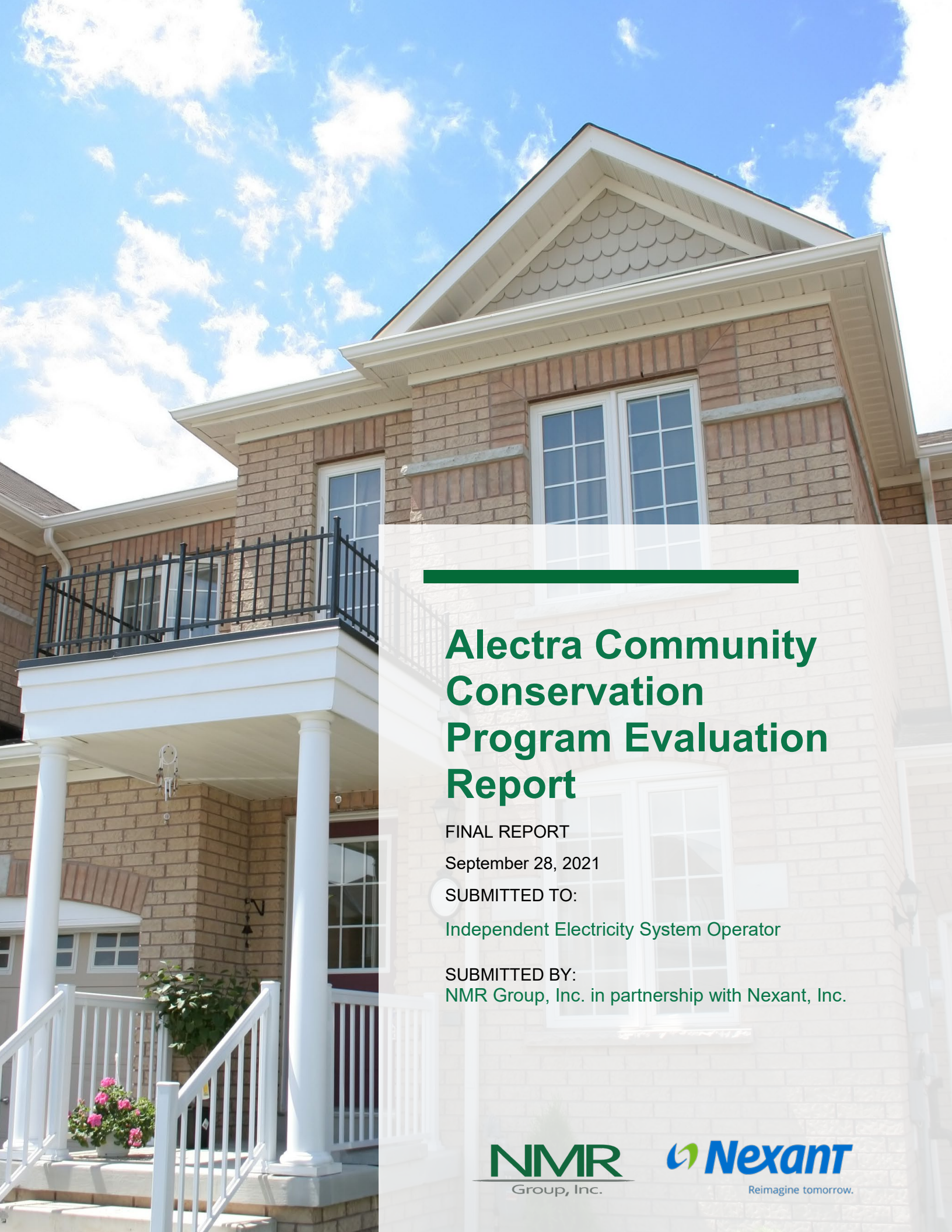

Alectra Community Conservation Program Evaluation Report

FINAL REPORT

September 28, 2021

SUBMITTED TO:

Independent Electricity System Operator

SUBMITTED BY:

NMR Group, Inc. in partnership with Nexant, Inc.

NMR Group, Inc.

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The NMR team would like to thank the hundreds of treatment customers that supported the NMR team's survey. Their cooperation with the NMR team's efforts has produced high quality data that will serve Ontario conservation efforts for years to come.

The NMR team would also like to thank the LDC program staff that we interviewed. Their insights have been invaluable to our efforts to improve the Conservation Programs.

Finally, the NMR team would like to thank Alice Herrera and Nam Nguyen at the Independent Electricity System Operator (IESO) for their assistance in coordinating this evaluation effort. With their support and guidance, the NMR team was able to complete their activities as efficiently and successfully as possible.

Acronyms

Acronym	Definition
AFT	Affordability Fund Trust
CCP	Community Conservation Program
CDM	Conservation and Demand Management
CE Tool	Cost-Effectiveness Tool
CF	Correction Factor
CI	Confidence Interval
DSM	Demand Side Management
ECR	Energy Conservation Report
EM&V	Evaluated Measurement and Verification
EUL	Effective Useful Life
GHG	Greenhouse Gas
HAP	Home Assistance Program
IDI	In-depth Interview
IESO	Independent Electricity System Operator
IF	Interim Framework
kW	Kilowatt
kWh	Kilowatt-hours
LUEC	Levelized Unit Energy Cost
LDC	Local Distribution Company
LEAP	Low-Income Energy Assistance Program
MW	Megawatt
MWh	Megawatt-hour
NTGR	Net-to-Gross Ratio
PAC	Program Administrator Cost Test
PY	Program Year
RCT	Randomized Control Trial
RR	Realization Rate
TRC	Total Resource Cost Test

Executive Summary

NMR Group, Inc. (NMR), in partnership with subcontractor, Nexant, Inc. (collectively, "the NMR team") and under contract to the Independent Electricity System Operator (the IESO), performed an evaluation of the Community Conservation Program (CCP) offered by Alectra Utilities (referred to as "Alectra").

Program Description

The CCP was a locally delivered social benchmarking program offered by Alectra. It provided a randomly selected group of eligible residential customers with e-mail-based Energy Conservation Reports (ECRs) and access to an online customer portal called the ECR Portal. The ECRs and online portal content encouraged customers to undertake energy-saving actions and provided energy use comparisons to similar homes.

Evaluation Goals and Objectives

The CCP evaluation sought to address several research goals and objectives, including the following:

- Verify energy and demand savings;
- Estimate realization rates (RR);
- Conduct cost-effectiveness (CE) analyses;
- Estimate the avoided greenhouse gas (GHG) emissions; and
- Perform a limited process evaluation.

Results

The impact evaluation results for the CCP are displayed in Table 1. The overall gross RR (RR) was 62% for energy savings.

Table 1: 2020 Alectra Community Conservation Program Results

Metric	Units	Evaluated
Participation	Homes	42,666
Gross Verified Energy Savings	MWh	3,031
Gross Verified Demand Savings	MW	0.6
Gross Energy RR	-	0.62
Gross Demand RR	-	-[1]
Net Verified Annual Energy Savings (First Year)	MWh	3,031
Net Verified Annual Demand Savings (First Year)	MW	0.6
Net Verified Annual Energy Savings (PY2022)	MWh	-

[1] The gross reported savings in the IESO reporting template is 0 MW, so a percentage cannot be calculated.

Metric	Units	Evaluated
Net Verified Annual Demand Savings (PY2022)	MW	-
Net-to-Gross Ratio (NTGR)	-	1

KEY FINDINGS AND RECOMMENDATIONS

The following section summarizes the CCP evaluation key findings and recommendations. Section 7 presents these key findings and recommendations in greater detail.

Finding 1: The CCP can continue to provide energy savings in future years. The literature shows that social benchmarking programs reach peak performance in the second or third year of implementation, and these programs, if continued, have the opportunity to increase capacity to deliver more energy savings per participant.

