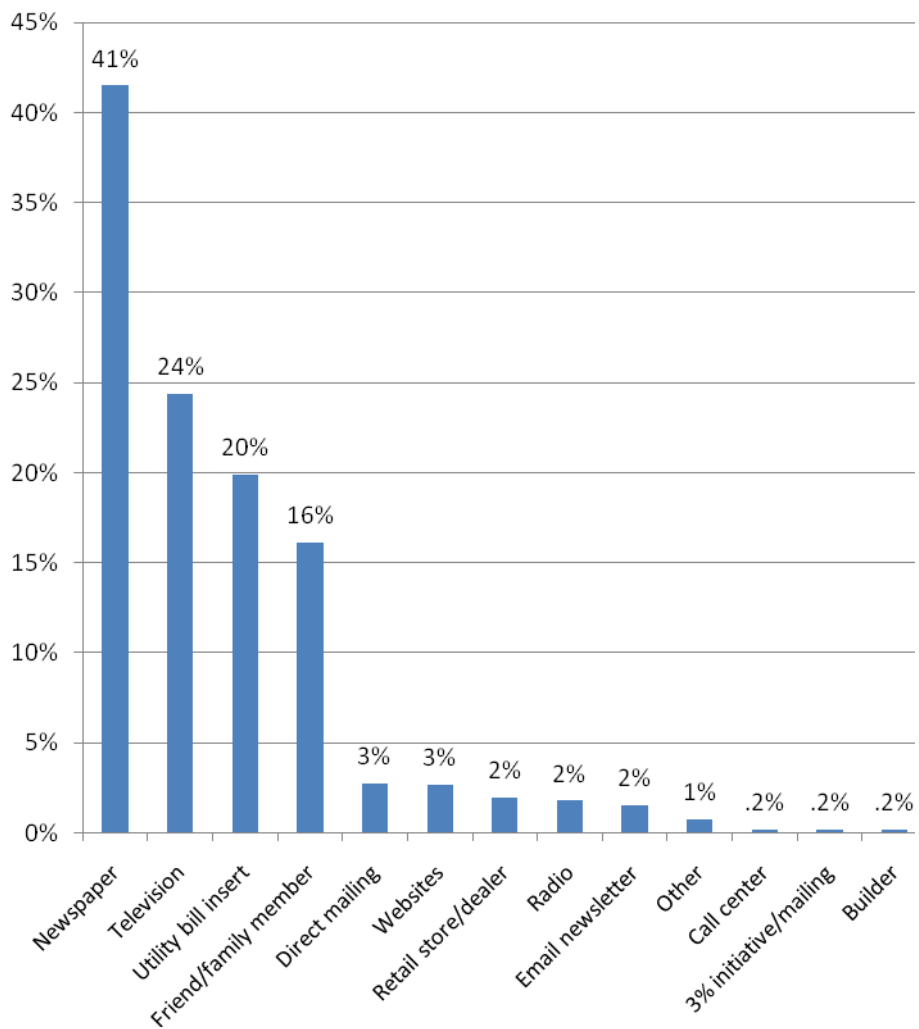
3.3 SOURCES OF PROGRAM INFORMATION

National Grid staff indicated that they have used a wide variety of marketing techniques to reach their target market, including kick-off events involving local media, bill inserts, print newsletters, direct mailings, emails, and newspaper advertisements. JACO, using a subcontractor, also promotes the program through television and print advertisements. These marketing efforts target the “ROI” market segment; these are customers who are very concerned with saving money and getting a good return on their investments. While some of these marketing attempts had been implemented too recently at the time of the evaluation to judge their specific success, increases in uptake numbers indicate that the marketing efforts of National Grid and JACO in general have been effective in bringing in new participants. JACO staff believe a more intensive program kick-off with bill inserts combined with public relation events and paid media would have been more effective in generating program awareness and interest.

This is consistent with the findings from customer interviews. As shown in Figure 3-2, most participants heard about the program either through a newspaper (42 percent), a television advertisement (24 percent), or a utility bill insert (20 percent). Sixteen percent heard about the program through a family member or friend. When compared to area of residence, significantly more people in Syracuse heard of the program through a newspaper ad (53 percent) compared to Albany or Buffalo (37 and 26 percent, respectively).



Figure 3-2. Method of Hearing of Recycling Program (n=399)



Source: Recycling Program Participant Survey, question P1_1 to P1_16

Despite how they actually did hear about the program, a majority of all participants indicated that they prefer to hear about programs like this through utility bill inserts (52 percent; Table 3-2). Analysis was done to see if any differences exist between household age groups. Households were divided into those that contain individuals above the age of 65 (46 percent) and those that do not (54 percent). Those households with members above the age of 65 were significantly more likely to hear of the program from a newspaper (48 percent) than those who did not have members above the age of 65 (36 percent). As might be expected, households with members over 65 do not frequently report emails or websites as preferred methods of program communication; more often, these households prefer to receive program information from bill inserts, newspapers, and direct mailings. This suggests that a targeted marketing effort to older customers with secondary appliances should include mainly tangible, “paper” marketing materials.



Table 3-2. Preferred Methods of Program Communication – All Participants (n = 389)

Preferred Method	Responses	Percentage
Utility bill insert	202	52 %
Direct mailing	106	27%
Newspaper	61	16%
Email newsletter	58	15%
Television	30	8%
Radio	8	2%
Websites	7	2%
Other	4	1%

Source: Recycling Program Participant Survey, question P2_1 to P2_11

When asked what they think happens to appliances after they are picked up by the program, most participants (61 percent) thought that their appliance was recycled. However, over one-fifth of participants (21 percent) did not know what happened to their appliance once it was picked up. Of those who thought their appliance was recycled, 87 percent gave a rating of eight or higher (on a scale where zero is not at all important and ten is very important) when asked how important it was to them that their appliance was safely recycled.

Most participants signed up to participate in the program over the phone (81 percent) with 18 percent signing up online. Another one percent said they signed up in some other way.

3.4 APPLIANCE CHARACTERISTICS

A majority of participants (87 percent) indicated that the appliance they recycled through the Refrigerator-Freezer Recycling program was over ten years old. Less than one percent of all participants indicated that their appliance was less than five years old. Recycled freezers were significantly more likely than recycled refrigerators to be more than 20 years old.



Table 3-3. Age of Recycled Appliance

	Refrigerator (n=243)		Freezer (n=125)		Total (n=368)	
	Responses	Percent	Responses	Percent	Responses	Percent
5 years old or less	1	0%	0	0%	1	0%
6 to 10 years old	34	14%	12	10%	46	12%
11 to 16 years old** ⁸	66	27%	15	12%	81	22%
17 to 20 years old	54	22%	20	16%	74	20%
More than 20 years old**	88	36%	78	62%	166	46%

Source: Recycling Program Participant Survey, questions RF2 and FZ2.

Most participants indicated that their appliance worked well, or only needed a few repairs (92 percent overall). Only one percent of those who recycled a freezer indicated that it did not work at the time of pick-up and no participants who recycled a refrigerator indicated that their appliance did not work at the time of pick-up. As shown in Table 3-4, 67 percent of refrigerators which were older than 20 years were still working and in good condition, and 74 percent of freezers which were older than 20 years were still working and in good condition.

⁸ Two asterisks (**) indicate that the difference between groups is statistically significant at the 95% level. One asterisk (*) indicates that the difference between groups is significant at the 90% level.



Table 3-4. Condition of Appliance Compared To Age

		0 to 16 years old		17 to 20 years old		More than 20 years old		Total	
		Responses	Percent	Responses	Percent	Responses	Percent	Responses	Percent
Refrigerator (n=243)	It worked and was in good physical condition	49	49%	33	61%	59	67%	141	58%
	It worked but needed some minor repairs such as a gasket seal or handle	36	36%	20	37%	25	28%	81	33%
	It worked but had some bigger problems	16	16%	1	2%	4	5%	21	9%
	It did not work	0	0%	0	0%	0	0%	0	0%
Freezer (n=91)	It worked and was in good physical condition	14	N/A	9	N/A	42	74%	65	71%
	It worked but needed some minor repairs such as a gasket seal or handle	5	N/A	3	N/A	12	21%	20	22%
	It worked but had some bigger problems	2	N/A	1	N/A	2	4%	5	5%
	It did not work	0	N/A	0	N/A	1	2%	1	1%

Source: Recycling Program Participant Survey, questions RF2 and RF5.

Although nearly all the recycled appliances worked at the time of pick-up, there were some units that were not being used. Freezer participants were significantly more likely than refrigerator participants to indicate that they never had their appliance plugged in during the year prior to recycling (Table 3-5). Ninety-three percent of refrigerators were plugged in at least part of the time in the year prior to recycling, compared to 74 percent of freezers. More than one-half of refrigerators and slightly less than one-half of freezers were plugged in all of the time. Of those appliances that were only plugged in part-time, both refrigerators and freezers averaged 4.2 months of operation over the past 12 months. Of the freezers that were never used in the year prior to participating in the program, 64 percent were more than 20 years old. Additionally, of the 23 refrigerators that worked but had some bigger problems, 21 were plugged in all of the time.



Table 3-5. Frequency Appliance Was Plugged In

	Refrigerator (n=272)		Freezer (n=133)		Total (n=405)	
	Responses	Percent	Responses	Percent	Responses	Percent
All the time ⁹	154	57%	63	48%	217	53%
Most of the time	18	7%	11	8%	29	7%
During certain months of the year ^{**}	41	15%	5	4%	46	11%
Occasionally, such as for special events	40	15%	19	14%	59	15%
Never ^{**}	19	7%	35	26%	54	14%

Source: Recycling Program Participant Survey, questions RF6 and FZ1.

If the respondent answered anything other than “All the time” or “Never,” they were asked to estimate the number of months in the previous year the appliance was in use. This information was used to calculate the average months per year the appliance was used. Refrigerators were used more frequently than freezers; refrigerators were used 8.4 months per year on average, and freezers were used 6.9 months per year on average.

Significantly more refrigerators than freezers were located in the kitchen prior to pick-up by the program (see Table 3-6). Freezers were most likely to be located in basements and garages (53 percent and 33 percent, respectively).

Table 3-6. Location of Appliance Prior to Recycling

	Refrigerator (n=272)		Freezer (n=98)		Total (n=370)	
	Responses	Percent	Responses	Percent	Responses	Percent
Basement ^{*10}	113	42%	52	53%	165	45%
Kitchen ^{**}	64	24%	3	3%	67	18%
Garage	69	25%	32	33%	101	28%
Porch/Patio	6	2%	6	6%	12	3%
Laundry room	4	2%	1	1%	5	1%
Yard	0	0%	0	0%	0	0%
Some other place	16	6%	4	4%	20	5%

Source: Recycling Program Participant Survey, questions RF8 and FZ7.

As seen in Table 3-7, younger refrigerators were more likely to be located in the kitchen. Conversely, the older the refrigerator, the more likely it was to be located in the basement. There was no similar pattern for freezers, as very few were located in the kitchen.

⁹ Two asterisks (**) indicate that the difference between groups is statistically significant at the 95% level. One asterisk (*) indicates that the difference between groups is significant at the 90% level.

¹⁰ Two asterisks (**) indicate that the difference between groups is statistically significant at the 95% level. One asterisk (*) indicates that the difference between groups is significant at the 90% level.



Table 3-7. Location of Refrigerator Compared to Age (n=243)

	0 to 10 years old		11 to 16 years old		17 to 20 years old		More than 20 years old		Total	
	Responses	Percent	Responses	Percent	Responses	Percent	Responses	Percent	Responses	Percent
Basement	7	20%	22	33%	26	48%	48	55%	103	42%
Kitchen	14	40%	20	30%	11	20%	9	10%	54	22%
Garage	11	31%	15	23%	14	26%	23	26%	63	26%
Some other place	3	9%	9	9%	3	6%	8	3%	23	9%

Source: Recycling Program Participant Survey, questions RF8 and RF2

Twenty-two percent of participants noted that their recycled refrigerator was a primary appliance, rather than a secondary appliance as specified under program eligibility. This is consistent with Table 3-6 above, which indicates that 24 percent of refrigerators are located in the kitchen (the most likely location of a primary refrigerator). In fact, of primary refrigerators, 95 percent were located in the kitchen. Conversely, only four percent of secondary refrigerators were located in the kitchen; secondary refrigerators were much more likely to be located in the basement (51 percent) or the garage (32 percent). Refrigerators that were not in use were kept in the basement or garage.

Currently, the program requirements list only secondary appliances as eligible for participation, although the JACO dashboard data indicates that seven percent of refrigerators are primary appliances. As stated above, the customer self-report from the survey indicates that 22 percent of recycled refrigerators are actually primary. JACO staff do screen customers during their initial contact phone call, so the reasons for this discrepancy are not immediately clear. This finding may indicate several things: confusion among the customer base as to what constitutes a “primary” refrigerator; confusion among the pick-up staff as to the requirements of the program or incorrect data collection while on-site; or customers understand the program requirements but “game” the system (aka, claiming a primary refrigerator is really secondary at the time of pick-up). Therefore, it is difficult to determine whether the JACO data or the customer self-report is a more accurate representation.

When the survey data were analyzed by area of residence (Table 3-8), significantly more primary refrigerators were recycled in Syracuse (29 percent) than in Buffalo or Albany (17 and 15 percent, respectively). Participants in Buffalo rated their satisfaction with the clarity of program requirements significantly higher than the other two metro areas (97 percent rated clarity as an eight or above on a zero to ten scale, compared to 89 percent in Syracuse and 88 percent in Albany). Thus, it is not clear whether the clarity of marketing materials explains this difference in the number of primary refrigerators recycled. In our review of the marketing materials, the website clearly states the secondary appliance requirement. This was not as clear in other materials. Regardless of the reason, better communication and understanding is needed between the customer base, JACO, and National Grid as to what constitutes eligible equipment. Additionally, all marketing materials clearly need to stress this point to customers.

3. Process Evaluation Findings



Additionally, 9 percent of all appliances were not being used at the time of pickup. While this is not currently listed as a program requirement, it negatively affects savings. The program should consider adding that requirement and expressing it clearly to customers via marketing materials.

Table 3-8. Use of Refrigerator by Area

	Buffalo (n=66)		Syracuse (n=127)		Albany (n=79)		Total (n=272)	
	Responses	Percent	Responses	Percent	Responses	Percent	Responses	Percent
Used as Main/Primary* ¹¹	11	17%	37	29%	12	15%	60	22%
Used as a Spare/Secondary	48	73%	81	64%	59	75%	188	69%
Not being used	7	11%	9	7%	8	10%	24	9%

Source: Recycling Program Participant Survey, questions RF1 and METRO (calculated variable).

Participants who indicated their refrigerator was a secondary unit at the time of pick-up reported that their appliance had been used as such for an average of 11.1 years.