- **Recommendation 1a.** If CCP continues, it is important to maintain the program's randomized control trial (RCT) framework. In the event that the program is expanded to include newly eligible Alectra customers, Alectra should randomly assign newly eligible households to both treatment and control groups in parallel. This will maintain the RCT design of the program even if the program is expanded, allowing for the estimation of energy savings for newly added customer cohorts in addition to the original cohorts.
- **Recommendation 1b.** If the CCP does not continue, the NMR team recommends that a persistence analysis be conducted for one year or two years after the closure of the program. A persistence study will offer value to Alectra, the IESO, and other LDCs in developing informed effective useful life (EUL) assumptions in CE analyses of social benchmarking programs in Ontario.

Finding 2: Customers with the most usage provide the largest energy and demand savings. High usage customers who consume more than 600 kWh, on average, per month had more absolute energy and demand savings than smaller customers. The high usage customers were the only usage group that had statistically significant demand reductions in both summer and winter.

- **Recommendation 2a.** In the future, limiting program participation to high usage customers or only adding newly eligible customers who are high usage would be beneficial to the program's CE metrics if program costs scale with the size of the treatment population and if there was a mandate to improve it. However, future decisions to restrict participation to higher-usage customers should be made bearing in mind that the program could also be delivering non-energy benefits, such as customer satisfaction and education, to lower usage customers.
- **Recommendation 2b.** If the CCP continues, the NMR team recommends that samples of both participants and non-participants be surveyed from all three usage groups so that any uplift in satisfaction and education is measured.

Finding 3: A small number of customers accessed Alectra's online portal to view their ECRs. Only 3% of participants enrolled in the CCP logged into the online portal. If a customer did

access the portal, they were most likely to login on the day that the ECR was e-mailed to them. As seen in the treatment customer survey, three-fifths (60%) of those who reported logging into the portal rated the information available on the portal as useful or very useful.

- **Recommendation 3.** Consider using the online portal as a tool to bolster customer communication and marketing of other energy savings programs offered by the LDCs or IESO. Drive more customers to use the portal by making the login process easier. Improve the portal's usefulness by requesting details from customers about their user experience.

Finding 4: An analysis of uplift in participation in other energy saving programs attributable to the CCP was limited by incomplete data. Participation data was not available for all additional programs that CCP participants may have participated in, ruling out analysis of participation uplift that the CCP may have generated in those cases. Additionally, a lack of common customer-specific identifiers across programs resulted in a partial evaluation of a CCP-attributed uplift in participation in other energy-efficiency programs.

- **Recommendation 4.** The NMR team recommends that, if possible, a common set of identifiers be databased across all programs so that program participation can be cross-referenced and dual-participation can be quantified and accounted for in reporting Alectra's program savings at the portfolio level.

Finding 5: Most customers responding to the treatment customer survey (70%) found the ECRs useful. More importantly, the 13% of respondents who rated the ECRs as less useful (a 1 or 2 rating on a scale of 1 to 5, where 1 meant "not at all useful" and 5 meant "very useful") provided valuable feedback for improvement. Two-thirds (66%) of these respondents who rated the ECRs as less useful believed the ECRs were inaccurate and one-tenth (10%) noted in open-ended responses that the ECRs failed to account for electric vehicles, which may impact their electricity consumption relative to other homes in the area.

- **Recommendation 5.** Consider customizing the ECRs to more accurately reflect electric consumption (for example, taking electric vehicles into account, accounting for a variety of hybrid work models).

Finding 6: While more than three-fifths (62%) of treatment customers were quite satisfied with the ECRs, fewer (41%) believed that the ECRs helped their households reduce electricity use. Nearly two-thirds (63%) of treatment customers had tried at least one of the energy-saving tips from the ECRs. However, nearly three-fourths of those not trying the tips (74%) said they were already doing everything to save energy and nearly one-fifth (18%) indicated that the tips were not relevant to their household. Two-fifths (40%) of treatment customers indicated that the cost of doing things to save energy made it difficult for them.

- **Recommendation 6.** Consider providing more specific energy saving tips and customizing them to the households served. Information about the costs, available program assistance, and payback periods of energy saving tips may also spur more customers to adopt them.

Finding 7: Opportunities exist to expand the program's scope in future years. LDC staff stated that there were no delivery or operational issues and that customer complaints were very minimal. However, the program's success was limited largely by the available budget, the short time in market, the limited number of eligible treatment customers, and the related e-mail only outreach approach. If the program were to continue, LDC staff suggested addressing budgetary constraints or revising CE requirements to allow for a more robust program design and delivery that could serve more customers and better meet customer needs.

- **Recommendation 7.** Expand the program scope if the program is offered again in the future (for example, offer it to a wider population of customers, allow for more time in market, provide the ECRs through postal mailings).

Finding 8: Treatment customers in the high energy usage groups reported lower levels of ECR engagement and ECR usefulness. Those in the high energy usage group were least likely to read the whole ECR (44% of high usage respondents) and were most likely to skim or glance at it quickly (25% of high usage respondents). Additionally, fewer high usage group respondents found the ECRs useful or very useful (53% rated the ECRs useful or very useful) compared to the medium and low usage groups (69% and 82% rated the ECRs useful or very useful, respectively).

- **Recommendation 8.** If the CCP or other similar programs continue in the future, consider performing additional research to better understand the drivers behind low, medium, and high energy usage group behaviors and attitudes. For example, this research could involve an in-depth review of demographic characteristics, additional survey outreach to future treatment customers, or in-depth interviews or focus groups with a sub-set of treatment customers that include more detailed questions about respondent behaviors and attitudes related to energy consumption and savings.

Section 1 Introduction

The Independent Electricity System Operator (the IESO) retained NMR Group, Inc. (NMR), in partnership with subcontractor, Nexant, Inc. (collectively, "the NMR team"), to conduct an evaluation of its Low Income, First Nations, and Residential Local programs and pilots offered under the Interim Framework (IF). This report includes results, findings, and recommendations for the NMR's team's evaluation of the Community Conservation Program (CCP) offered by Alectra Utilities (Alectra).

1.1 Evaluation Goals and Objectives

The CCP evaluation sought to address several research goals and objectives, including the following:

- Verify energy and demand savings with a 90% level of confidence at 10% precision for the program;
- Estimate realization rates (RRs);
- Conduct cost-effectiveness (CE) analyses;
- Estimate the avoided greenhouse gas (GHG) emissions from electricity savings using the IESO *Cost Effectiveness Tool*; and
- Conduct a limited process evaluation by addressing key research questions of interest to the program.

1.2 Program Description

1.2.1 Program Design

The CCP was a social benchmarking program that was locally delivered by Alectra from October 2019 through December 2020. It provided a randomly selected group of eligible residential customers in Alectra's service territory with e-mail-based Energy Conservation Reports (ECRs) and access to an online customer portal called the ECR Portal. The ECRs and online portal content encouraged customers to undertake energy-efficient behaviours, including taking day-to-day actions to reduce household energy consumption, participating in other demand-side management programs, and to making energy-efficient household investments. The program's ECRs relied on a social benchmarking mechanism that compared the participant's household energy consumption to the energy consumption of similar homes. The primary goals and objectives of the program were to help customers reduce their home's electricity consumption by providing them information about their electricity consumption as well as tips on how to make energy-efficiency improvements.

1.2.2 Delivery

While Alectra oversaw the program's design and administration, a program delivery vendor under contract with Alectra was responsible for managing the program's delivery, including development and distribution of the ECRs, hosting of the online customer portal, and tracking of related energy consumption data.

1.2.3 Eligibility

To be eligible to participate in the program, customers had to meet the following requirements:

- Be the holder of a residential account with Alectra for a Facility that meets the Facility Eligibility criteria; and
- Be selected by Alectra on the basis of the customer's usage or customer segment.
- Have signed up for eBilling so that Alectra has the customer's email address

Once Alectra selected an eligible customer, they enrolled the customer automatically in the program. Customers could opt-out of the program by notifying Alectra. Some eligible and selected customers were randomly assigned into the treatment group (who received the ECRs) or the control group. If a selected customer's account closed (e.g., if the customer moved) or if for some other reason Alectra stopped receiving the customer's consumption data during the program, the program removed them from their assigned group.

For a facility to be eligible to participate in the program, the customer's facility had to meet the following requirements:

- Be the subject of an active residential account during the time of program activity;
- Be geographically identifiable to establish a location for nearby neighbours and other location related information (i.e., requires accurate address/postal code or latitude/longitude co-ordinates);
- Have at least 12 months of the customer's billing history with Alectra;
- Have no gaps or overlaps in their billing data for the past 12 months; and
- Have no negative usage at the facility for the past 12 months.

Section 2 Methodology

This section presents a summary of the impact and process evaluation methodologies. Detailed descriptions of these methodologies are provided in Appendix A.

2.1 Impact Evaluation Methodology

As indicated in Section 1.2, the CCP provided ECRs to a randomly selected group of eligible residential customers. Given that Alectra launched the CCP in October 2019, the NMR team recommended to the IESO that an impact evaluation of the program be deferred until PY2020. The PY2020 evaluation would include the months of October, November, and December 2019.

Alectra implemented the program in the form of a randomized control trial (RCT), whereby all residential customers that were eligible to participate in the program were randomly assigned to either a treatment or control group. Only customers assigned to the treatment group received ECRs from Alectra; customers who were assigned to the control group did not receive any information or communication from Alectra about the ECRs. This RCT implementation framework facilitates reliable impact evaluation; the impacts that social benchmarking programs, such as ECR programs, typically deliver (1-3%) are too small to be reliably measured without an RCT. Alectra's implementation included segmentation based on monthly energy consumption – low, medium, and high usage.[2]

To perform the impact evaluation activities for the CCP, the NMR team used a variety of techniques to develop independent assessments of gross and net energy savings. The following subsections provide context about each activity. Additional details of the impact methodology are provided in Appendix A.1.

2.1.1 Data Sources and Management

To develop estimates of the energy and demand savings attributable to the CCP, the NMR team asked Alectra to gather all the necessary information for the treatment and control groups, including the following:

1. **Participation records** from Alectra's customer information system. Examples of data provided include all billing accounts that were part of the program; treatment/control designation; date assigned; postal code; and program opt-out dates and account closure dates, if applicable.
2. **Monthly billing history** for each account in the treatment and control group. This data was sent by Alectra to the NMR team as monthly usage for each customer from

[2] The low consumption group was made up of customers that use between 0 and 370 kWh each month, the medium consumption group used between 370 and 600 kWh per month, and the high consumption group used more than 600 kWh per month.

September 2018 to January 2021. The NMR team used this data to calculate energy savings.

3. **Hourly interval data** during IESO peak periods in the summer and winter for each account in the treatment and control group. The NMR team used this data to calculate demand savings.
4. **Downstream program participation** for treatment and control customers that participated in any conservation or demand-side management program that was tracked by Alectra from October 2019 to December 2020. This data included customers who were enrolled in the Home Assistance Program (HAP) or the Poolsaver Program (also known as the Swimming Pool Efficiency Program), and included the energy and demand savings for each customer.
5. **ECR history** for customers in the treatment groups, including a record of when the program e-mailed the reports to the customers.
6. **Portal access history** for customers in the treatment groups. This data included the access dates to the program's online customer portal and, if the customer signed out, how long they spent in the portal.

The NMR team performed a thorough cleaning and validation of all data to ensure we calculated savings estimates using only reliable observations. The NMR team checked the data for completeness, missing or duplicate values, and outliers. Additionally, the NMR team dropped customers that were part of a legacy ECR program from the analysis datasets. Alectra had sent these customers a welcome letter and their first ECR in February 2019, which is well before the first ECR for the CCP in October 2019. Alectra subsequently cancelled this earlier ECR program which was part of the Conservation First Framework (CFF). The NMR team dropped these customers from the evaluation because they had already received treatment during the CCP pre-treatment period. There were a total of 722 of these legacy customers.

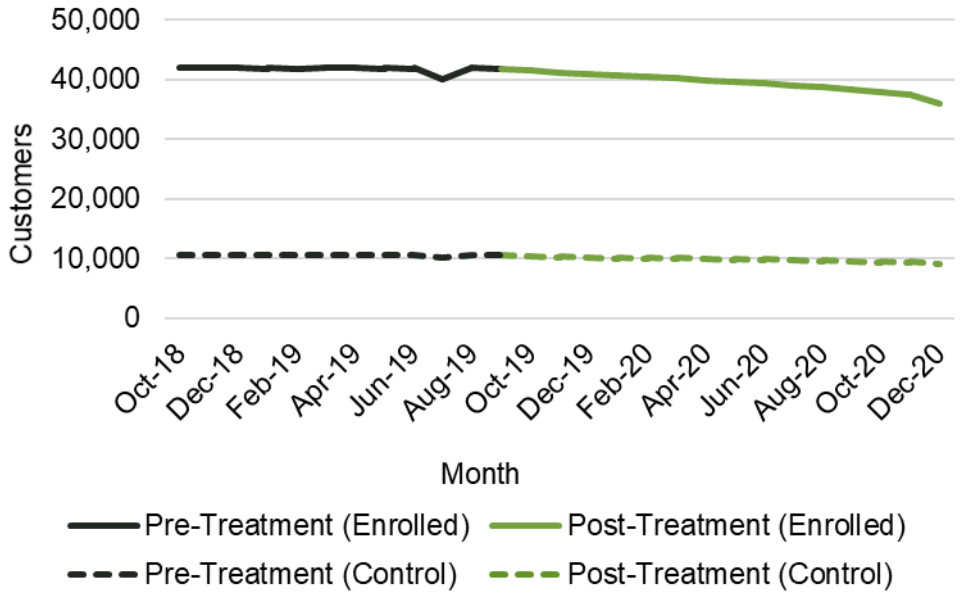
Figure 1 shows the number of treatment and control customers included in the energy savings analysis dataset over the course of the evaluation. The graph is split into two periods – pre- and post-treatment – that represent when customers received their first ECR in October 2019. As mentioned previously, the NMR team dropped legacy customers from the analysis dataset. The NMR team also removed six outlier customers with exceptionally high usage. Finally, the NMR team included customers in the analysis who closed their account until the month of their account closure.[3] Approximately 5,300 treatment customers and 1,400 control customers closed their accounts during the treatment period. This represents a closure rate of about 13% for both treatment and control customers. The gradual decrease of customers in the post-treatment period in Figure 1 is indicative of account closures.

There are two noticeable dips in Figure 1 – in July 2019 and December 2020 – which represent missing billing data for customers. There are approximately 2,300 customers missing data in July 2019 and 1,600 missing data in December 2020. Alectra informed the NMR team that the missing

[3] In some cases, billing data for treatment customers was provided for months post-dating their account closure date. Any billing data post-dating the account closure date was not included in the impact analysis.

data was unavailable for these customers. Given that the number of customers with missing data in these two months is small relative to the study population, and that the missing data pattern was observed in both the treatment and control groups, the NMR team is not concerned that the missing data compromises the validity of the impact analysis.

Figure 1: Treatment and Control Customers Included in the Energy Savings Analysis



There were approximately 400 customers, or about 1%, who opted-out of the CCP and chose not to receive reports anymore. As is standard practice in evaluations of RCT behavioral energy programs, treatment group opt-outs are retained in the analysis throughout the course of the entire treatment period. Two reasons underlie this decision. First, because the experiment used an opt-out delivery design (in which households receive the reports without requesting them), households that subsequently opt out received at least one ECR before they dropped out. Given this, they are considered to have been treated by the program. Second, the control group is not subject to opt-outs; removing opt-outs from the treatment group without doing so for the control group would compromise the RCT structure and internal validity of the savings estimates.