Sixty-eight percent of those who recycled a refrigerator and 76 percent of those who recycled a freezer indicated that they had considered disposing of their appliance before they heard of the Refrigerator-Freezer Recycling program. When asked why they decided to dispose of their appliance through the program, participants most often reported financial reasons such as the program incentive or a desire to reduce energy savings (44 percent overall), logistical reasons such as the convenience of the program provided pick-up (38 percent), and environmental or energy saving reasons (29 percent). Participants who recycled their freezer were significantly more likely than those recycling their refrigerator to mention the age or status of their old appliance as a motivator to participating in the program (Table 3-9).

¹¹ Two asterisks (**) indicate that the difference between groups is statistically significant at the 95% level. One asterisk (*) indicates that the difference between groups is significant at the 90% level.



Table 3-9. Motivation to Participate in Program

	Refrigerator (n=271)		Freezer (n=131)		Total (n=402)	
	Responses	Percent	Responses	Percent	Responses	Percent
Financial reasons (reduce energy costs, the rebate)	116	46%	46	41%	162	44%
Logistical reasons (convenience, provided pickup)	92	37%	46	40%	138	38%
Helping the environment or saving energy	78	31%	29	25%	107	29%
Age or status of old appliance* ¹²	65	26%	39	34%	104	29%
Other	17	6%	19	15%	36	10%

Source: Recycling Program Participant Survey, questions RFR2 and FFR2.

When motivation to recycle through the program was examined by households who had members above the age of 65 compared to those that did not, several differences stand out. Those with a household member over 65 were significantly less likely to indicate that they participated because they wanted to recycle their appliance (18 percent compared to 27 percent). They were more likely to indicate they recycled their appliance because they did not need or use their appliance anymore (26 percent of older households compared to 18 percent of younger households).

While all participants indicated that they had at least one refrigerator currently in their home, slightly less than one-third of those who recycled a freezer indicated that they had one or more freezers currently in their home. Refrigerator participants are significantly more likely to have more than one appliance in their home (Table 3-10). Most appliances which are still in the home are less than ten years old.

¹² Two asterisks (**) indicate that the difference between groups is statistically significant at the 95% level. One asterisk (*) indicates that the difference between groups is significant at the 90% level.



Table 3-10. Quantity of Appliances in Home

	Refrigerator (n=272)		Freezer (n=133)		Total (n=405)	
	Responses	Percent	Responses	Percent	Responses	Percent
Zero** ¹³	0	0%	91	69%	91	25%
One**	175	64%	38	29%	213	51%
Two**	90	33%	4	3%	94	22%
Three	6	2%	0	0%	6	1%
Four	1	0%	0	0%	1	0%

Source: Recycling Program Participant Survey, question RRF1 and FB1.

3.5 REBATES

Forty-seven percent of participants that recycled a refrigerator, and 49 percent of those who recycled a freezer said they would have been willing to pay something to have their appliance removed. Participants indicated that they would be willing to pay a wide range of dollar amounts, ranging from \$5 to \$100. On average, those who recycled freezers were willing to pay slightly more (\$20) compared to those who recycled refrigerators (\$15). Thirteen percent of each group were not sure what, if anything, they would be willing to pay.

Table 3-11. Average Price Willing to Pay to Remove Appliance

	Mean
Freezers (n=77)	\$19.87
Refrigerators (n=135)	\$14.67

Source: Recycling Program Participant Survey, question RFR9A and FFR9A.

When asked to rate the importance of several aspects of the program in their decision to participate, participants overwhelmingly rated the free pick-up of the program as being very important (mean of 9.0) in their decision to participate. Those with freezers rated the free pick-up as slightly higher in importance than those who recycled a refrigerator (9.3 and 8.8, respectively). Compared to the high rating given to the free pick-up, much lower ratings were given to the marketing materials and recycling information (mean of 6.8) and the program rebate (mean of 5.8). Similarly, a majority of participants (81 percent of the refrigerator group and 80 percent of the freezer group) reported that they would have participated in the program if they had not received a rebate. While not an overwhelming number, about one-fourth of participants indicated that the need to move their appliance may have played a role in their ability to dispose of it; this may be one of several factors that explain why the free pick-up was key to a large majority of participants.

¹³ Two asterisks (**) indicate that the difference between groups is statistically significant at the 95% level. One asterisk (*) indicates that the difference between groups is significant at the 90% level.

**Table 3-12. Mean Level of Importance of Program Aspect**

	Mean
Rebate (n=397)	5.8
Information Provided (n=364)	6.8
Free Pick-up (n=400)	9.0

Source: Recycling Program Participant Survey, questions RP1 through RP1B, FB1 through FB1B.

When National Grid and JACO staffs were asked whether the program's rebate was set appropriately, all of them said yes. The \$30 rebate is in line with rebates across the country (\$25–\$50 according to JACO). However, program staff also reported that inflexibility in regulatory requirements restrict the ability to change program incentive levels quickly if needed. Adjusting the incentive level (as done in Massachusetts) can boost participation on short notice.

Regulatory requirements in the state of New York limit National Grid's ability to change incentive levels for their energy efficiency programs once they have been established. A change in incentive, up to 20 percent of the original amount, can be submitted in a letter of request to the Commission. However, approval can vary, sometimes taking up to 90 days. While it has not been an issue for the recycling program, National Grid staff expressed some interest in having the flexibility to alter the incentive levels in a more timely fashion in order to quickly recruit participants to meet savings goals.

Participant responses indicate that they are happy with the current rebate level and the free, convenient pickup of their appliance is the primary motivating factor. Thus, while program staff would like the flexibility to raise the rebate if needed, the current level should not likely be a barrier to the program reaching its combined 2010/2011 goals.

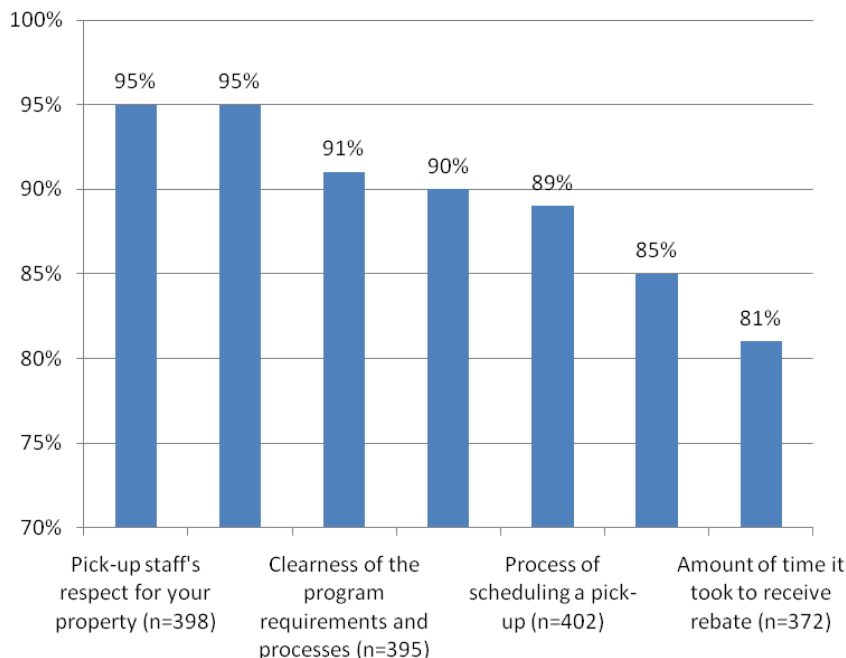
3.6 PROGRAM SATISFACTION

Per qualitative interviews with program staff, customer satisfaction appears to be high, with few complaints and a quick reaction to those complaints. National Grid staff said they received a few program-related complaints, less than other energy efficiency programs that National Grid manages in New York. Since their customers "tend to be very vocal," National Grid staff said this lack of negative feedback is a good indicator of high customer satisfaction.

Participant interviews support staff's assertion of high participant satisfaction. Customers were asked to rate their satisfaction with a number of program aspects on an eleven point scale with zero being not at all satisfied and ten being very satisfied. A majority of participants scored all aspects of the program above an eight on this scale (Figure 3-3). The two most highly rated aspects of the program were the program staff's respect for property (95 percent) and the courteousness of pick-up staff (95 percent). The lowest rating of 81 percent was given to the amount of time it took to receive their rebate check. When asked to rate their satisfaction with the program overall, nearly all (97 percent) rated it an eight or above on a zero to ten scale. There were no discernable differences in satisfaction levels between those who recycled a refrigerator and those who recycled a freezer. However, participants in Syracuse were significantly more likely to be satisfied with the process of scheduling a pickup than those in Albany (92 and 85 percent, respectively). Additionally, as stated before, satisfaction with the clarity of program requirements and processes was significantly higher in Buffalo than either Syracuse or Albany.



Figure 3-3. Respondents Satisfied with Various Program Aspects (8 or higher on a scale of 0 to 10)



Source: Recycling Program Participant Survey, questions E1A to E1I, customers rating satisfaction as eight or higher on a ten-point scale.

Participants were asked qualitatively about any changes that could be made to improve the program. Most participants indicated that they did not have any suggestions for program improvements. Among those who did have a suggestion to improve the program, participants most frequently reported requesting a larger rebate check, including more types of appliances in the program (water heaters, air conditioners, stoves, etc), and speeding up the processes (the time between the scheduling and the pick-up, the time between the pick-up and the receipt of the rebate check, etc). While some participants had not indicated in previous questions that the rebate was very important in their decision to participate (in fact, most said they would have participated without the check altogether), these responses indicate that the rebate is still an important factor to some respondents. Of the 25 respondents (out of 405) who mentioned a higher rebate in their suggestions for the program, 16 (4 percent of all respondents) gave a rating of eight or higher when asked about the importance of the rebate on their decision to participate in the program.

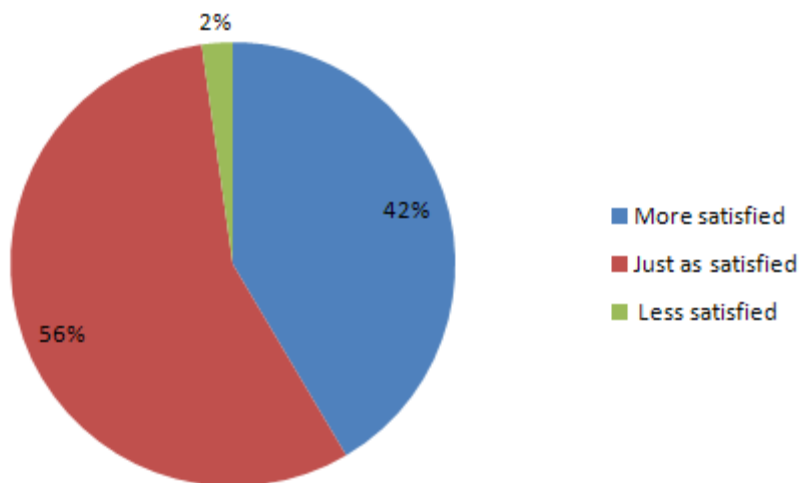
A majority of participants indicated that they received their rebate check between two and four weeks after pick-up (70 percent), which is in line with what JACO has estimated (16 to 18 days). Fifteen percent indicated that they received their check more than 4 weeks after their appliance was picked up.

As another indicator of high satisfaction, all but two participants said they would recommend the program to others (over 99 percent). Nearly all participants indicated that they were just as satisfied (56 percent) or more satisfied (42 percent) with National Grid as their energy provider as



a result of their participation in the program as seen in Figure 3-4. Those who said they were less satisfied as a result (two percent), mostly reported dissatisfaction with rates or billing issues, and few actual program-related problems.

Figure 3-4. More, Same, Or Less Satisfied with National Grid (n=400)



Source: Recycling Program Participant Survey, question E14.

3.7 ENERGY AWARENESS

When asked, a majority of participants (92 percent) said that they are aware of the ENERGY STAR label. This is a higher percentage than found in a national study conducted in 2009, where 64 percent of households recalled seeing or hearing of the ENERGY STAR label¹⁴.

Awareness is significantly higher among participants who recycled a refrigerator (95 percent) than those who recycled a freezer (87 percent). As shown in Table 3-13, a majority of people who have heard of ENERGY STAR reported owning one or more ENERGY STAR appliances or measures (88 percent). The most common ENERGY STAR measures reported include refrigerators, clothes washers, and dishwashers. Interestingly, 15 percent of participants indicated that they had an ENERGY STAR clothes dryer, although ENERGY STAR does not currently label any dryers.

¹⁴ EPA Office of Air and Radiation, Climate Protection Partnerships Division. *National Awareness of ENERGY STAR® for 2009: Analysis of 2009 CEE Household Survey*. U.S. EPA, 2010.



Table 3-13. Ownership of ENERGY STAR Appliances

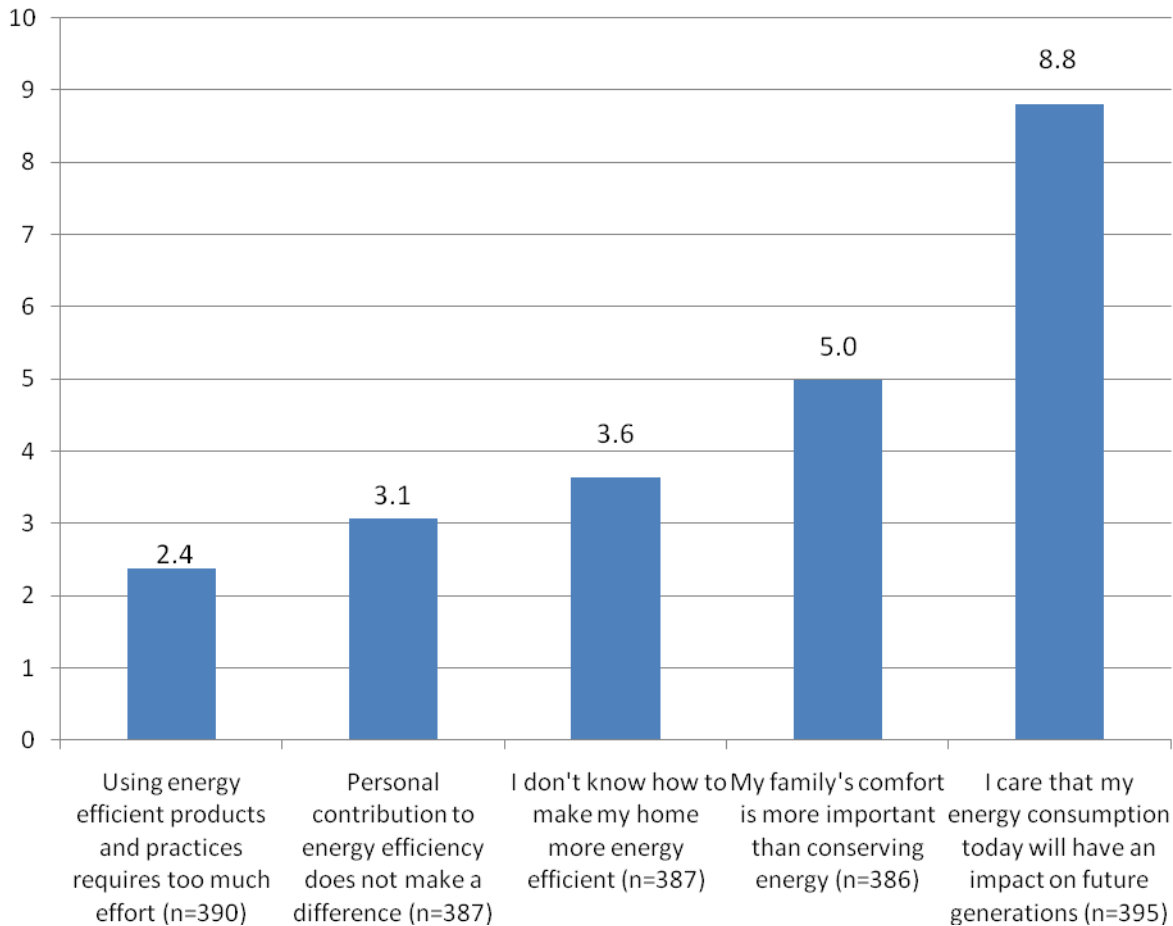
	Total (n=303)	
	Responses	Percent
Refrigerator	207	68%
Clothes washer	140	46%
Dishwasher	82	27%
Clothes dryer	47	15%
Light bulb	42	14%
Furnace	44	15%
Television	33	11%
Microwave	29	10%
Stove or Oven	30	10%
Hot water heater or boiler	27	9%
Central air conditioner	22	7%
Windows	19	6%
Freezer	22	7%
Room, Window, or Wall AC	9	3%
Other	10	3%
Thermostat	10	3%
Dehumidifier	11	4%
Computer	12	4%
Doors	12	4%
VCR/DVD player	1	0.3%
Smart power strips	1	0.3%

Source: Recycling Program Participant Survey, question A8

As shown in Figure 3-5, when asked to rate their agreement with several energy-related statements on a scale of zero to ten, most participants disagreed with the statements “My personal contribution to energy efficiency does not make a difference” and “I don't know how to make my home more energy efficient” (means of 3.1 and 3.6, respectively). Participants also disagreed with the statement “Using energy efficient products and practices requires too much effort” (mean of 2.4). However, participants neither agreed nor disagreed with the statement “My family's comfort is more important than conserving energy” (mean of 5.0). Participants mostly agreed with the statement “I care that my energy consumption today will have an impact on future generations” (mean of 8.8).



Figure 3-5. Attitudes on Energy Efficiency



Source: Recycling Program Participant Survey, questions A11A to A11E (0 = strongly disagree and 10 = strongly agree).

When attitudes on energy efficiency were compared to income, several differences across groups became apparent (Table 3-14). Except for the statement “I care that my energy consumption today will have an impact on future generations,” which all groups rated about the same, those in the lowest income group (\$0 to \$30,000) were more likely to agree with the other four statements than those in the middle and highest income groups. These four statements tend to express more negative views on energy efficiency (i.e., energy efficiency is too much effort, personal comfort is more important, etc), and those in the highest income group were more likely to disagree or strongly disagree with these “negative” statements on energy efficiency. Notably, the lowest income group gave a rating of 5.9 for the statement “My family’s comfort is more important than conserving energy,” while the highest income group gave a rating of 4.0 for the same statement. This may be because those in the highest income bracket are able to afford more energy efficient equipment than those in the lowest income bracket (e.g. buying a high efficiency furnace instead of simply keeping the thermostat at a lower setting), making the disparity between comfort and energy efficiency less apparent.

Table 3-14. Attitudes on Energy Efficiency Compared to Income (Means)¹⁵.

	Less than \$30,000 (n=59) (A)	\$30,000 to less than \$75,000 (n=141) (B)	\$75,000 or greater (n=90) (C)
Personal contribution to energy efficiency does not make a difference	3.6 ^{B,C}	3.0 ^C	2.0
I don't know how to make my home more energy efficient	4.2 ^{B,C}	3.8 ^C	2.7
My family's comfort is more important than conserving energy	5.9 ^{B,C}	5.0 ^C	4.0
Using energy efficient products and practices requires too much effort	2.8 ^{B,C}	2.3 ^C	1.5
I care that my energy consumption today will have an impact on future generations	8.8	8.9	8.8

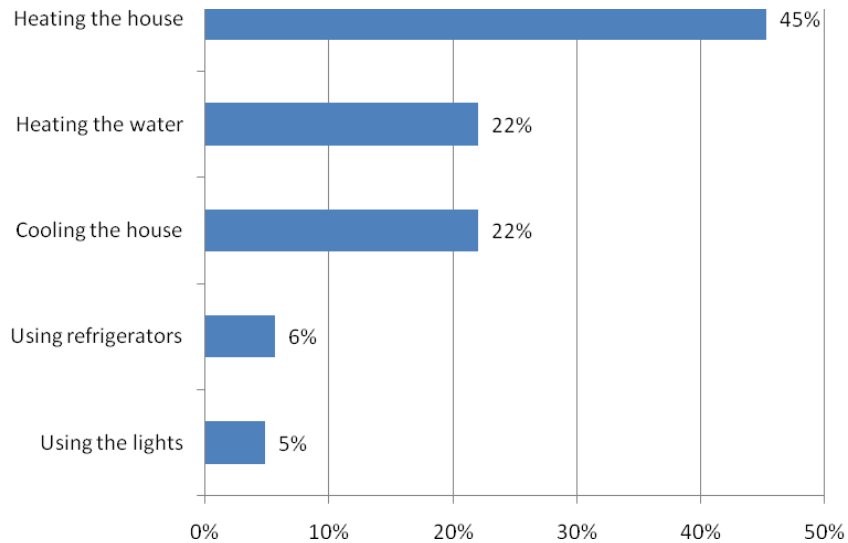
Source: Recycling Program Participant Survey, questions A11A to A11E

Of several energy knowledge questions, more participants thought that heating their home used the most energy (45%) but there was no general consensus on this. Twenty-two percent thought that cooling the house used the most energy, and another 22 percent thought heating the water used the most energy (see Figure 3-6). With regard to National Grid's New York Energy Efficiency Programs that deal with home heating (e.g., High-Efficiency Heating and Water Heating and Controls Program and Enhanced Home Sealing Incentives Program), customers might need to understand that heating the house costs the most money and these programs will also contribute to lowering cooling expenses.

¹⁵ A notation of ^B or ^C notes significance between means as compared to the highest income group, with columns A, B, and C noted on the header of the table.



Figure 3-6. Home System that Requires Most Energy Usage (n = 393)



Source: Recycling Program Participant Survey, question A12.

Most participants thought that replacing an old refrigerator with a new ENERGY STAR refrigerator could save over 100 dollars a year (94 percent). Similarly, most participants agreed that cell phone chargers use energy when plugged in, even if the phone is not charging (89 percent).

As shown in Table 3-15, most participants indicated that they had taken one or more energy-efficient actions. Most participants have purchased CFLs or energy-efficient lighting, and around two-thirds had turned their water heater temperature down. Only three percent said they had not done any of the actions provided.

Table 3-15. Adopted Energy Efficient Practices (n=403)

	Responses	Percent
Purchased energy efficient, compact fluorescent bulbs	357	88%
Turned down water heater temperature	260	65%
Installed a programmable thermostat	245	60%
Added insulation to attic/walls	218	54%
Had an energy efficiency audit performed	66	16%
None	11	3%

Source: Recycling Program Participant Survey, question A16.

3.8 DEMOGRAPHICS

All participants were asked a series of demographic questions. The majority of participants own their homes (98 percent). In addition, a majority of homes are year-round, single-family dwellings (98 and 93 percent, respectively). As shown in Table 3-16, only 18 percent of households contain

3. Process Evaluation Findings



children less than 18 years old, while 48 percent of households contain individuals over 65 years old. Participants reported living in their homes an average of 25.3 years. These findings suggest that program participation is heaviest among older individuals without children (“empty-nesters”). Also supporting this finding is the number of households containing just one or two people (24 percent and 49 percent, respectively).

When it came to income, program participation was lowest among those in the highest and lowest income brackets. Otherwise, participation was fairly consistent among the other income categories.

Table 3-16. Household Characteristics

Number of people currently living in home (n=396)	Reponses	Percent
One	94	24%
Two	194	49%
Three	47	12%
Four	44	11%
Five	11	3%
Six	5	1%
Seven	1	<1%
Age of members of household (n=393)		
Households with children less than 18 years old	71	18%
Households with members 18-24 years old	33	8%
Households with members 25-34 years old	29	7%
Households with members 35-44 years old	59	15%
Households with members 45-54 years old	89	22%
Households with members 55-64 years old	106	27%
Households with members 55-64 years old	185	48%
2009 pre-tax household income (n=297)		
Less than \$10,000	6	2%
\$10,000 to less than \$20,000	33	11%
\$20,000 to less than \$30,000	24	8%
\$30,000 to less than \$40,000	39	13%
\$40,000 to less than \$50,000	56	19%
\$50,000 to less than \$75,000	48	16%
\$75,000 to less than \$100,000	41	14%
\$100,000 to less than \$150,000	33	11%
\$150,000 to less than \$200,000	11	4%
\$200,000 or more	6	2%

Source: Recycling Program Participant Survey, questions D9 through D10



4. IMPACT EVALUATION FINDINGS

This section presents some of the impact related findings resulting from the process evaluation completed for upstate New York customers. First, we present a summary of free ridership estimates, followed by a snapshot of the actions that participants would have taken in the absence of the program, and finally an analysis of the impact related questions.

4.1 SUMMARY OF FREE RIDERSHIP ESTIMATES

The telephone survey asked a series of questions designed to characterize what actions participants would have taken in the absence of the program. Two methodologies were used to calculate free ridership estimates, which yielded rates of 38 percent and 37 percent for refrigerators and 41 percent and 35 percent for freezers (Table 4-1). Both methodologies followed a similar pathway of survey questioning about likely actions in the absence of the program to assess the likelihood that participants would have removed the appliance within a year, as well as their likely future usage pattern or likely means of appliance removal. The second methodology (FR2) introduced two likely barriers to removal in the absence of the program—the need to pay to have the appliance removed and the need to physically remove the appliance from the home.

We consider Method 2 to be a more accurate measure of free ridership than Method 1 and recommend using FR2 rates for program planning and impact analysis. Free ridership estimates for each method and subgroup can be found in Table 4-1. Additional details on the methodologies used to estimate free ridership can be found in Section 4.3.

Table 4-1. Free Ridership Estimates

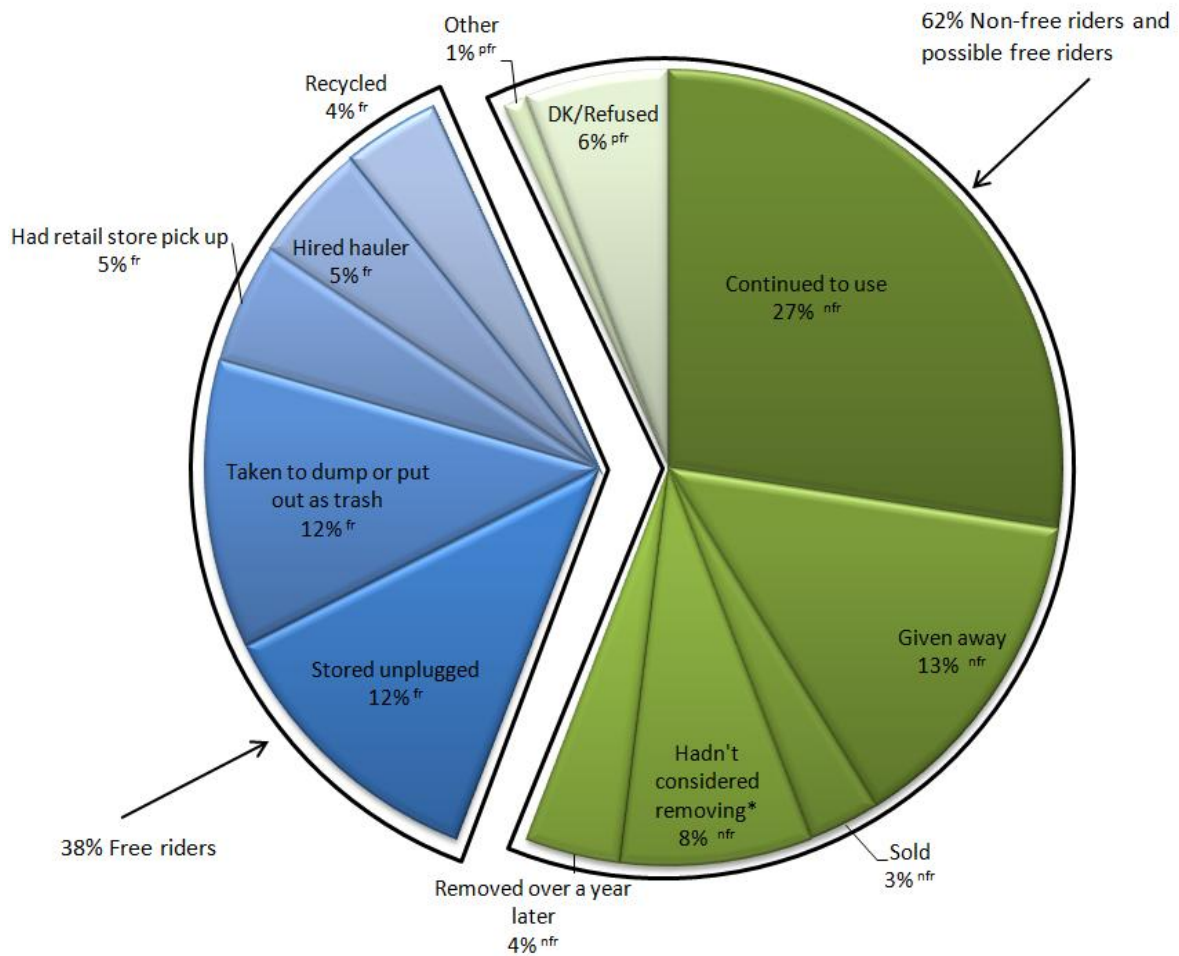
	n	Method One	n	Method Two
Overall – Refrigerators	272	38%	272	37%
Removed primary refrigerator	N/A	N/A	60	35%
Removed and replaced appliance	N/A	N/A	66	35%
Removed and did not replace appliance	N/A	N/A	146	39%
Overall – Freezers	133	41%	133	35%
Removed and replaced appliance	N/A	N/A	36	33%
Removed and did not replace appliance	N/A	N/A	97	36%

4.2 DISPOSITION OF APPLIANCES IN ABSENCE OF THE PROGRAM

Figure 4-1 and Figure 4-2 provide a snapshot of the actions that participants would have taken in the absence of the program. Among respondents who removed refrigerators through the program, more than one out of four (27 percent) said that they would have continued to use the unit and about one out of six (16 percent) would have kept the unit in use by selling it or giving it away. About one in four (24 percent) would have taken the refrigerator out of use by trashing it or keeping it unplugged in their home, and about one out of six (14 percent) would have gotten rid of it in some other way. More than one out of ten respondents who removed refrigerators through the program (12 percent) either hadn't considered removing it before the program or said they would have postponed getting rid of it for at least a year.