When tabulating the final savings results, the program enrollment numbers reflect all customers with open accounts. Customers who the NMR team excluded from the analysis dataset for reasons laid out previously are included in the final results, unless the customer's account closed.

2.1.2 Control Group Validation

The first step in the NMR team's impact evaluation was to validate the randomization of eligible customers into treatment and control groups. We made comparisons by examining consumption patterns for the treatment and control groups during the year prior to assignment. The NMR team documented this review in detail in a memorandum sent to the IESO in November 2020. The NMR team found that there was no evidence of differences in monthly electricity consumption patterns between the treatment and control groups that were cause for concern. Our analysis

found that there was no evidence to suggest that the assignment process was not random. Further, the NMR team broke treatment and control checks out by usage group (low, medium, and high) because the program savings were reported at that level. The checks to determine equivalence included t-tests, a fixed-effects regression, and visual inspection with boxplots and graphs. The details of these checks are presented in Appendix A.1.

2.1.3 Energy Savings

To calculate energy savings, the NMR team used monthly billing data for each treatment and control customer. The billing data received was already in calendar month form and included bills from September 2018 to January 2021. After the NMR team completed the checks outlined in Section 2.1.1, we scaled the data to daily usage. The NMR team estimated the energy savings separately for each usage group (low, medium, and high) and for the entire program population.

The NMR team estimated energy savings using a linear fixed effects regression model (LFER). The basic form of the LFER model is shown in Equation 1, which presents an example of a standard LFER model specification used in other similar evaluations that the NMR team has conducted. The NMR team has found that estimating a LFER model allows for weather-sensitivity to differ according to treatment/control status, and accounts for pre-existing differences between treatment and control homes. Daily energy consumption for treatment and control group customers is modeled using an indicator variable for the billing period of the study, a post indicator variable, a treatment indicator variable, and a customer-level indicator variable:

Equation 1: Energy Savings Model Specification

$$kWh_{it} = \mu_i \cdot customer_i + \sum_{t=1}^{12} \sum_{y=2019}^{2020} \beta_{ty} \cdot I_{ty} + \gamma \cdot post_t + \tau \cdot treatment_{it} + \varepsilon_{it}$$

Table 2 provides additional information about the terms and coefficients in Equation 1.

Table 2: Energy Savings Regression Model Definition of Terms

Variable	Definition
kWh_{it}	Customer i's average daily energy usage in billing period t.
$customer_i$	An indicator variable that equals one for customer i and zero otherwise.
μ_i	The coefficient on the customer indicator variable. Equal to the mean daily energy use for each customer; this parameter models each customer's average energy use separately.
I_{ty}	An indicator variable equal to one for each monthly billing period t, year y, and zero otherwise.
β_{ty}	The coefficient on the billing period t, year y indicator variable. This parameter captures the effect of each billing period's deviation from the customer's average energy use over the entire time series under investigation.
$post_t$	An indicator variable equal to zero if the billing period was prior to assignment to the treatment or control group and one is after. October 2019 is the first month of the post period.

Variable	Definition
γ	The coefficient on the post indicator variable. Captures the average within customer change in usage after the experiment starts.
$treatment_{it}$	The treatment variable. Equal to one when the treatment is in effect for the treatment group; zero otherwise. Always zero for the control group.
τ	The estimated treatment effect in kWh per day per customer; the main parameter of interest.
ε_{it}	The error term.

To calculate the estimated monthly savings in kWh, the NMR team multiplied the average daily treatment effect (τ) for each billing period of the study by number of customers actively receiving the reports and by the number of days in the month. The NMR team summed the monthly savings impacts over the study horizon to produce the total change in energy consumption in treated homes over the period under study.

2.1.4 Demand Savings

The NMR team estimated demand savings for the IESO summer and winter peak periods using hourly electricity usage data. Alectra provided hourly interval electric usage data for certain hours and days of the year that fall within the IESO peak period for this purpose. The IESO-defined summer peak period as weekdays from 1:00 p.m. to 7:00 p.m. in June, July, and August; the winter peak period is 6:00 p.m. to 8:00 p.m. in December, January, and February. The NMR team estimated demand savings attributable to the program using a difference-in-differences methodology. This methodology calculates the estimated impacts as the difference in average loads between treatment and control customers during peak hours minus the difference between the two groups during the peak period in the year prior to the program's launch.

The difference-in-differences model includes customer and day fixed effects to obtain the most statistically precise estimate possible given the availability of data for the pre- and post-treatment periods. Fixed effects are used to account for constant, unobserved differences for each subject. Customer fixed effects account for differences in usage between customers that are fixed across time. For example, some customers live in larger houses and use more electricity than the customers in smaller homes. Time fixed effects account for differences in usage between periods that are fixed across all customers. For example, time effects account for customers using more electricity during hotter summer months than cooler summer months. The NMR team only included customers with complete data across the analysis period in the analysis and only included a customer until the month they closed out, if applicable. Additionally, the NMR team dropped ten outlier customers with exceptionally high usage that from the analysis.

Equation 2 shows the model specification of the demand saving model; Table 3 presents the definition of terms in the model. The model was run separately for the winter and summer peak periods.

Equation 2: Demand Savings Model Specification

$$kWh_{it} = a + b * treatment_i * post_t + \sum_{cust=2nd\ cust}^{last\ cust} c_{cust} * C_i + \sum_{month=2nd\ month}^{last\ month} m_{month} * M_t + \varepsilon_{it}$$

Table 3: Demand Savings Regression Model Definition of Terms

Variable	Definition
kWh_{it}	Customer i's average daily peak period usage in month t.
a	An estimated constant.
b	The estimated demand savings impact.
$treatment_i$	An indicator variable equal to one for treatment customers and zero for control customers.
$post_t$	An indicator variable equal to zero if the billing period was prior to assignment to the treatment or control group and one if after. October 2019 is the first month of the post period.
$c\ and\ m$	Customer and month fixed effects.
$cust$	Indexes all customers, both treatment and control.
C_i	An indicator variable that equals one for customer i and zero otherwise.
$month$	Indexes each of the months, both for pre- and post-treatment.
M_t	An indicator variable that equals one for month t and zero otherwise.
ε_{it}	The error term.

2.1.5 Double-Counting of Energy Savings

Not all of the energy and demand savings that the NMR team estimated may be due solely to the CCP, and may be from an uplift in participation in other energy-efficiency programs. The energy savings estimate obtained by comparing the energy consumption of the treatment and control groups also contains the energy savings that may have resulted from increased participation in other IESO energy-efficiency programs, like HAP and the Poolsaver Program. As a result, summing the energy savings from social benchmarking and other programs on a portfolio basis would result in double counting of some energy savings. To eliminate this double counting, the NMR team evaluated whether savings measured for the CCP treatment customers includes savings already claimed by other programs due to an uplift in participation attributable to the CCP.

The NMR team was only able to complete a partial uplift analysis because of data limitations. In order to account for customer participation in other programs, there needs to be a linking data element to match customers between the CCP and other programs. The three other programs that the CCP customers could have also participated in were HAP, the Poolsaver Program, and the Affordability Fund Trust (AFT). HAP has data tracked at the customer level, but it is an IESO program rather than an Alectra program, so there is no connecting data element between enrollment data for HAP and the CCP. The Poolsaver Program data was available for Alectra customers, but there was also no matching data element to the CCP. Lastly, there was no data available to the NMR team for AFT.

For HAP participants, the NMR team was able to match customers to the CCP by using a combination of specific data common between both programs, such as customer name, address, e-mail, and phone number. Using this method, there were 117 customers in both HAP and the CCP. For the Poolsaver Program, Alectra provided the NMR team with a list of 32 customers in the Poolsaver Program and the CCP. Alectra found the matches by also using customer-specific data. Since the NMR team matched participants on characteristics and not customer specific IDs, the true number of customers in multiple programs is unknown. As such, the results of this analysis should be considered partial; firm conclusions about the extent of the uplift in uptake of other DSM programs resulting from the CCP cannot be drawn from this evaluation.

To account for double-counting, the NMR team summed the amount of energy savings attributable to HAP or the Poolsaver Program for each treatment and control customer during the evaluation period. The NMR team then averaged the energy savings over the entire population of treatment or control customers. If the NMR team observed an uplift in savings was observed, we subtracted it from the estimated energy savings for the CCP. This procedure ensured that Alectra did not inadvertently claim the same program delivered savings twice.

2.1.6 Analysis of Portal Access

The CCP participants received an ECR via e-mail, but they were also able to view their ECR and additional usage information if they took the extra step of logging into Alectra's CCP online portal. To gain access to the portal, customers needed to sign up for an account using their ten-digit account number and premise ID. The NMR team received a list of the CCP participants that accessed the online portal during the evaluation period. The data listed the date and time that each customer logged in. If the customer logged out of the portal, instead of just closing their browser or laptop, then the duration spent in the online portal was recorded. Given the extra steps customers had to take to access the portal, the number of participants who logged on to the portal at least once was limited. The NMR team analyzed the portal data to identify any correlation between the date the ECR was received and number of logins, or trends over time of portal usage.

2.1.7 COVID-19 Pandemic Considerations

The PY2020 evaluation of the CCP was unavoidably conducted during the global COVID-19 pandemic that began to impact North American economies in March 2020. The pandemic resulted in the cessation or severe curtailment of many sectors of economic activity, including education, travel, and entertainment. Unemployment rates reached unprecedented levels in many parts of North America over the course of 2020, in turn affecting other areas of the economy through arrears in rent and mortgage payments, and policies to protect basic health and safety through moratoriums on housing evictions and shut-offs for electricity and natural gas service.

Many North American utilities reported increased electric and natural gas sales (even on a weather-normalized basis) in 2020 for their residential customer classes. The NMR team attributed higher sales to increased weekday home occupancy while childcare moved into the home, students attended school from home, and many adults were working from home or simply spending time at home due to furlough or unemployment.

The NMR team expects that Alectra's residential customer class also experienced similar trends in 2020 electric sales. Since the CCP was implemented as an RCT, increased electric usage of

the treatment group due to the pandemic was statistically identical to the increased electric usage of the control group due to the pandemic. This is because the NMR team selected the treatment and control groups from the same population of eligible customers at the same time, and the selection of customers into the treatment and control groups was random. The only difference between the two groups was that the treatment group received ECR reports. As a result of the RCT implementation framework, the impacts estimated in this evaluation are net of changes in electric consumption due to the COVID-19 pandemic. For example, there are no grounds for concern along the lines of, "These impacts are overstated since COVID-19 resulted in higher electric consumption among residential customers." Such a claim would not hold – both treatment and control customers' loads have increased and the difference between treatment and control's electricity use in 2020 was netted out from the impact of COVID-19 on monthly energy use.

The purpose of this evaluation is to assess the energy savings attributable to the ECR behavioral intervention *ex post*, that is, given all of the historical conditions that might have influenced the outcome. The COVID-19 pandemic is one of many historical conditions that influence or may influence the energy consumption of the households of interest. The CCP's RCT framework enables this evaluation to do that. But the RCT framework does not permit us to assess the interaction that might be taking place between the conditions that emerged as a result of the pandemic and the information treatment. It may be that the treatment customers would have been either more or less responsive to the behavioural interventions provided by this program in 2020 in the absence of the pandemic. There is no group of Alectra residential customers that were not subject to the pandemic that can be used to compare to the customers who were subject to the pandemic.

2.2 Cost-Effectiveness Evaluation

The NMR team completed the CE analysis in accordance with the IESO requirements as set forth in the IESO *CDM Energy Efficiency Cost Effectiveness Guide*[4] and using IESO's *CDM Energy Efficiency Cost Effectiveness Tool*. The NMR team used the energy and demand savings results from the impact evaluation as inputs into the IESO *Cost Effectiveness Tool.* The NMR team also used the administrative cost and incentive information supplied from IESO as inputs. A more detailed description of the CE methodology is provided in Appendix A.2.

2.3 Process Evaluation Methodology

2.3.1 Sampling, Interviews, and Surveys

The process evaluation focused on program design and delivery. The NMR team evaluated program processes through interviews and surveys with relevant program actors, including the LDC staff and treatment customers. For both respondent types, the NMR team developed a

[4] *Conservation & Demand Management Energy Efficiency Cost Effectiveness Guide*, Independent Electricity System Operator, April 1,2019, http://www.ieso.ca/-/media/Files/IESO/Document-Library/conservation/EMV/2019/IESO-CDM-Cost-Effectiveness-Test-Guide.pdf?la=en

customized interview guide or survey instrument to ensure responses produced comparable data and to allow the NMR team to draw meaningful conclusions.

For both respondent types, Table 4 shows the survey methodology, the total population that the NMR team invited to participate in the survey or interviews, the total number of completed surveys, and the sampling error at the 90% confidence interval (CI).

Table 4: Process Evaluation Primary Data Sources

Respondent Type	Methodology	Completed	Population	90% CI Error Margin
LDC Program Staff	Phone In-Depth Interviews (IDIs)	1	1	0%
Treatment Customers	Web	706	3,998	2.8%

The following subsections provide context about each group interviewed or surveyed. A detailed description of the process evaluation methodology is provided in Appendix A.2.

2.3.2 LDC Staff Interviews

The NMR team completed one interview with three LDC program staff members to obtain a detailed understanding of the CCP. To complete these interviews, the IESO evaluation, measurement, and verification (EM&V) team provided the NMR team with an e-mail introduction the appropriate LDC staff, and then the NMR team followed up directly to schedule and complete the interview. Interview topics for the LDC staff addressed program roles and responsibilities, program design and delivery, marketing and outreach, program strengths and weaknesses, and suggestions for improvement.

2.3.3 Treatment Customer Survey

The NMR team e-mailed 3,998 unique treatment customers in the sample to request their participation in the survey. A total of 706 treatment customers responded to this request and completed the survey. The NMR team developed the survey sample from program records provided by the LDC staff. Given the treatment group-related survey completion goals, the NMR team developed a stratified random sample of a subset of treatment customers for inclusion in the survey sample. Survey topics for treatment customers addressed recall, readership, and usefulness of the ECRs; use of the online portal; satisfaction and suggestions for program improvement; energy-saving actions taken or anticipated taking; resulting participation in other programs; household and respondent characteristics, and COVID-19 impacts.

Section 3 Impact Evaluation

The following subsections outline the impact evaluation results. Details regarding the impact methodology can be found in Section 2 and Appendix A.1.

3.1 Energy Savings

This section summarizes the energy savings for each of the three different usage segments, as well as the entire population of customers enrolled in the CCP.

Table 5 shows the initial enrollments for participants in the CCP. The number of customers is evenly distributed between usage groups for both treatment and control participants.

Table 5: Customers Enrolled in the CCP

Usage Group	Control Customers	Treatment Customers	Average Usage per Month (kWh)
Low	3,549	14,216	< 370
Medium	3,561	14,206	370 – 600
High	3,567	14,244	> 600
Total	**10,677**	**42,666**	-

The NMR team estimated the CCP energy savings impacts using the regression described in Section 2.1.3. Table 6 displays the average energy savings per customer in 2020 and the total program savings when accounting for all customers enrolled. The asterisks indicate statistically significant results at the 90% confidence level. The low usage group was the only group to not have statistically significant energy savings. The high usage group saved the most energy per customer.