Figure 4-1. Likely Disposition of Refrigerators in Absence of Program (n=272)



* Respondents who said they would remove the refrigerator without the program but hadn't considered doing so before hearing about the program.

** Respondents who would have gotten rid of the refrigerator in any manner more than a year after the fridge was removed by the program.

^{fr} Respondents were considered free riders according to free ridership Method 1.

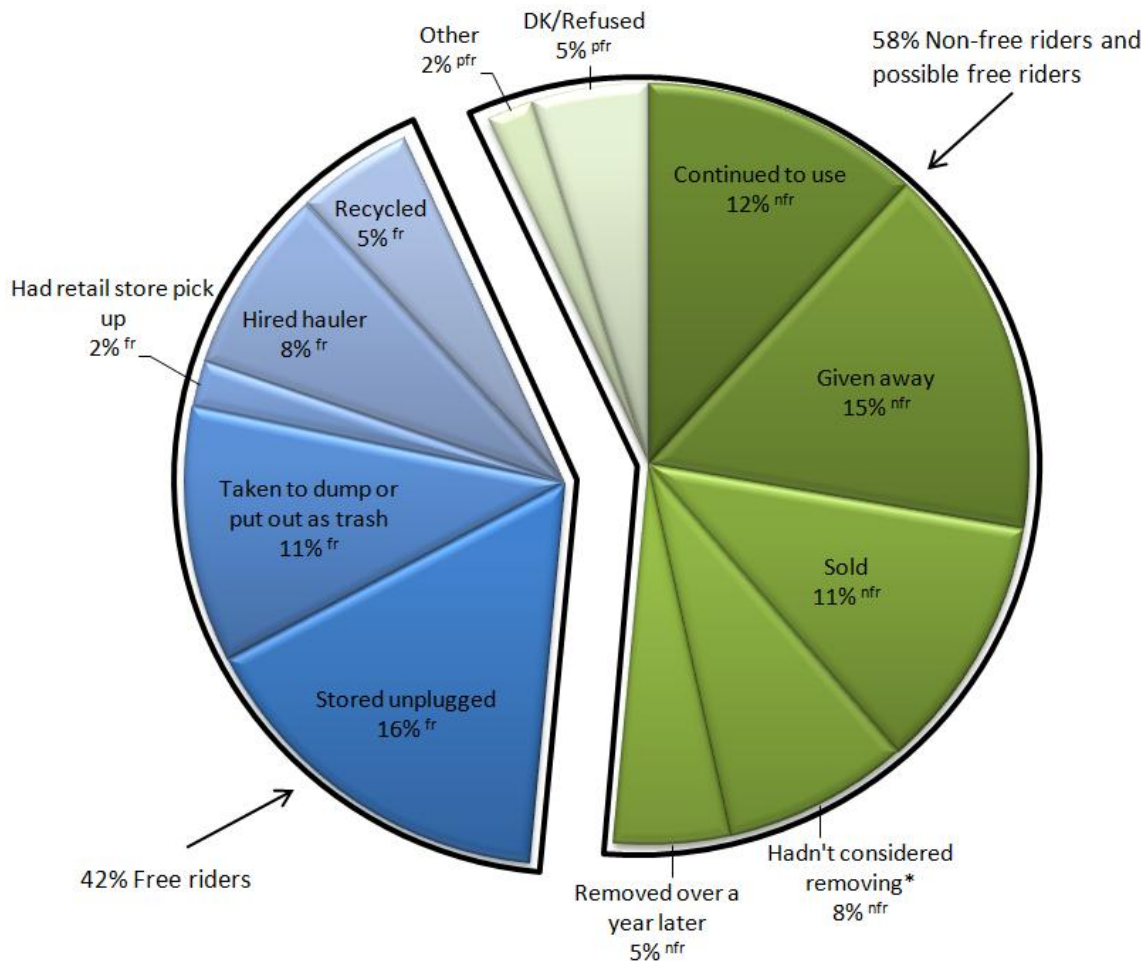
^{nfr} Respondents were considered non-free riders according to free ridership Method 1.

^{pfr} Respondents were considered possible free riders according to free ridership Method 1.



Among respondents who removed freezers through the program, only about one out of ten (12 percent) said that they would have continued to use the unit, but more than one out of four (26 percent) would have kept the unit in use by selling it or giving it away. About one in four (27 percent) would have taken the refrigerator out of use by trashing it or keeping it unplugged in their home, and about one out of six (15 percent) would have gotten rid of it in some other way. More than one out of ten respondents who removed freezers through the program (13 percent) either hadn't considered removing it before the program or said they would have postponed getting rid of it for at least a year (Figure 4-2).

Figure 4-2. Likely Disposition of Freezers in Absence of Program (n=133)



*Respondents who said they would remove the freezer without the program but hadn't considered doing so before hearing about the program.

**Respondents who would have gotten rid of the freezer in any manner more than a year after the freezer was removed by the program.

fr Respondents were considered free riders according to free ridership Method 1.

nfr Respondents were considered non-free riders according to free ridership Method 1.

pfr Respondents were considered possible free riders according to free ridership Method 1.

1.



Other key findings about respondents' reported intentions include:

- About one out of five respondents who said they would have gotten rid of their refrigerator (21 percent) and about one out of four respondents who said they would have gotten rid of their freezer (27 percent) said that moving and transporting the appliance would have prevented them from actually getting rid of it without the program.
- As discussed in Chapter 3, 40 percent of those who said they would have gotten rid of their refrigerator and a similar proportion of those who would have gotten rid of their freezer (38 percent) claimed they would not pay anything to have it removed from their home.
- As discussed in Chapter 3, respondents indicated that the rebates were moderately important to their decision to participate in the program. The average importance rating (from 0-10) was 5.8. Nevertheless, 81 percent of the refrigerator group and 80 percent of the freezer group said they would have participated even without any incentive. These results could indicate that, although the rebate was a fairly important benefit of the program, other benefits (such as getting the appliance removed for free and with little hassle, knowing it will be recycled, etc.) might have been important enough without the rebate to merit participating. It should be noted that financial incentives can be very important in the initial consideration of a decision; however, if other benefits are also realized after the decision is made the initial influence of the rebate might be minimized in retrospect.
- Forty-five percent of the respondents in the refrigerator group and twenty-seven percent of the freezer group replaced the appliance they had turned in with another one of the same type. Those who recycled a secondary refrigerator were less likely to replace it (34 percent, compared to 95 percent of those recycling a primary refrigerator). Twenty-three percent of those who replaced their secondary refrigerator replaced it with a used appliance. Of those who replaced their secondary refrigerators with a new refrigerator, 89 percent bought an ENERGY STAR qualified appliance.

Table 4-2. Replaced Recycled Appliance

	Refrigerator (n=272)		Freezer (n=133)		Total (n=405)	
	Responses	Percent	Responses	Percent	Responses	Percent
Yes**	123	45%	36	27%	159	39%
No**	149	55%	97	73%	246	61%

Source: Recycling Program Participant Survey, questions RR1 and FE1

- The majority of the replacement appliances were new (refrigerators: 86 percent, freezers: 89 percent) and for the most part had the ENERGY STAR® label (refrigerator: 80 percent, freezer: 72 percent). Customers who replaced a refrigerator were significantly more likely than those who replaced a freezer to report that their replacement appliance was ENERGY STAR® rated (93 and 79 percent, respectively). Thus, although many of the respondents replaced the appliance that was removed, limiting energy savings from the program, the replacements tended to be newer and more energy-efficient than the previous ones.

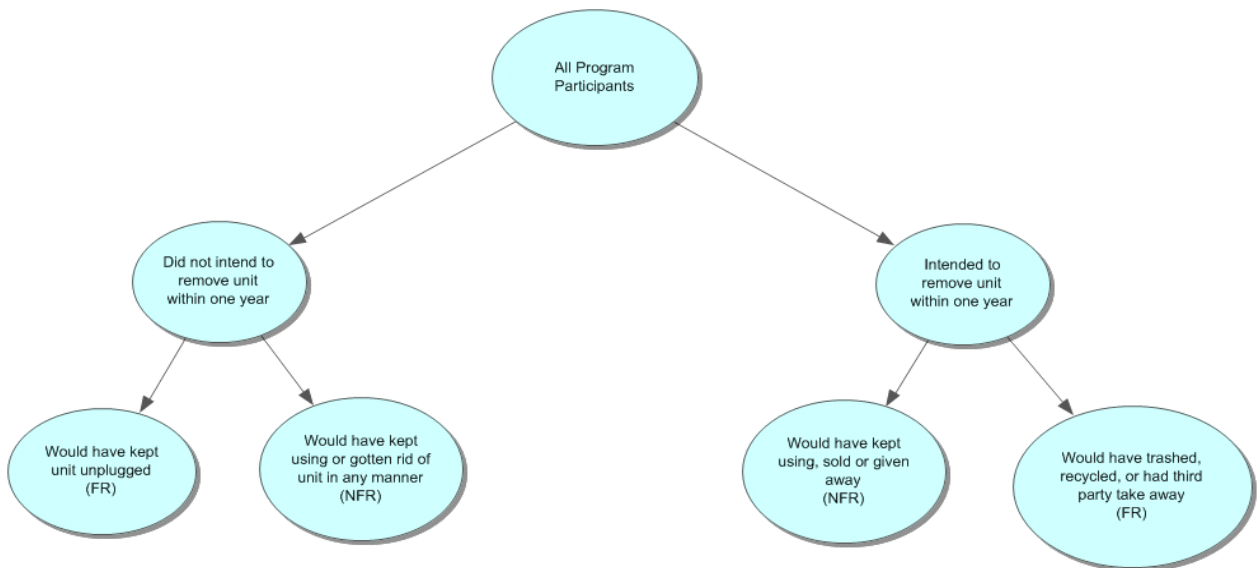


4.3 DETAILED IMPACT RELATED QUESTION ANALYSIS

In order to better understand the customer decision-making process, respondents were asked why they had participated in the program, how important the incentive had been in their decision to participate, what they would have done with the appliance in the absence of the program, and whether they had replaced the removed appliances with new ones.

Based on responses to these questions, we estimated the extent of free ridership for the program. As Figure 4-3 shows, free riders (FRs) are considered to be participants who either would have kept the unit unplugged in the absence of the program, or before learning about the program had intended to remove the appliance within one year in a manner that would not have led to its being used by someone else. Non-free riders (NFRs) are participants who either would have kept using the appliance, would have removed the appliance more than one year after the program, or would have removed the appliance in a manner that would have led to its use by someone else. Appliances that replace appliances removed through the program (replacement appliances) impact the energy savings of the program, but are not considered in estimating free ridership rates.

Figure 4-3. Determination of Free Ridership Status



4.4 INITIAL ESTIMATION OF FREE RIDERSHIP RATES

We estimated free ridership rates two different ways (FR1 and FR2) for each appliance. For the analysis of both FR1 and FR2, FR status was determined by questions about the intended disposition of appliances in absence of the program.

FR1 used participants’ responses to questions about the likely disposition of the appliances in the absence of the program and were estimated in the following way: Respondents who said they would have kept the appliance unplugged were considered to be free riders (FRs). Those who would have disposed of the appliance without the program were considered to be non-free riders



(NFRs) if they said they would have sold it or given it away (as the appliance would still be in use). In contrast, FRs said they would have recycled the unit, taken it to a trash dump, or had the appliance picked up by a third party (i.e., a hauler or a retail store). Respondents who said they would have disposed of the appliance more than a year from the time it was picked up by the program were considered to be NFRs. In addition, respondents who said they had not considered removing the appliance before they heard about the program, but later said they would have either gotten rid of it without the program or that they would have kept it and continued using it, were determined to be NFRs. Respondents who said “don’t know” to certain questions or gave responses that didn’t clearly determine their FR or NFR status were considered to be possible FRs (PFRs).

A potential drawback of this method is that these initial responses might reflect respondents’ wishes and attitudes rather than what they actually would have done. The ability to physically move a large appliance and the financial costs associated with hiring a hauler are among the barriers that might prevent people from removing the units despite the wish to do so.

FR2 rates were estimated along similar principles. However, to address the physical and financial barriers that may have prevented people from removing the units, the analysis of FR2 incorporated two additional questions about the impact of physical and financial barriers on the disposal decision. One of the questions asked how much, if anything, respondents would be willing to pay a hauler or someone else to take away the appliance if the program were not available. The second question asked whether the need to physically move and/or transport the appliance would prevent them from getting rid of it. Respondents who said they would have hired a hauler to remove the appliance but that they would not pay to do so, or that they would have trashed or recycled the appliance but that the need to physically move and/or transport the appliance would prevent them from getting rid of it, were determined to be NFRs for the FR2 analysis. Although we recommend using FR2 rates for the impact analysis, in this report we present FR1 rates as well.

4.4.1 Initial Free Ridership Estimates

As shown in Table 4-3, the initial free ridership estimate (FR1) was 38 percent for refrigerators and 41 percent for freezers. Among the refrigerator group, 56 percent were non-free riders (NFR) and 6 percent were possible free riders (PFRs). Among the freezer group 53 percent were NFRs and 6 percent were PFRs.

For FR2, responses to the two additional questions—how much respondents would pay for a hauler and whether physically moving the appliance would prevent respondents from removing it—were incorporated into the analysis. When these questions were incorporated into the analysis, FR2 rates dropped slightly for refrigerators (from 38 percent to 37 percent) and more substantially for freezers (from 41 percent to 35 percent).

Table 4-3. Free Ridership Estimates

	Refrigerators (n=272)	Freezers (n=133)
FR1 (free riders)	38%	41%
NFR1 (non-free riders)	56	53
PFR1 (possible free riders)	6	6
FR2 (free riders)	37%	35%
NFR2 (non-free riders)	57	59
PFR2 (possible free riders)	6	6

4.4.2 Primary versus Secondary Refrigerators—Free Ridership and Program Influence

The program requires that removed refrigerators have been used as secondary, not primary refrigerators. Nevertheless, as shown in Table 4-4 more than two out of ten respondents (22 percent) in the refrigerator group removed a primary refrigerator. To gauge whether respondents who had used the removed refrigerator as a primary refrigerator (the “primary group”) differed from those who had used it as a secondary refrigerator (the “secondary group”)—in terms of free ridership and the influence of the program on their disposition of the appliance—selected analyses were performed for the two groups.