Table 6: Energy Savings in 2020

Usage Group	Energy Savings per Customer (kWh)	Total Gross Savings (MWh)
Low	-4.1	-55.5
Medium	95.2*	1,274.8*
High	136.7*	1,849.7*
All Customers	**75.4***	**3,030.7***

*Statistically significant at the 90% level of confidence.

The NMR team estimated monthly energy savings for October 2019 through December 2020. The early program months from October 2019 to December 2019 are shown for reporting completeness, but this evaluation period focuses on PY2020. Table 7 displays the energy savings results for each month for all customers. Statistically significant results at the 90% confidence level are denoted with an asterisk (where appropriate) in the far right column of each row. The rows labeled “Total for 2019” and “Total for 2020” are a summation of each month within the

respective year. The column labeled "Total Gross Savings" represents the entire savings attributable to each month or year when accounting for all customers with open accounts. The number of treatment customers is inclusive of all customers in the program and gradually decreases each month because of account closures.

Many ECR programs take a few months after the first ECR is distributed to show meaningful results. This is also true for the CCP. The first two months of program implementation had the lowest per customer reductions. Overall, the average customer reduced 6.1 kWh for the last three months of 2019. Across all customers, this equates to 256.7 MWh in total in 2019.

For 2020, the average per customer energy savings was 75.4 kWh, while the program total was 3,030.7 MWh. There were five consecutive months from March 2020 through July 2020 that had statistically significant energy savings. The months with the largest percentage reductions were April and June, which had reductions of 1.3% and 1.1%, respectively.

Table 7: Energy Savings by Month – All Customers

Usage Group	Month and Year	Treatment Customers	Average Monthly Impact (kWh)	Lower Bound (90%)	Upper Bound (90%)	Percent Impact	Total Gross Savings (MWh)
All Customers	Oct-19	42,572	0.4	-3.4	4.1	0.1%	16.6
All Customers	Nov-19	42,335	2.0	-2.4	6.4	0.3%	85.6
All Customers	Dec-19	41,843	3.7	-1.4	8.8	0.5%	154.5
Total for 2019			**6.1**				**256.7**
All Customers	Jan-20	41,579	4.5	-0.7	9.6	0.7%	186.2
All Customers	Feb-20	41,325	5.0	-0.3	10.2	0.7%	205.0
All Customers	Mar-20	41,136	6.6	2.0	11.1	1.0%	269.9*
All Customers	Apr-20	40,936	8.4	3.9	12.9	1.3%	344.5*
All Customers	May-20	40,643	7.1	2.8	11.5	1.0%	290.4*
All Customers	Jun-20	40,366	10.1	3.6	16.7	1.1%	408.7*
All Customers	Jul-20	40,118	10.1	1.7	18.6	0.8%	405.8*
All Customers	Aug-20	39,810	6.9	-0.2	14.0	0.7%	272.9
All Customers	Sep-20	39,390	4.3	-0.8	9.4	0.6%	169.1
All Customers	Oct-20	38,966	3.8	-0.6	8.1	0.6%	146.3
All Customers	Nov-20	38,600	3.4	-1.1	7.9	0.5%	131.2
All Customers	Dec-20	38,235	5.2	-0.4	10.9	0.8%	200.7
Total for 2020			**75.4**				**3,030.7**

*Statistically significant at the 90% level of confidence.

Table 8, Table 9, and Table 10 display the monthly results for the low, medium, and high usage groups, respectively. Generally, the energy savings increase as the customer usage increases. The average per customer savings in 2020 for the low usage group was -4.1 kWh. This means that the treatment group used more energy, on average, than the control group. However, the low usage group did not have any months with statistically significant savings estimates. For the medium usage group, the average per customer savings in 2020 was 95.2 kWh and six months had statistically significant results. In 2020, the monthly percentage reductions range from 0.8% to 1.6% for customers in the medium usage group. Finally, for the high usage group, the average

per customer savings in 2020 was 136.7 kWh. There were also six months with statistically significant results, and percentage reductions range from 0.1% to 1.8%.

Table 8: Energy Savings by Month – Low Usage Group

Usage Group	Month and Year	Treatment Customers	Average Monthly Impact (kWh)	Lower Bound (90%)	Upper Bound (90%)	Percent Impact	Total Gross Savings (MWh)
Low	Oct-19	14,180	-3.5	-6.9	-0.03	-1.1%	-49.2
Low	Nov-19	14,093	-1.2	-5.6	3.2	-0.3%	-17.3
Low	Dec-19	13,840	-0.2	-5.0	4.5	-0.1%	-3.2
Total for 2019			**-4.9**				**-69.7**
Low	Jan-20	13,754	-0.7	-5.2	3.8	-0.2%	-9.5
Low	Feb-20	13,666	0.6	-4.1	5.3	0.1%	7.9
Low	Mar-20	13,589	1.5	-3.2	6.1	0.4%	19.7
Low	Apr-20	13,518	1.4	-3.3	6.0	0.3%	18.3
Low	May-20	13,407	-0.9	-5.8	3.9	-0.2%	-12.6
Low	Jun-20	13,310	-1.1	-9.0	6.9	-0.2%	-14.1
Low	Jul-20	13,218	-3.5	-14.6	7.7	-0.4%	-45.7
Low	Aug-20	13,118	-4.0	-12.8	4.8	-0.6%	-52.7
Low	Sep-20	12,987	-1.3	-6.6	3.9	-0.3%	-17.3
Low	Oct-20	12,848	-0.7	-5.0	3.7	-0.2%	-8.5
Low	Nov-20	12,719	0.2	-4.6	5.0	0.0%	2.3
Low	Dec-20	12,606	4.5	-3.3	12.3	1.0%	56.7
Total for 2020			**-4.1**				**-55.5**

Table 9: Energy Savings by Month – Medium Usage Group

Usage Group	Month and Year	Treatment Customers	Average Monthly Impact (kWh)	Lower Bound (90%)	Upper Bound (90%)	Percent Impact	Total Gross Savings (MWh)
Medium	Oct-19	14,169	1.5	-3.6	6.6	0.3%	21.4
Medium	Nov-19	14,098	0.8	-5.1	6.7	0.1%	11.1
Medium	Dec-19	13,955	5.8	-1.0	12.5	0.9%	80.4
Total for 2019			**8.1**				**112.9**
Medium	Jan-20	13,873	5.3	-1.4	12.0	0.9%	73.3
Medium	Feb-20	13,793	5.9	-1.0	12.9	1.0%	82.0
Medium	Mar-20	13,746	4.7	-1.7	11.1	0.8%	64.4
Medium	Apr-20	13,688	7.1	0.5	13.8	1.2%	97.6*
Medium	May-20	13,603	9.0	2.3	15.8	1.4%	122.6*
Medium	Jun-20	13,527	12.8	2.8	22.8	1.5%	172.9*
Medium	Jul-20	13,450	10.6	-2.3	23.4	0.9%	142.5
Medium	Aug-20	13,361	8.1	-2.8	19.1	0.9%	108.9
Medium	Sep-20	13,224	6.8	-0.8	14.4	1.1%	90.0
Medium	Oct-20	13,074	6.9	0.7	13.2	1.2%	90.8*
Medium	Nov-20	12,953	9.8	3.2	16.5	1.6%	127.4*
Medium	Dec-20	12,829	8.0	0.4	15.5	1.3%	102.4*
Total for 2020			**95.2**				**1,274.8**

*Statistically significant at the 90% level of confidence.

Table 10: Energy Savings by Month – High Usage Group

Usage Group	Month and Year	Treatment Customers	Average Monthly Impact (kWh)	Lower Bound (90%)	Upper Bound (90%)	Percent Impact	Total Gross Savings (MWh)
High	Oct-19	14,223	2.7	-5.6	11.0	0.3%	38.4
High	Nov-19	14,144	5.8	-4.7	16.4	0.6%	82.7
High	Dec-19	14,048	5.3	-7.4	18.1	0.5%	74.9
Total for 2019			**13.9**				**196.1**
High	Jan-20	13,952	8.6	-4.4	21.6	0.9%	119.9
High	Feb-20	13,866	8.2	-5.1	21.5	0.8%	113.5
High	Mar-20	13,801	13.2	2.3	24.0	1.4%	181.6*
High	Apr-20	13,730	16.4	6.1	26.6	1.8%	224.8*
High	May-20	13,633	13.3	3.3	23.2	1.3%	181.2*
High	Jun-20	13,529	18.8	4.3	33.4	1.4%	254.8*
High	Jul-20	13,450	23.4	5.7	41.2	1.4%	315.2*
High	Aug-20	13,331	16.4	0.8	31.9	1.2%	218.0*
High	Sep-20	13,179	7.8	-3.9	19.4	0.8%	102.2
High	Oct-20	13,044	5.6	-3.9	15.1	0.7%	72.7
High	Nov-20	12,928	1.0	-9.2	11.1	0.1%	12.3
High	Dec-20	12,800	4.2	-8.2	16.5	0.4%	53.6
Total for 2020			**136.7**				**1,849.7**

*Statistically significant at the 90% level of confidence.

The CCP can provide energy savings in future years should the program continue and/or expand. The literature shows that social benchmarking programs generally reach peak performance in the second or third year of implementation. Social benchmarking programs, when continued beyond their first year, are generally expected to increase capacity to deliver more energy savings per participant due to program maturation. Table 7 provides some evidence that such a maturation of program energy savings is underway, where per customer savings in October 2020 through December 2020 are larger than the corresponding months in 2019, which may have continued if the program were to have continued in 2021.

If the program were to continue into 2021 or beyond, it is important to remember that when expanding existing social benchmarking pilots or programs, implementers should randomly assign newly eligible households to both treatment and control groups in parallel. This will maintain the RCT design of the programs, allowing for the estimation of energy savings for newly added customer cohorts.

3.2 DEMAND SAVINGS

Demand savings are presented in Table 11 by usage group and for all customers. The summer peak period is defined as weekday hours from 1:00 p.m. to 7:00 p.m. during the months of June, July, and August. The winter peak period is defined as 6:00 p.m. 8:00 p.m. during the months of December, January, and February. The NMR team only included months in 2020 in the analysis. The NMR team estimated demand savings attributable to the program using the difference-in-differences methodology described in Section 2.1.4. Statistical significance at the 90% confidence level is denoted with an asterisk in the far-right column of each row. The column labeled “Aggregate Impact” represents the impact considering the average enrollment in 2020.

On average, treatment customers had impacts of 0.016 kW in the summer and 0.010 kW in the winter. This equates to a 0.8% reduction for each season and both seasons have statistically significant reductions. In aggregate terms, the program impacts were 0.6 MW in the summer and 0.4 MW in the winter.

Out of the three usage groups, the high usage customers were the only one to have statistically significant impacts in both the summer and winter. The average impact for high usage customers was 0.024 kW in the summer and 0.027 kW in the winter. These impacts represent percent demand reductions of 1.0% and 1.5%, respectively.

Table 11: Demand Savings by Season for 2020

Usage Group	Season	Average Impact (kW)	Lower Bound (90%)	Upper Bound (90%)	Percent Impact	Aggregate Impact (MW)
Low	Summer	0.013	0.0001	0.025	1.1%	0.2*
Low	Winter	-0.002	-0.010	0.006	-0.3%	-0.03
Medium	Summer	0.009	-0.005	0.023	0.5%	0.1
Medium	Winter	0.005	-0.006	0.015	0.4%	0.1
High	Summer	0.024	0.006	0.042	1.0%	0.3*
High	Winter	0.027	0.010	0.043	1.5%	0.4*
All Customers	Summer	0.016	0.007	0.025	0.8%	0.6*
All Customers	Winter	0.010	0.003	0.017	0.8%	0.4*

*Statistically significant at the 90% level of confidence.

In general, high usage customers delivered more energy savings than medium or low usage customers. In the future, limiting program participation to high usage customers or only adding newly eligible customers who are high usage would be beneficial to the program's CE, if there was a mandate to improve it. However, the program could also be delivering non-energy benefits, such as customer satisfaction and education, to lower usage customers, which should be considered in proposals to alter the program design.

Finally, it should be noted that the gross realization rate for demand savings could not be calculated because the gross reported savings in IESO impact reporting template is 0 MW.

3.3 Double-Counting of Energy Savings with Other Programs

Table 12 shows the results from the double-counting analysis for customers enrolled in other energy savings programs besides CCP, as described in Section 2.1.5. There were a total of 149 treatment and control customers enrolled in CPP and HAP or the Poolsaver Program. The results are displayed by month for each usage group and for all customers. The values represent the average difference in energy savings per month between treatment and control customers from enrollment in HAP or the Poolsaver Program. Positive values mean treatment customers had more energy savings from HAP or the Poolsaver Program than control customers. For example, a value of 0.01 signifies that, on average, treatment customers had 0.01 kWh more in energy savings than control customers that month from HAP or the Poolsaver Program. A negative value represents control customers having more savings than treatment customers.

The low usage customers were the only group that had more savings attributable to other programs for treatment customers. In 2020, the low group, on average, had a total 0.96 kWh savings per customer from other programs. The other two groups, and all customers when counted together, had more savings from other programs for control customers. On average, control customers had 0.34 kWh more savings from enrollment in other programs in 2020.

Table 12: Incremental Energy Savings from Other Energy-Efficiency Programs

Month and Year	Average per Customer Incremental kWh – Low	Average per Customer Incremental kWh – Medium	Average per Customer Incremental kWh – High	Average per Customer Incremental kWh – All Customers
Jan-20	0.01	0.02	-0.03	0.00
Feb-20	0.06	0.01	-0.15	-0.02
Mar-20	0.06	0.03	-0.12	-0.01
Apr-20	0.07	-0.03	-0.12	-0.03
May-20	0.08	-0.03	-0.10	-0.02
Jun-20	0.08	-0.15	-0.01	-0.03
Jul-20	0.11	-0.10	0.07	0.02
Aug-20	0.12	-0.12	0.02	0.01
Sep-20	0.16	-0.10	-0.12	-0.02
Oct-20	0.09	-0.06	-0.23	-0.07
Nov-20	0.05	-0.07	-0.27	-0.10
Dec-20	0.05	0.03	-0.31	-0.08
Total	**0.96**	**-0.57**	**-1.36**	**-0.34**

The NMR team does not recommend adjusting the reported PY2020 CCP impacts to remove energy savings resulting from an uplift in HAP and/or the Poolsaver Program participation for two reasons. First, the analysis does not show an uplift at the program level (-0.34 kWh in 2020 is a difference in the opposite direction of an uplift), so there is no evidence of savings that are double-counted by CCP and HAP and/or the Poolsaver Program. The data made available to the NMR team does show such an uplift for the low usage group only. However, the low usage group's energy savings are not statistically significant. The low usage group cannot be cited to deliver measurable savings as a group. Given this, there is no need to adjust their savings to avoid double-counting with HAP and/or the Poolsaver Program.

Second, Alectra and the NMR team's ability to identify Alectra customers that participated in HAP or the Poolsaver Program in addition to CCP was limited. This evaluation may or may not have succeeded in identifying the majority of these dually-participating customers and this uplift assessment should be considered to represent a best-effort, but partial, uplift analysis.

Overall, our analysis provides an example of how the double-counting process works in theory, but for practical purposes it does not change the results of the PY2020 CCP evaluation. The NMR team recommends that a common set of identifiers be databased so that program participation can be cross-referenced and dual-participation scenarios such as these can be accounted for in reporting Alectra's program savings at the portfolio level.