Table 4-4 shows that those who used the program to dispose of a primary refrigerator and those who used it to dispose of a secondary refrigerator that they replaced were equally likely to be free riders (35 percent for both). The FR2 estimate for secondary refrigerators that were not replaced was slightly higher (39 percent).

Table 4-4. Refrigerator Free Ridership Estimates by Use and Replacement

	Primary (n=60)	Secondary— Replaced (n=66)	Secondary—Not Replaced (n=146)
FR2 (free riders)	35%	35%	39%
NFR2 (non-free riders)	55	56	58
PFR2 (possible free riders)	10	9	3

4.4.3 Replaced versus Not Replaced Freezers—Free Ridership and Program Influence

To gauge whether respondents who replaced their freezer (27 percent) differed from those who did not replace their freezer (73 percent)—in terms of free ridership and the influence of the program on their disposition of the appliance—selected analyses were performed for the two groups. As Table 4-5 shows, the FR2 estimate for the 27 percent of the freezer group who replaced the removed freezers was slightly lower than that for the 73 percent who did not replace them (33 percent versus 36 percent).



Table 4-5. Freezer Free Ridership Estimates by Replacement

	Replaced (n=36)	Not Replaced (n=97)
FR2 (free riders)	33%	36%
NFR2 (non-free riders)	64	57
PFR2 (possible free riders)	3	7



5. SUMMARY AND RECOMMENDATIONS

Overall, National Grid's Refrigerator-Freezer Recycling is functioning well. High satisfaction levels among program staff and participants indicate that the program is doing a good job serving its customer base, and program processes appear to generally function quite well.

Below are recommendations for retaining the high quality of the program, as well as several recommendations to resolve any current issues or problems.

More strictly control pick-up of these appliances. Currently, the program does not allow primary refrigerators to be recycled, yet based on participant self-report, 22 percent of refrigerators are primary. While JACO's call center used a script to screen out customers who wanted to recycle a primary refrigerator as ineligible, drivers found that 7 percent and 9 percent in 2010 and 2011, respectively had scheduled a pick-up of a primary unit. As a result, National Grid is revising the JACO call center script to reduce confusion about what constitutes a primary refrigerator, with customers being told that primary units will not be eligible for pick-up. Additionally, the policy of no primary units will be re-enforced with all JACO drivers.

National Grid and JACO are revising marketing materials to clearly state the requirements of the program, as well as brainstorming methods to reduce "gaming" of the system by customers. A review of National Grid's marketing materials show that the secondary appliance requirement is very clearly defined on the Power of Action website. However, it is not consistently mentioned as a requirement of the program on all marketing materials (e.g. television advertisements). This may indicate that a more direct approach in stating the requirements of the program may be needed within the marketing materials (see Appendix E for examples of National Grid's marketing materials). Designs for these revisions have begun that more clearly state the program's eligibility for secondary appliances only.

Continue to work with JACO staff to both address confusion on program requirements, but also gain their insight on any issues. Regular check-ins and meetings with implementation staff will ensure that any confusion or questions on program requirements are addressed in a timely matter. For example, based on early survey findings and examination of the JACO dashboard, National Grid staff met with JACO to discuss the issue of the high percentage of primary refrigerators being recycled, which are ineligible according to program design. In addition, JACO staff may be able to give useful insight to issues within the program (for example, their staff may be able to best gauge whether the primary refrigerator issue stems from confusion among the pick-up staff or the customer base or both).

Reinforce screening efforts at the participant registration stage to screen out potential free riders. While the free ridership estimates for the program were consistent with other evaluations and a certain amount of free ridership is inevitable, any effort that can be made to screen out free riders would result in higher net savings. To help reduce free ridership, the revised call center script emphasizes program requirements that appliances be plugged in and working in order to be considered eligible for the program. Additionally, the program has added a requirement that screens out appliances that have not been used at all in the six months prior to the pick up to eliminate this loss of savings and increase the likelihood of recycling secondary units.

Retain current rebate levels. Almost no participants indicated that they were dissatisfied with the current rebate amount. In fact, 81 percent of participants indicated that they would have participated in the program without the rebate altogether. However, JACO staff warned against



doing away with the rebate because it still remains an effective selling point and draw to customers who may be on the fence as to whether to recycle their appliance or not.

Continue to use a multi-pronged marketing strategy to reach the target market. Participants reported hearing of the program in multiple ways, with word-of-mouth was also noted as an effective method. While a majority of participants indicated they preferred to hear about programs via bill inserts, keeping up the current mix of marketing and advertising, and increasing the number of campaigns will help to ensure that the program goals are met in 2011. Since free pick-up of appliances was the main motivation for participation, marketing efforts should emphasize this aspect of the program and the ease of removal, as well as the fact that the appliance is being permanently recycled which is also important to participants.

Consider adding marketing efforts specifically targeted at “empty-nesters.” While the current marketing efforts appear to have been quite effective, program participants tend to be older, childless adults. Target marketing to this population might help boost participation numbers. As might be expected, this group does not frequently report emails or websites as preferred methods of program communication. More often, participants over 65 prefer to receive program information from bill inserts, newspapers, and direct mailings. While they were slightly more likely to cite “do not need or use anymore” as a reason for wanting to recycle their appliance through the program, they were also more likely to have an appliance older than 17 years than households of less than 65 years of age (76 percent vs. 58 percent, respectively).

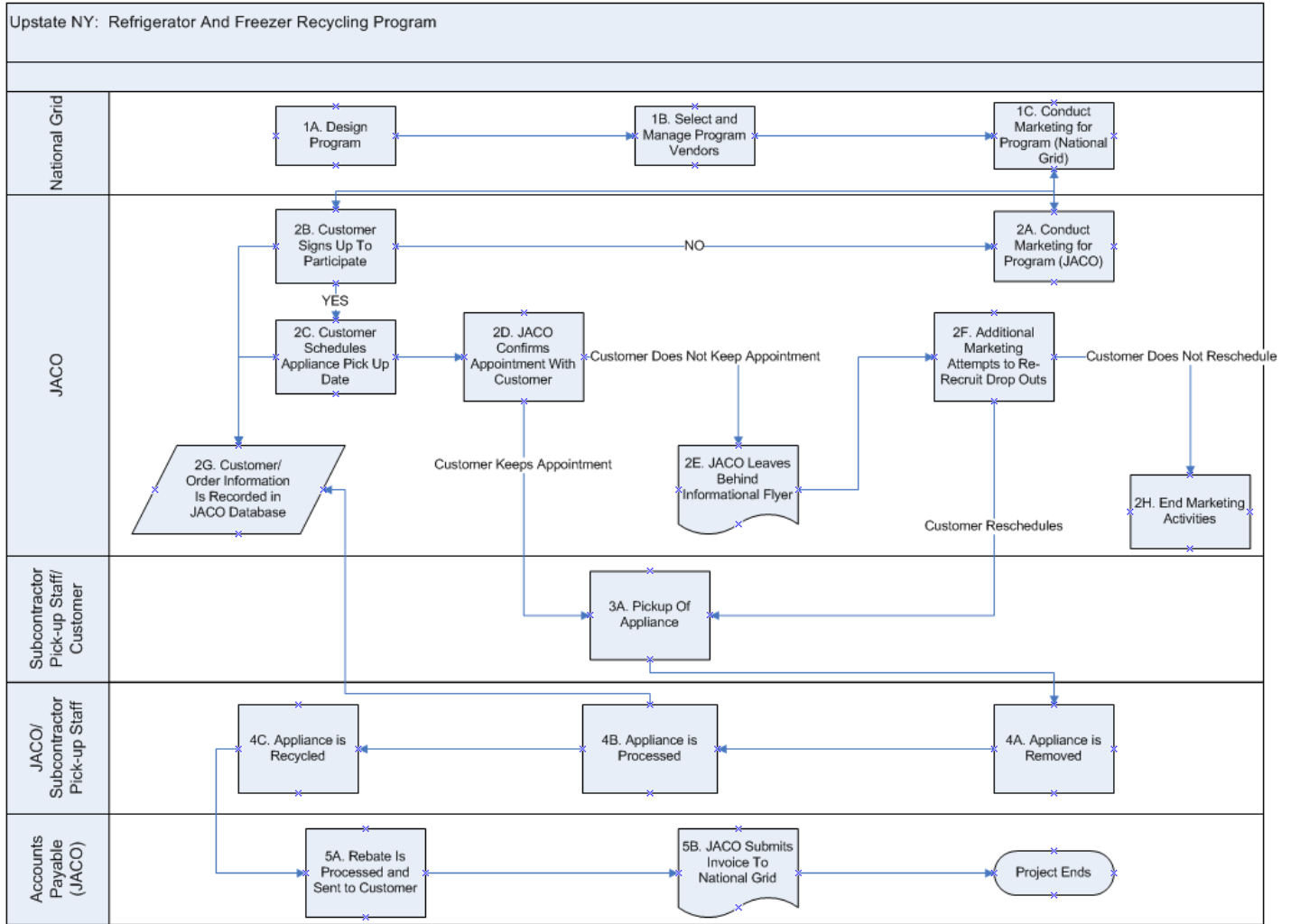
Consider a leave-behind that includes education on ENERGY STAR appliances and information on other residential programs. When JACO picks up the appliance, they leave behind a sheet of information about the recycling process. Because the target market for this program are customers concerned about a good return on investment (according to interviews with program staff), the participant population for this program may be appropriate for other residential programs. National Grid may want to consider the possibility of promoting their other programs in this leave-behind material. Additionally, a little less than one-half of recycled refrigerators were replaced, compared with slightly more than one-fourth of freezers. Among customers replacing their appliance, most replaced their appliance with a new one. The program should seek to reinforce the choices made by participants by emphasizing how much energy and money they saved by getting rid of their inefficient model and will continue to save if they do not replace the appliance. If customers choose to replace the appliance, the program should encourage them to consider the more efficient ENERGY STAR labeled units.

JACO should continue to investigate techniques to reduce the number of participants who cancel their pickup date or drop out of the program. While JACO estimates that approximately 16 percent of customers change their scheduled appointments or drop-out of the program after signing up, only 4 percent do not show up for their appointment. While in line with their experiences in other parts of the country, additional steps to retain or re-recruit customers have been undertaken to help the program reach its goal. These steps include calling the customer two weeks before the scheduled date, sending a reminder postcard, and calling customers to re-recruit them into the program. Additionally, National Grid is not charged for those customers who miss their appliance pick-up.

Avoid the creation of secondary appliances Should National Grid ever offer an appliance replacement program in New York, National Grid should consider requiring that replaced appliances are recycled at the time of new appliance purchase.



APPENDIX A: PROGRAM PROCESS FLOW MAP





APPENDIX B: PROGRAM STAFF INTERVIEW GUIDE

Refrigerator-Freezer Recycling Program/Implementation Staff Interview Guide

This instrument is a guide to be used when conducting qualitative in-depth interviews with program staff and the program implementation contractor. Not all questions are applicable for all persons interviewed.

Interview Objectives:

- Identify program activities, inputs (resources), outputs, short to medium term outcomes and long term outcomes for use in developing program logic models
 - Identify important influences on program operation and achievements
 - Identify issues that should be incorporated into customer surveys
 - Characterize program operations including staffing and subcontracting, budgets, outreach activities and marketing, types of persons served, and other stakeholders involved
 - Identify areas that need improvement
-

A. Describe your role with the program

- 1) Describe your responsibilities regarding the refrigerator recycling program in Upstate New York?
 - when became involved
 - (JACO) Have you been involved with this type of program in other states or for other utilities? If so, how did you use that experience to aid the start up in New York?
- 2) Please describe the other staff within National Grid and JACO who are involved in managing/implementing this program (e.g., data entry, pick up crew, marketing):
 - number of people, their locations, their responsibilities

B. Program Design and Marketing

- 1) What was your involvement in the program design?
 - Was the program patterned after another program(s)? If so, were any modifications made to improve the program design?
- 2) What are the program goals?
 - How are the program goals communicated to you and from you to others (staff, JACO)?
 - Do you expect the program will achieve its 2010 goals? If not, why not? What are the biggest challenges that you face?
- 3) Can you briefly describe how the program operates?
 - What is the sequence of steps for participation?
 - What is the sequence of steps for implementation?
 - For rebate delivery?
 - What happens to the recycled appliances?



- 4) Please describe the target market.
- 5) How is the program being marketed to customers/retailers?
 - How effective do you feel each of these methods has been in identifying and enrolling potential participants?
 - What additional marketing and outreach is needed?
- 6) What are major barriers to participation?
 - Are the marketing/recruitment efforts designed to build on customers' reasons for participation and minimize reasons for nonparticipation?
 - What percent of customers choose not to participate after expressing initial interest? Why is that?
- 7) How are your program costs being tracked? (Probe: Examples of costs are staff resources, incentives, implementation, and marketing materials.)
- 8) How is participation uptake and experiences as compared to your programs in New York and in other states? If different than expected, why do you think this is?
- 9) Do customers understand who is sponsoring the program? Is there any confusion with the previous NYSERDA program?

C. Program Operations

- 1) How much flexibility do you have in implementing the program?
- 2) Describe your communications and working relationship with the National Grid program manager/implementation contractor.
 - (JACO) Is National Grid support sufficient?
 - Are program requirements clearly understood?
 - In what areas could support and/or communications be improved?
- 3) Do you feel you have sufficient staffing resources to efficiently deliver the program? If not, what additional resources are needed?
- 4) In your opinion, what is the level of customer satisfaction with the various aspects of the program (participation process, rebate level, rebate delivery, length of time for pickup, etc.)? How can satisfaction be improved?
- 5) What aspects of the program implementation are working well? Which are not working well?
- 6) Do the incentive levels seem appropriate? If not, why not? What, if any, changes in the incentive levels do you think may be needed?
- 7) Can you describe any training efforts that your firm conducts with your own staff about the Upstate National Grid New York Refrigerator Recycling Program? Please describe the objectives of the training? How, if at all, is this training different for this program as



compared to other recycling programs? Who delivers the training? Who is the target audience? What is the primary purpose of the training? How effective have these trainings been? Will these change in the future? Why?

- 8) How do you handle situations where the equipment to be picked up is not eligible for this program? In what instances will a refrigerator or freezer not qualify for the program?
- 9) What do you see as future challenges to the program?

D. Quality Control.

- 1) What types of Quality Control activities, if any, are being done (probe on timing and amount)? Who is responsible for this? Suggestions for improvement?
- 2) How are customer complaints documented reported, and resolved?
 - How many customer complaints are registered as a percent of total participants to-date?
 - What is the nature of these complaints?

E. Program Database and Tracking.

- 1) Who is responsible for updating the tracking system? How often is this done?
- 2) Who is responsible for tracking system checks and corrections? How are checks and corrections done?
- 3) How often do you prepare reports or updates for others in National Grid? What types of regular reports or updates do you provide? Is all data that you collect entered into the tracking system?
- 4) Have there been any difficulties with the program tracking system?

F. Evaluation

- 1) What do you hope to learn from this evaluation?
- 2) Do you have any specific questions that you want to make sure are included in primary data collection activities with customers?

G. Other Suggestions for Improvement?

- 1) Lastly, if you could change one thing about the program, what would that be? How would you improve the program?



APPENDIX C: PARTICIPANT SURVEY INSTRUMENT

[SURVEY INSTRUMENT SECTIONS]

- Introduction
- Source of Program Information
- Experience and Satisfaction with the Program
- Refrigerator Questions
- Refrigerator Free Ridership Questions
- Refrigerator Payment Questions
- Refrigerator Replacement Questions
- Remaining Refrigerator Questions
- Freezer Questions
- Freezer Free Ridership Questions
- Freezer Payment Questions
- Freezer Replacement Questions
- Remaining Freezer Questions
- Energy Awareness
- Housing and Demographics

[SAMPLE INFORMATION FROM PARTICIPANT RECORDS TO BE FILLED INTO QUESTIONNAIRE]

Measure recycled: [recycled]
1=Refrigerator
2=Freezers

Quantity of measures: [Qty]

Location: [Address]
Date of appliance pick-up: [Date]
Amount of rebate: [Incentive amount]

NOTE: For all questions, “Don’t know” and “Refused” will be options. These will not be read.



Introduction

- C1 Hello, my name is [interviewer name], and I'm calling on behalf of National Grid. May I speak with [named respondent]? INTERVIEWER NOTE: CUSTOMERS MAY THINK THAT NIAGARA MOHAWK IS THEIR UTILITY. NIAGARA MOHAWK WAS ACQUIRED BY NATIONAL GRID.
- 1 Yes
2 No [If named respondent is not available: ask for another adult who is familiar with the household's recent recycling of your [measure]]
- C2 I'm with Tetra Tech, an independent research firm. We are speaking with households about a program offered by National Grid called the Refrigerator-Freezer Recycling Program. Did your household participate in this program?
[IF UNSURE: You may also know National Grid as Niagara Mohawk.]
- 1 Yes [SKIP TO C6]
2 No
- C3 [IF C2=2] You may have participated around [date]. Through this program, you could have received \$30 plus free pickup of an old refrigerator and/or freezer. Do you recall receiving a payment and having a refrigerator and/or freezer picked up and taken away through the program?
- 1 Yes [SKIP TO C6]
2 No
- C4 [IF C3=2] Is it possible that someone else in your household would be familiar with the Refrigerator-Freezer Recycling program?
- 1 Yes
2 No [THANK AND TERMINATE]
D DON'T KNOW [THANK AND TERMINATE]
R REFUSED [THANK AND TERMINATE]
- C5 May I please speak with that person?
- 1 Yes [BEGIN THE SURVEY AGAIN (C2) WITH NEW R]
2 No [THANK AND TERMINATE]
D DON'T KNOW [THANK AND TERMINATE]
R REFUSED [THANK AND TERMINATE]



Great, thank you. You should have received a letter a couple of days ago explaining the purpose of this call. I'd like to assure you that I'm not selling anything; I'd just like to ask your opinion about this program. Your responses will be kept confidential. The information that you provide will help National Grid to improve its programs. For quality and training purposes this call will be recorded.

[ADDITIONAL INFORMATION IF NECESSARY]

(Who is National Grid? Niagara Mohawk is part of National Grid, an energy delivery company serving upstate New York. They administer energy efficiency programs including the Refrigerator-Freezer Recycling Program in which you participated in 2010.)

(Timing: This survey should take about 15 minutes. *IF NOT A GOOD TIME, SET UP CALL BACK APPOINTMENT OR OFFER TO LET THEM CALL US BACK AT 1-800-454-5070.*)

(Sales concern: This is not a sales call; we would simply like to learn about your household's experiences with National Grid's Refrigerator-Freezer Recycling Program. Your responses will be kept confidential. If you would like to talk with someone at National Grid regarding this survey, please call Jill Falk at 781-907-2231.)

C6 Could you please confirm that you received a rebate for recycling:

- A. [IF MEASURE=1] [Qty] refrigerators through the Refrigerator-Freezer Recycling Program?
- B. [IF MEASURE=2] [Qty] freezers through the Refrigerator-Freezer Recycling Program?

- 1 Yes/correct
- 2 No [SPECIFY: What is incorrect?]

C6R_COR [IF REFRIGERATOR] What is incorrect?

- 1 Recycled one freezer, not a refrigerator
- 2 Recycled two freezers, and no refrigerators
- 3 Recycled other quantity of refrigerators
- 4 Did not recycle any appliances (THANK AND TERMINATE)

C6R_QTY How many refrigerators did you recycle?

__ RECORD RESPONSE

C6F_COR [IF FREEZER] What is incorrect?

- 1 Recycled one refrigerator, not a freezer
- 2 Recycled two refrigerators, and no freezers
- 3 Recycled other quantity of freezers
- 4 Did not recycle any appliances (THANK AND TERMINATE)

C6F_QTY How many freezers did you recycle?

__ RECORD RESPONSE



[CORRECT SAMPLE FLAGS BASED ON ANSWERS TO C6R_COR – C6F_QTY]
[IF INCORRECT AND DIDN'T RECEIVE REBATE FOR ANY MEASURES, THANK AND TERMINATE]

C7 Were you personally involved in the decision of whether or not recycle [measure] for a payment through the Recycling Program?

- 1 Yes
- 2 No [SPECIFY: May I speak with the person who made this decision?] [SKIP BACK TO C2]

Source of Program Information

P1 How did you hear about the payment for [turning in a refrigerator/freezer] available through the Recycling Program?

[DO NOT READ; ALLOW MULTIPLE RESPONSES, BUT DO NOT PROBE FOR MULTIPLE RESPONSES]

- 1 National Grid /Niagara Mohawk Electric Company(call center)
- 2 National Grid (utility bill insert)
- 3 National Grid (email newsletter)
- 4 National Grid website or Power of Action Website
- 5 3% Initiative/mailing
- 6 From participation in another National Grid program [SPECIFY PROGRAM]
- 7 Direct mailing from National Grid
- 8 Builder
- 9 Retail store/Dealer (e.g., Sears, Home Depot, Lowes)
- 10 Home show/conference/trade show
- 11 Realtor
- 12 Newspaper
- 13 Radio
- 14 Television
- 15 Friend/family member
- 16 Other [SPECIFY]

P2 How would you prefer to receive information from National Grid about their energy efficiency programs? [SELECT ALL THAT APPLY]

- 1 Utility bill insert
- 2 Email newsletter
- 3 National Grid Website or Power of Action website
- 4 Direct mailing
- 5 Contractor
- 6 Radio
- 7 Newspaper
- 8 Other [SPECIFY]



P3 Do you think the refrigerators or freezers that are picked up by the program are recycled, resold, repaired and resold, put in a landfill, or something else?

- 1 Recycled
- 2 Resold
- 3 Repaired and Resold
- 4 Put in a landfill
- 5 Other [SPECIFY]

P4 [IF P3=1] On a scale of 0 to 10, with 0 being not at all important and 10 being very important, how important was it to you that the refrigerators or freezers are recycled, rather than being put in a landfill or resold?

Refrigerator Questions

[IF MEASURE NE 1, GO TO FZ1 (FREEZERS)]

Now, I'd like you to think about the refrigerator you had removed through the program.

[IF QTY>1] I know you had [QTY] refrigerators removed through the program. For purposes of this survey, please think about the [RANDOMLY CHOOSE ONE OF THE REFRIGERATORS FROM SAMPLE. INSERT DESCRIPTIVE FIELDS FROM DATABASE.]

[INSERT COLOR] (Unit color) unit,

With [INSERT TYPEDETAIL] (Side by side doors, Top freezer, bottom freezer)

That was manufactured by [INSERT BRANDUNITMAKE]

That was located in your [INSERT LOCPRIOR] prior to pick-up.

Keep only that one refrigerator clearly in your mind as you answer the next few questions.

RF1 Was the refrigerator removed through the recycling program your primary refrigerator, a second refrigerator that was being used at least part of the time, or a refrigerator that was not being used at all? [IF CLARIFICATION IS NECESSARY: "A main or primary refrigerator would typically be located in the kitchen, plugged in or "on" all the time, and used for regular household purposes. A secondary or spare refrigerator is typically located somewhere other than in the kitchen and may be plugged in or "on" all or only part of the time." [NOTE: If respondent recently bought a new refrigerator and was just waiting for the previously used one to be picked up by the program, it should be classified as "Main/Primary"]

- 1 Used as Main/Primary
- 2 Used as a Spare/Secondary at date of pickup
- 3 Not being used



RF2 Approximately how old was the refrigerator you had removed through the program? Was it [READ, CHECK ONE]:

- 1 0 to 5 years old
- 2 6 to 10 years old
- 3 11 to 16 years old
- 4 17 to 20 years old
- 5 More than 20 years old

RF3 [IF RF1=2] How long had you been using this unit as a secondary refrigerator?

____ Years

RF5 How would you describe the condition of the refrigerator when you decided to have it picked up by this recycling program? Would you say... (READ LIST)

- 1 It worked and was in good physical condition
- 2 It worked but needed some minor repairs such as a gasket seal or handle
- 3 It worked but had some bigger problems such as the motor or cooling system
- 4 It did not work

RF6 In the year prior to getting rid of the refrigerator, did you have the refrigerator plugged in all the time, most of the time, during certain months of year, occasionally, or never?

- 1 All the time
- 2 Most of time
- 3 During certain months of the year (SPECIFY MONTHS)
- 4 Occasionally, such as for special events
- 5 Never

RF7 [IF RF6 = 2, 3, 4] During the past 12 months, approximately how many months was your secondary refrigerator plugged in and running?

__ RECORD RESPONSE

RF8 Where in the house was the refrigerator located?

- 1 Basement
- 2 Kitchen
- 3 Garage
- 4 Porch/Patio
- 5 Laundry room
- 6 Yard
- 7 Some other place [SPECIFY _____]



RF9 Is the space where the refrigerator was located heated in the winter?

- 1 Yes
- 2 No

RF10 Is the space where the refrigerator was located cooled in the summer?

- 1 Yes
- 2 No

Refrigerator Replacement Questions

RR1 Did you replace the refrigerator that you turned in through the Recycling Program?

- 1 Yes
- 2 No [GO TO RFR1]
- 3 Don't know [GO TO RFR1]

RR2 Was the replacement refrigerator new or used when you started using it as the replacement refrigerator?

- 1 New
- 2 Used

RR4 Does your replacement refrigerator have the ENERGY STAR label? There would usually be a blue and white sticker on the appliance that says "ENERGY STAR."

- 1 Yes
- 2 No

Refrigerator Free Ridership Questions

Please continue thinking about just that one refrigerator.

RFR1 Had you already considered disposing of the refrigerator before you heard about National Grid's Recycling Program? By dispose of, I mean getting the appliance out of your home by selling it, giving it away, having someone pick it up, or taking it to the dump or a recycling center yourself.

- 1 Yes
- 2 No



RFR2 Why did you decide to get rid of the refrigerator through the Recycling Program? [DO NOT READ; MULTIPLE RESPONSE]

Age/Need

- 1 (Old unit was not working well)
- 2 (Didn't need/use it any more)

Replacing unit

- 3 (Bought new refrigerator)

Housing change

- 4 (Remodeling/expanding)
- 5 (Moving soon/just moved)

Financial

- 6 (Reduce energy/electricity costs)
- 7 (Rebate/incentive)
- 8 (Cost too much to have it picked up)
- 9 (Did not want to pay disposal fee at dump/recycling center)
- 10 (Reduce maintenance costs/appliance needed repairs)

Logistical

- 11 (Easy/convenient to turn it in)
- 12 (They would pick it up)
- 13 (Trash collection would not accept)

Energy/Environment

- 14 (Better for the environment)
- 15 (Wanted to recycle)
- 16 (Save energy/electricity)

Other

- 17 (Other [SPECIFY _____])

RFR3 If the Recycling Program had not been available to you, what would you most likely have done with your refrigerator? Would you have gotten rid of it in any manner or kept it?

- 1 Gotten rid of it in any manner
- 2 Kept it [SKIP TO RFR11]
- D Don't Know [SKIP TO RP1]
- R Refused [SKIP TO RP1]

[ASK IF RFR3=1 (Gotten rid of it)]

RFR4 If the Recycling Program had *not* been available, how soon do you think you would you have gotten rid of your refrigerator? Would you have gotten rid of it *within a year* of when the Program took it, *or more than a year later*?

- 1 Within a year of when the program took it
- 2 More than a year later



RFR5 If the Recycling Program had not been available to you, what would you have done to get rid of the refrigerator? Most likely, would you have: [RANDOMIZE AND READ 1-6, THEN 7, ALLOW ONLY ONE RESPONSE]

- 1 Sold it [GO TO RFR8]
- 2 Given it away for free [GO TO RFR8]
- 3 Recycled it [GO TO RFR7a]
- 4 Taken it to a garbage dump or put out as trash [GO TO RFR8]
- 5 Hired hauler to take it away [GO TO RFR5a]
- 6 Had a retail store come and pick it up [GO TO RFR5a]
- 7 Or would you have done something else? [SPECIFY]_____] [GO TO RFR5a]
- D (Don't know) [GO TO RFR5a]

[ASK IF RFR5=5, 6, 7, or DK]

RFR5a As far as you know, would the refrigerator have been recycled, sold for scrap, or sent to a garbage dump?

- 1 Recycled
- 2 Sold as a used appliance
- 3 Sold as scrap
- 4 Sent to garbage dump
- 5 Other (SPECIFY)

[ASK IF RFR5=3 (Recycled it)]

RFR7a How would you have recycled the refrigerator? Would you have taken it to a recycling center, put it out for recycling pick-up, hired someone to take it to be recycled, or done something else? [READ; ALLOW ONLY ONE RESPONSE]

- 1 Take it to a recycling center
- 2 Put it out for pick-up
- 3 Hired someone to take it
- 4 Done something else [SPECIFY] _____

[ASK IF RFR3=1(Would have gotten rid of unit)]

RFR8 If the Recycling Program had not been available, would the need to physically move the refrigerator out of your house and/or transport it have prevented you from getting rid of it?

- 1 Yes
- 2 No
- 3 Maybe

RFR9 If the Recycling Program had not been available, how much, if anything, would you have been willing to pay your city, town, or someone else to remove or recycle your refrigerator for you?

- 1 \$0—Would not pay any amount
- 2 [RECORD DOLLARS \$1 to \$999] \$_____



D (Don't know) [PROBE: 'CAN YOU GIVE AN APPROXIMATE ESTIMATE OF HOW MUCH YOU WOULD PAY?']

[ASK IF RFR3=2 OR RFR10=1(Would keep)]

RFR11 You said that you would have kept the refrigerator in the absence of the Recycling program. Would you have:

1. Continued to use the refrigerator or
2. Would you have stored it unplugged?
3. Or would you have done something else?

RFR11A [IF RFR11 = 3] What would you have done?

- 1 Gotten rid of it in any way [IF RFR3 = 2, SKIP BACK TO RFR3. IF RFR10 = 1, SKIP BACK TO RFR10 AND RECONFIRM]
- 2 Something else [SPECIFY]

Refrigerator Payment Questions

I am now going to ask you some questions about the \$30 rebate you received for recycling this same refrigerator.

RP1 Using a scale from 0 to 10, where 0 is 'not at all important' and 10 is 'extremely important', how important was the \$30 rebate in your decision to recycle the refrigerator?

[RECORD NUMBER]

RP1A Using a scale from 0 to 10, where 0 is 'not at all important' and 10 is 'extremely important', how important was the information you received about how much you could reduce your energy bill by recycling your old appliance?

[RECORD NUMBER]

RP1B Using a scale from 0 to 10, where 0 is 'not at all important' and 10 is 'extremely important', how important was the free pick-up of your appliance through the program?

[RECORD NUMBER]

RP2 Would you have participated in the recycling program without the \$30 rebate check altogether?

- 1 Yes
- 2 No
- 3 Maybe



RP3 After you had your refrigerator(s) picked-up, how many weeks did it take to receive the rebate check from the program?

- 1 Less than 1 week
- 2 Between 1 to 2 weeks
- 3 Between 2 to 3 weeks
- 4 Between 3 to 4 weeks
- 5 More than 4 weeks (SPECIFY WEEKS)
- 6 Have not received the rebate check yet

Remaining Refrigerator Questions

RRF1 How many refrigerators are currently in use in your home after you removed the refrigerator(s) through the program?

[RECORD NUMBER]_____ [RECORD NUMBER] [IF 0 GO TO FZ1 (Freezer Series)].

RRF2a through RRF2c [FOR EACH REFRIGERATOR, ASK "Approximately how old is your refrigerator." [IF MORE THAN ONE REFRIGERATOR, ASK ABOUT UP TO THREE REFRIGERATORS INSERTING "first", "second," or "third" BEFORE "refrigerator" AS APPROPRIATE.]

- 1 0 to 5 years old
- 2 6 to 10 years old
- 3 11 to 16 years old
- 4 17 to 20 years old
- 5 More than 20 years old
- 6 Don't know [PROBE: 'CAN YOU GIVE AN APPROXIMATE AGE?']

Freezer Questions

[IF MEASURE NE 2, SKIP TO Next Section (Spillover Series)]

[READ IF QTY = 1] Now, I'd like you to think about the stand-alone freezer you had removed through the program.

[READ IF QTY > 1] I know you had [QTY] stand-alone freezers removed through the program. For purposes of this survey, please think about the [RANDOMLY CHOOSE ONE OF THE FREEZERS FROM SAMPLE AND INSERT DESCRIPTIVE FIELDS.]

[INSERT COLOR] (Unit color) unit,
That was manufactured by [INSERT BRANDUNITMAKE]
That was located in your [INSERT LOCPRIOR] prior to pick-up.
Keep only that one stand-alone freezer clearly in your mind as you answer the next few questions.



FZ1 In the year prior to getting rid of the freezer, did you have the freezer plugged in all the time, most of the time, during certain months of year, occasionally, or never?

- 1 All the time
- 2 Most of time
- 3 During certain months of the year (SPECIFY MONTHS)
- 4 Occasionally, such as for special events
- 5 Never

FZ1A [IF FZ1 = 2, 3, 4] During the past 12 months, approximately how many months was your freezer plugged in and running?

__ RECORD RESPONSE

FZ2 Approximately how old was the freezer you had removed through the program? Was it [READ, CHECK ONE]:

- 1 0 to 5 years old
- 2 6 to 10 years old
- 3 11 to 16 years old
- 4 17 to 20 years old
- 5 More than 20 years old
- 6 Don't know [PROBE: 'CAN YOU GIVE AN APPROXIMATE AGE?']

FZ4 [IF FZ1 = 5 (Never used)] Approximately how long had the freezer been unused when you decided to get rid of it? [RECORD]

- 1 Months [RECORD 1 to 11 months]
- 2 Years [RECORD 1 to 50 years; round to the nearest year]
- 3 Don't know [PROBE: 'CAN YOU GIVE AN APPROXIMATE LENGTH OF USE?']

[IF FZ1=5 GO TO FE1-Replacement Freezer Series]

FZ5 [IF FZ1 NE 5 (Used at least occasionally or DK/Ref)] Approximately how long had you been using the freezer when you decided to get rid of it? [RECORD]

[NOTE: RESPONDENT SAID THE APPLIANCE WAS __ MONTHS/YEARS OLD. IF NEEDED, PROBE: "I know you said your appliance was __ months/years old. How many of those __ months/years did you use it?"]

- 1 Months [RECORD 1 to 11 months]
- 2 Years [RECORD 1 to 50 years; round to the nearest year]
- 3 Don't know [PROBE: 'CAN YOU GIVE AN APPROXIMATE TIME OF USE?']



FZ3 How would you describe the condition of the freezer when you decided to have it picked up by this recycling program? Would you say... (READ LIST)

- 1 It worked and was in good physical condition
- 2 It worked but needed some minor repairs such as a gasket seal or handle
- 3 It worked but had some bigger problems such as the motor or cooling system
- 4 It did not work

FZ7 Where in the house was the freezer located?

- 1 Basement
- 2 Kitchen
- 3 Garage
- 4 Porch/Patio
- 5 Laundry room
- 6 Yard
- 7 Some other place [SPECIFY _____]

FZ8 Is the space where the freezer was located heated in the winter?

- 1 Yes
- 2 No

FZ9 Is the space where the freezer was located cooled in the summer?

- 1 Yes
- 2 No

Replacement Freezer Questions

FE1 Did you get another freezer to replace the one you turned in through the Recycling Program?

- 1 Yes
- 2 No [GO TO FFR1]
- 3 Don't know [GO TO FFR1]

FE2 Was the replacement freezer new or used when you started using it as the replacement freezer?

- 1 New
- 2 Used

FE4 Does your replacement freezer have the ENERGY STAR label? There would usually be a blue and white sticker on the appliance that said "ENERGY STAR."

- 1 Yes
- 2 No



Freezer Free Ridership Questions

Please continue thinking about just that one freezer.

FFR1 Had you already considered disposing of the freezer before you heard about National Grid's Recycling Program? By dispose of, I mean getting the appliance out of your home by selling it, giving it away, having someone pick it up, or taking it to the dump or a recycling center yourself?

- 1 Yes
- 2 No

FFR2 Why did you decide to get rid of the freezer through the Recycling Program? [DO NOT READ; MULTIPLE RESPONSES ALLOWED]

Age/Need

- 1 (Old unit was not working well)
- 2 (Didn't need/use it any more)

Replacing unit

- 3 (Bought new refrigerator)

Housing change

- 4 (Remodeling/expanding)
- 5 (Moving soon/just moved)

Financial

- 6 (Reduce energy/electricity costs)
- 7 (Rebate/incentive)
- 8 (Cost too much to have it picked up)
- 9 (Did not want to pay disposal fee at dump/recycling center)
- 10 (Reduce maintenance costs/appliance needed repairs)

Logistical

- 11 (Easy/convenient to turn it in)
- 12 (They would pick it up)
- 13 (Trash collection would not accept)

Energy/Environment

- 14 (Better for the environment)
- 15 (Wanted to recycle)
- 16 (Save energy/electricity)

Other

- 17 (Other [SPECIFY_____])



FFR3 If the Recycling Program had not been available to you, what would you most likely have done with your freezer? Would you have [READ]:

- 1 Gotten rid of it in any manner
- 2 Kept it [SKIP TO FFR11]
- D Don't know [SKIP FB1]
- R Refused [SKIP FB1]

[ASK IF FFR3=1 (Gotten rid of it)]

FFR4 If the Recycling Program had not been available, how soon do you think you would you have gotten rid of your freezer? Would you have gotten rid of it within a year of when the Program took it, or more than a year later?

- 1 Within a year of when the program took it
- 2 More than a year later

FFR5 If the Recycling Program had not been available to you, what would you have done to get rid of the freezer? Most likely, would you have: [RANDOMIZE AND READ 1-6, THEN 7, ALLOW ONLY ONE RESPONSE]

- 1 Sold it [GO TO FFR8]
- 2 Given it away for free [GO TO FFR8]
- 3 Recycled it [GO TO FFR7a]
- 4 Taken it to a garbage dump or put out as trash [GO TO FFR8]
- 5 Hired hauler to take it away [GO TO FFR5a]
- 6 Had a retail store come and pick it up [GO TO FFR5a]
- 7 Or would you have done something else? [SPECIFY]_____ [GO TO FFR5a]
- D (Don't know) [GO TO FFR5a]

[ASK IF FFR5=5, 6, 7, or 98 DK]

FFR5aAs far as you know, would the freezer have been recycled, sold for scrap, or sent to a garbage dump?

- 1 Recycled
- 2 Sold as a used appliance
- 3 Sold as scrap
- 4 Sent to garbage dump
- 5 Other (SPECIFY)

[ASK IF FFR5=3 (Recycled it)]

FFR7a How would you have recycled the freezer? Would you have taken it to a recycling center, put it out for recycling pick-up, hired someone to take it to be recycled, or done something else?

- 1 Take it to a recycling center
- 2 Put out for pick-up
- 3 Hired someone to take it
- 4 Done something else [SPECIFY] _____



[ASK IF FFR3=1(Would have gotten rid of unit)]

FFR8 If the Recycling Program had not been available, would the need to physically move the freezer out of your house and/or transport it have prevented you from getting rid of it?

- 1 Yes
- 2 No
- 3 Maybe

FFR9 If the Recycling Program had not been available, how much, if anything, would you have been willing to pay your city, town, or someone else to remove or recycle your freezer for you?

- 1 \$0—Would not pay any amount
- 2 [RECORD DOLLARS \$1 to \$999] \$_____
- 3 Don't know [PROBE: 'CAN YOU GIVE AN APPROXIMATE ESTIMATE OF HOW MUCH YOU WOULD PAY?']

[ASK IF FFR3=2 OR FFR10=1 (Would keep)]

FFR11 You said that you would have kept the freezer in the absence of the Recycling program. Would you have:

- 1 continued to use the refrigerator or
- 2 would you have stored it unplugged
- 3. Or would you have done something else?

FFR11A [IF FFR11 = 3] What would you have done?

- 1 Gotten rid of it in any way [IF FFR3 = 2, SKIP BACK TO FFR3. IF FFR10 = 1, SKIP BACK TO FFR10 AND RECONFIRM]
- 2 Something else [SPECIFY]

Freezer Payment Questions

I am now going to ask you some questions about the \$30 rebate you received for recycling this same freezer.

FB1 Using a scale from 0 to 10, where 0 is 'not at all important' and 10 is 'extremely important', how important was the \$30 rebate in your decision to recycle the freezer?

[RECORD NUMBER]

FB1A Using a scale from 0 to 10, where 0 is 'not at all important' and 10 is 'extremely important', how important was the information you received about how much you could reduce your energy bill by recycling your old appliance in your decision to recycle the freezer?



[RECORD NUMBER]

FB1B Using a scale from 0 to 10, where 0 is 'not at all important' and 10 is 'extremely important', how important was the free pick-up of your appliance through the program in your decision to recycle the freezer?

[RECORD NUMBER]

FB2 Would you have participated in the recycling program without the \$30 rebate check?

- 1 Yes
- 2 No
- 3 Maybe

FB3 After you had your freezer(s) picked-up, how many weeks did it take to receive the rebate check from the program?

- 1 Less than 1 week
- 2 Between 1 to 2 weeks
- 3 Between 2 to 3 weeks
- 4 Between 3 to 4 weeks
- 5 More than 4 weeks (SPECIFY WEEKS)
- 6 Have not received the rebate check yet

Remaining Freezer Questions

RFZ1 How many stand-alone freezers are currently in use in your home?

[RECORD NUMBER] [IF 0 GO TO FB3].

RBZ2a through RFZ2c. [FOR EACH FREEZER, ASK "Approximately how old is your freezer." [IF MORE THAN ONE FREEZER, ASK ABOUT UP TO THREE FREEZERS INSERTING "first", "second," or "third" BEFORE "freezer" AS APPROPRIATE.]

- 1 0 to 5 years old
- 2 6 to 10 years old
- 3 11 to 16 years old
- 4 17 to 20 years old
- 5 More than 20 years old
- 6 Don't know) [PROBE: 'CAN YOU GIVE AN APPROXIMATE AGE?']



Spillover Questions

S02 Since participating in the Recycling program, have you taken any additional actions to save energy in your home? [PROBE: this might include turning off things when not in use; changed your heating, cooling or water heating use; purchasing energy efficient equipment, or something else to save energy.] [DO NOT READ; INDICATE ALL THAT APPLY]

NO ACTIONS

0a. No, have not taken any additional actions [SKIP TO S03]

TURN OFF THINGS WHEN NOT IN USE

- 1a. Turn off Lights
- 1b. Turn off Television, stereos
- 1c. Turn off Computers
- 1d. Turn off or unplug chargers, small electronics, or appliances
- 1e. Turn off waterbed heater
- 1f. Turn off other equipment
- 1g. Other [SPECIFY]

CHANGE HEATING AND COOLING USE

- 2a. Raise thermostat setting for cooling
- 2b. Use air conditioner less often
- 2c. Lower thermostat setting for heat
- 2d. Turn down/up thermostat at night and when home is not occupied
- 2e. Don't heat/cool unused rooms
- 2f. Shade windows to keep house cool
- 2g. Clean or replace furnace filter regularly
- 2h. Run humidifier less often
- 2i. Heat with other sources a little more – woodstove, pellet stove, etc
- 2j. Other [SPECIFY]

CHANGE WATER AND HOT WATER USE, WASHING MACHINE

- 3a. Lower hot water temperature
- 3b. Wash clothes with cold water
- 3c. Wash clothes with full load
- 3d. Dry with full load
- 3e. Dry clothes on line or rack
- 3f. Use the energy saver setting for the dishwasher
- 3g. Run dishwasher only when full
- 3h. Other [SPECIFY]

REFRIGERATOR CHANGES

- 4a. Disconnect second refrigerator or freezer
- 4b. Keep refrigerator full
- 4c. Vacuum refrigerator coils
- 4d. Turn on refrigerator energy saver switch
- 4e. Turn up temperature setting in refrigerator or freezer
- 4f. Other [SPECIFY]



COOKING MEASURES

- 5a. Thaw food before cooking
- 5b. Use the microwave
- 5c. Cover pots with lids when heating
- 5d. Turn down burner when boiling point is reached
- 5e. Other [SPECIFY]

PURCHASED OR INSTALLED SOMETHING

- 6a. CFLs, energy efficient lights
- 6b. Power strip
- 6c. Caulking and weatherstripping
- 6d. Plastic on windows
- 6e. Install new windows
- 6f. Motion sensors and/or timers on outside lights
- 6g. Energy efficient appliances (Energy Star)
- 6h. Solar water heating
- 6i. Solar photovoltaics
- 6j. Add insulation
- 6k. Thermal blanket for water heater
- 6l. Other, specify

OTHER

- 7a. Specify

S02A Did your participation in the Recycling Program influence you to take these other energy efficiency actions?

- 1 Yes
- 2 No

S03 Would you say that your energy usage has decreased a lot, decreased a little, stayed about the same, increased a little, or increased a lot after participating in the Recycling Program?

- 1 Decreased a lot
- 2 Decreased a little
- 3 Stayed about the same
- 4 Increased a little
- 5 Increased a lot
- 6 Too early to tell (e.g., haven't seen an energy bill yet) [SKIP TO S05]

S04 Using a scale from 0 to 10 where 0 is not at all satisfied and 10 is very satisfied, how satisfied are you with the energy savings you have seen after participating in the Recycling Program?

S05 Have you participated in any other energy efficiency programs offered by National Grid?

- 1 Yes
- 2 No



- S06 [IF S05 = 1] Which programs?
- 1 Residential Heating and Water Heating program
 - 2 Energy Star Programmable Thermostat Rebate Program
 - 3 Energy Star Window Rebate Program
 - 4 Other [SPECIFY]

Experience and Satisfaction With The Program

E1 I am going to read a list of the different aspects of the Recycling Program to you. Using a scale of 0 to 10 where 0 is not at all satisfied and 10 is very satisfied, please tell me how satisfied you were with the . . . ? [READ AND ROTATE LIST]

- A The process of scheduling a pick up
- B The amount of the rebate you received
- C [IF RP3 AND FB3 <> DK] Amount of time it took to receive the rebate
- F Pick up occurring when it was scheduled to occur
- G Pick up staff's respect for your property
- H Courteousness of the pick-up staff
- I How clearly the program's requirements and processes were explained to you

E2 [For each item in E1 rated <7] You said you were less than satisfied with [insert E1 item]. Why do you say that?

[OPEN ENDED RESPONSES]

E3 How did you initially sign up for the program? Did you sign up over the phone with a toll-free number, did you sign up online, or did you sign up some other way?

- 1 Over the phone
- 2 Signed up online
- 3 Some other way [SPECIFY]

E9 How much time elapsed between when you called to schedule an appointment and when your appliance was picked up?

____ days

E10 Using a scale from 0 to 10, where 0 is not at all satisfied and 10 is very satisfied how would you rate your overall satisfaction with the Recycling Program?

[RECORD NUMBER]

E11 [IF E10 <7] You indicated that you were less than satisfied overall. What are the main reasons you were not satisfied?

[RECORD RESPONSES; MULTIPLE RESPONSES ALLOWED]



E12 What changes to the program, if any, would you recommend?

[OPEN ENDED RESPONSES]

E13 Would you recommend the Recycling Program to others?

- 1 Yes
- 2 No
- 3 Don't know

E14 As a result of your involvement with the Recycling Program, would you say you are more satisfied, just as satisfied, or less satisfied with National Grid as your energy provider?

- 1 More satisfied
- 2 Just as satisfied [SKIP TO Next Section – Energy Awareness]
- 3 Less satisfied
- D Don't know [SKIP TO Next Section – Energy Awareness]
- R Refused [SKIP TO Next Section – Energy Awareness]

E15 Why do you say that?

[OPEN ENDED RESPONSES]

Energy Awareness

Now I'd like to ask a series of questions regarding your household's energy use.

A7 Have you ever seen or heard of the ENERGY STAR label? This is a blue and white sticker that is placed on energy efficient equipment or appliances being sold?

- 1 Yes
- 2 No [SKIP TO A11]
- D DON'T KNOW [SKIP TO A11]

A7A Do you have any ENERGY STAR equipment or appliances in your home?

- 1 Yes
- 2 No [SKIP TO A11]
- D DON'T KNOW [SKIP TO A11]



A8 What types of equipment or appliances do you have that are ENERGY STAR certified? [DO NOT READ; INDICATE ALL THAT APPLY]

- 1 Refrigerator
- 2 Dehumidifier
- 3 Dishwasher
- 4 Clothes washer
- 5 Microwave
- 6 Light bulb
- 7 Thermostat
- 8 Furnace
- 9 Central air conditioner
- 10 Television
- 11 VCR or DVD player
- 12 Cable box top
- 13 Smart Power Strips
- 14 Computer
- 15 Doors
- 16 Windows
- 17 Other [SPECIFY]

A11 Using a scale of 0 to 10 where 0 equals “strongly disagree” and 10 equals “strongly agree”, how much do you disagree or agree with the following statements? [ROTATE LIST]

___ My personal contribution to energy efficiency conservation does not make a difference

___ I don't know what to do to make my home more energy efficient

___ My family's comfort is more important than conserving energy

___ Using energy efficient products and practices requires too much effort

___ I care that my energy consumption today will have an impact on future generations

A12 Which one of the following household activities do you think uses the most energy? [READ]

- 1 Using the lights
- 2 Heating the house
- 3 Cooling the house
- 4 Using refrigerators
- 5 Heating the water



A14 Please tell me whether you feel the following statements are true or false.

Replacing an old refrigerator with a new Energy Star refrigerator can save the typical household more than \$100 a year.

- 1 True
- 2 False

A15

A cell phone charger that is plugged into an outlet uses electricity even when the cell phone is not plugged into it to be charged.

- 1 True
- 2 False

A16 Which of the following, if any, have you implemented in your home? [INDICATE ALL THAT APPLY]

- 1 Installed a programmable thermostat
- 2 Turned down your water heater temperature
- 3 Had an energy efficiency audit performed on your home
- 4 Purchased energy efficient compact fluorescent bulbs
- 5 Added insulation to the attic or walls
- 6 None

Housing and Demographics

Finally, I would like to ask you a few questions to better understand your home and household.

D1 What is the main fuel you use for heating? [If gas, probe for natural gas or bottled gas]

- 1 Electricity
- 2 Natural gas
- 3 Bottled gas (propane)
- 4 Fuel oil
- 5 Wood or wood pellets
- 6 Other [PLEASE SPECIFY]

D2 What is the main fuel used by your water heater? [If gas, probe for natural gas or bottled gas]

- 1 Electricity
- 2 Natural gas
- 3 Bottled gas (propane)
- 4 Fuel oil
- 5 Other [PLEASE SPECIFY]



D3 Is this home a year-round or seasonal home?

- 1 Year-round
- 2 Seasonal

D4 Do you own this home or do you rent from a landlord?

- 1 Own/buying
- 2 Rent

D5 What type of building do you live in? Is it a...

- 1 Single family home
- 2 Duplex (two-family home)
- 3 Apartment
- 4 Resort cottage or cabin
- 5 Town house
- 6 Condominium
- 7 Mobile or manufactured home
- 8 Other [SPECIFY]

D5a [IF D5=3, 5, or 6] How many units are in your building?

- 1 2 to 4
- 2 5 to 10
- 3 11 to 25
- 4 26 to 50
- 5 More than 50

D6 How many years have you lived in this home?

___ Years

D7 Approximately how old is this building?

___ Years

D8 Which of the following best describes the square footage of your home? Do not include an unfinished basement, attic, porch or crawlspace. [READ LIST]

- 1 Less than 1,000 square feet
- 2 1,000 to 1,500 square feet
- 3 1,501 to 2,000 square feet
- 4 2,001 to 3,000 square feet
- 5 More than 3,000 square feet



D9 Including yourself, how many people currently live in your home year-round?

__ Number of people

D9A How many people in your household are...

- __ Less than 18 years old
- __ 18-24 years old
- __ 25-34 years old
- __ 35-44 years old
- __ 45-54 years old
- __ 55-64 years old
- __ 65 or older

[IF D9 <> D9A SUM, REASK]

D10 For classification purposes only, which of the following categories best describes your pre-tax household income for 2009 including wages, salaries, pensions, social security for all members of this household? Just stop me when I get to the right category.

[READ LIST]

- 1 Less than \$10,000
- 2 \$10,000 to less than \$20,000
- 3 \$20,000 to less than \$30,000
- 4 \$30,000 to less than \$40,000
- 5 \$40,000 to less than \$50,000
- 6 \$50,000 to less than \$75,000
- 7 \$75,000 to less than \$100,000
- 8 \$100,000 to less than \$150,000
- 9 \$150,000 to less than \$200,000
- 10 \$200,000 or more

D11 GENDER [RECORD, DO NOT ASK]

- 1 Male
- 2 Female

[Thank you for your time. Do you have any questions or comments?]



APPENDIX D: PARTICIPANT SURVEY COOPERATION RATE

Table D-1. Participant Cooperation Rate

<i>Sample Disposition</i>	<i>Participants</i>
Sample Size	800
Temporarily disconnected	1
Fax/data line	0
Non-working number	1
Disconnected number	9
Non-household number	11
Ineligible - does not recall participation	5
Ineligible - deceased	2
Adjusted Sample Size	771
Hard Refusal	14
Soft Refusal ¹⁶	76
Incompletes (partial interviews)	51
Unavailable for duration	6
Incapable/incoherent	5
Language barrier/non-English	2
Active ¹⁷	212
Completed Surveys	405
Cooperation Rate¹⁸	52.5%

¹⁶ Attempts were made to convert all soft refusals.

¹⁷ An average of 5.5 contacts per active case were made to attempt to complete the interview.

¹⁸ Number of completed surveys divided by Adjusted Sample Size.



APPENDIX E: NATIONAL GRID MARKETING MATERIALS

E.1 BILL INSERT

nationalgrid
THE POWER OF ACTION

Rethink. Recycle. Reward.

Chances are, the older second refrigerator or freezer in your basement or garage could be costing you up to \$150 a year to run. Instead, recycle it, reduce your energy use and keep harmful materials out of landfills. We'll pick it up for free and you'll pick up \$30.

GET \$30
FOR YOUR OLD WORKING SECOND FRIDGE OR FREEZER

SAVE UP TO \$150
A YEAR IN ENERGY USAGE

The program is available to National Grid electric customers in New York. Refrigerators and freezers must be in working condition, owned by the resident and must be a minimum of 10 cubic feet in size, using inside measurements. National Grid contracts with JACO Environmental, an appliance recycler, to pick up and recycle refrigerators and freezers. Limit two units per residential address. Cannot be combined with any other offer. This program may be terminated at any time due to funding constraints. Some restrictions apply. ♻️
EE4733 (5/11) UNY.

RECYCLE.

For a FREE pickup, call 1-877-691-0021 or visit www.powerofaction.com/unyfridge.

nationalgrid
THE POWER OF ACTION

RETHINK. RECYCLE. REWARD.



E.2 TELEVISION ADVERTISEMENT

NGNY Recycle Bin TV :30



We open with a static shot of a green field under a blue sky dotted with clouds. Standing in the middle of the field is an old refrigerator.
VO: Do you know how much money that old fridge is wasting?



At the lower left side of the screen, the word "Rethink" appears.
VO: Maybe you should rethink having it around.



A recycle bin rises from the bottom of the screen directly under the fridge, with the word "Recycle" printed on it. It moves up until the fridge is sitting inside of it.
VO: Why not recycle it...



To the right of the bin and fridge, the word "Reward" appears.
VO: ...and get a reward?



The sky and field fade away, and the bin and fridge are left standing against white seamless. The words "Rethink" and "Reward" have also disappeared; only "Recycle" remains on the side of the bin. The bin and fridge slide to the left side of the screen, and a graphics bar appears to the right. It shows the amount of the cash rebate for the fridge.
VO: We'll give you cash for it, and we'll haul it away for free.



The dollar amount changes. It now shows the average annual savings for people who recycle their second fridge.
VO: Plus, you'll save a lot on future energy costs. That's a great deal, so take it and recycle your extra fridge today!



The single graphics bar changes to two stacked "buttons," one showing the rebate amount and the other showing the average annual savings. Logo, contact info and other mandatory info appears underneath graphic.
VO: Get a \$30 cash reward and save up to \$150 a year in future energy costs. To schedule a free pickup with National Grid visit Power of Action dot com slash unyfridge.



E.3 NEWSPAPER ADVERTISEMENT

nationalgrid
THE POWER OF ACTION

RETHINK. RECYCLE. REWARD.

GET \$30
FOR YOUR OLD WORKING SECOND FRIDGE OR FREEZER

SAVE UP TO \$150/YR
IN ENERGY USAGE

Chances are, the older second refrigerator or freezer in your basement or garage could be costing you up to \$150 a year to run. Instead, recycle it, reduce your energy use and keep harmful materials out of landfills. We'll pick it up for free and you'll pick up \$30.

For a **FREE** pickup, call 1-877-691-0021 or visit www.powerofaction.com/unyfridge.

The program is available to National Grid electric customers in New York. Refrigerators and freezers must be in working condition, owned by the resident and must be a minimum of 10 cubic feet in size, using inside measurements. National Grid contracts with JACO Environmental, an appliance recycler, to pick up and recycle refrigerators and freezers. Limit two units per residential address. Cannot be combined with any other offer. This program may be terminated at any time due to funding constraints. Some restrictions apply. ♻️



E.4 EMAIL BLAST

You are receiving this email because you elected to receive electronic updates from National Grid. If you no longer wish to receive these updates, please [unsubscribe](#). [View this email with images.](#)

The email blast content is enclosed in a blue border. At the top left, there are three small images: a smiling couple, a person opening a refrigerator, and a man and woman looking at a document. To the right of these images is the National Grid logo with the tagline 'THE POWER OF ACTION'. Below the images is the headline 'Rethink. Recycle. Reward.' in blue. The main text describes a program to recycle old refrigerators and freezers, highlighting energy savings and a \$30 reward. A call to action provides a phone number and a website link. To the right of the text is an image of a white refrigerator sitting on a blue recycling bin in a grassy field. At the bottom of the content area, there is a paragraph of fine print detailing program restrictions and terms.

Rethink. Recycle. Reward.

The old second refrigerator or freezer in your basement or garage could be costing you up to \$150 a year to run. Recycling it will reduce your energy use, keep harmful materials out of landfills, and put \$30 in your pocket. We'll even pick it up for free.

Call 1-877-691-0021 or visit our [website](#) for more details or to schedule a pick up.

The program is available to National Grid residential electric customers in New York. Refrigerators and freezers must be in working condition, owned by the resident and must be a minimum of 10 cubic feet in size, using inside measurements. National Grid contracts with JACO Environmental, an appliance recycler, to pick up and recycle refrigerators and freezers. Limit two units per residential address. Cannot be combined with any other offer. This program may be terminated at any time due to funding constraints. Some restrictions apply. Savings and energy efficiency experiences may vary. © 2011 National Grid

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