3.4 PORTAL ACCESS

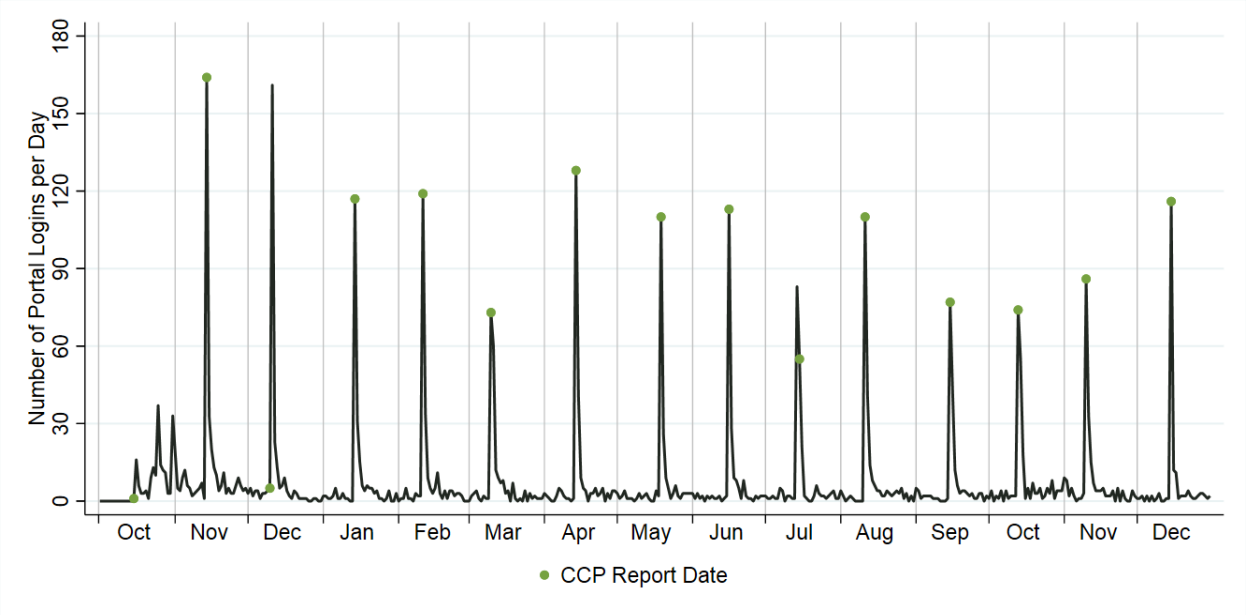
This section covers customer access to Alectra's online portal for the CCP participants, as described in Section 2.1.6. Table 13 displays the percentage of customers who logged into the portal and, out of those customers, the average number of times they accessed the portal. The percentage of customers who logged into the portal was the same across usage groups (3%); those customers logged into the portal an average of three times. If a customer logged out of the portal, then the amount of time they spent on the site was recorded. Customers spent approximately six minutes, on average, logged into the portal.

Table 13: Online Portal Access in 2020

Usage Group	Percent of Customers Who Logged in	Average Number of Logins
Low	3%	2.5
Medium	3%	3.6
High	3%	2.9
Total	**3%**	**3.0**

Figure 2 shows the number of portal logins per day over the entire evaluation period (October 2019 to December 2020). The dates when ECRs were sent to treatment customers are indicated by the green dots. There is a strong correlation between the ECR sent date and the number of portal logins. The program sent the ECRs to treatment customers via e-mail. In the body of the e-mail, customers were also invited to log into the portal, so it follows that the number of logins tracks with the ECR delivery date.

Figure 2: Online Portal Access and ECR Dates (October 2019 – December 2020)



To gain access to the online portal, customers had to sign up for an account using their ten-digit account number and premise ID. This additional level of effort on the customer's behalf could explain why relatively few customers used the portal. It is possible more customers would have used the portal had the login process been easier. The online portal contained additional information not included on the ECR, such as frequently asked questions, and could be leveraged in future programs to include marketing to other energy-efficiency programs. Additionally, participants might not have accessed the portal because the ECR was already contained in the e-mail and they may have seen no added value in signing into the portal. Please refer to Section 6.2.4 for additional detail on treatment customer perspectives regarding the online portal.

Section 4 Cost-Effectiveness Evaluation

The CE results are presented in Table 14. The program did not pass the Total Resource Cost (TRC) test, nor did it pass the Program Administrator Cost (PAC) test because both tests had benefits less than their respective costs.

Table 14: Program Level Cost-Effectiveness Key Metrics

Cost-Effectiveness Test	Value
TRC	
TRC Costs ($)	169,237
TRC Benefits ($)	124,342
TRC Net Benefits ($)	-44,895
TRC Net Benefit (Ratio)	0.73
PAC	
PAC Costs ($)	169,237
PAC Benefits ($)	108,124
PAC Net Benefits ($)	-61,113
PAC Net Benefit (Ratio)	0.64
Levelized Unit Energy Cost	
$/kWh	0.06
$/kW	272.38

Investigating what would have made the program cost effective, the NMR team assessed key inputs to determine the necessary value of those inputs in order for the program to yield a TRC ratio of 1.0. For this review, the NMR team kept all other inputs constant while changing the selected input in order to isolate the impacts of the input of interest. Table 14 summarizes the results of the analysis.

In order to achieve cost-effectiveness from a TRC perspective, the program would have needed to reduce administrative costs by approximately $45,000, or 27% of the actual costs spent.

Since savings were entered into the CE tool as an average savings per participant, the percent of additional savings needed to achieve CE is equal to the additional percent of participants needed to achieve CE – 136% of the achieved value. In the program's business case, it was noted that the entire e-billing customer population was 60,401. In order to achieve CE through additional participation, the program would have needed 96% of the e-billing population to participate, which is well above the estimated 80% of the population that is eligible to participate, as cited in the program's business case and based on the LDC's previous program experience.

Additionally, the NMR team investigated the effective useful life (EUL) input. We used an assumed EUL of one year for the CE calculation, in agreement with the assumed measure life of reviewed ECR measures in other jurisdictions, as well as the CCP's business case. However, this value is assumed, and savings may persist beyond the time period in which the reports cease being sent to participants. To confirm the timeframe savings persist, the NMR team recommends Alectra and/or the IESO consider conducting the same impact analysis that was performed for this evaluation again in one year and two year increments.

Table 15: Sensitivity Analysis by Key Input

Input Parameter	Achieved Value (TRC = 0.73)	Target Value (TRC = 1.0)	Target Value / Achieved Value
Administrative Costs	$169,237	$124,000	73%
Participants	42,621*	58,000	136%
Savings (scale both kWh and kW equally)	3,031 MWh 627 kW	4,122 MWh 853 kW	136%
EUL	1.0	1.5**	1.5

* 42,621 customers were provided to the NMR team in program tracking data from the IESO. The number of participants referenced elsewhere in this report, 42,666, reflects the starting number of customers in the participation data provided to NMR, which were analyzed to produce an average per customer savings estimate.

**The IESO CE tool only accepts whole number (year) EUL inputs. Therefore, an exact EUL to yield a TRC ratio of 1.0 could not be determined. As an estimate, the target value was calculated by interpolating between EULs with whole number inputs.

Section 5 Avoided Greenhouse Gas Emissions

The NMR team used the IESO's *CDM Energy Efficiency Cost Effectiveness Tool* to calculate avoided GHG emissions. The NMR team calculated avoided GHG emissions for the first year and for the lifetime of the measures. The measure in this program had an effective useful life (EUL) of one year, so first year avoided GHG emissions is equal to lifetime avoided GHG emissions. Table 16 presents the results of these calculations.

Table 16: Avoided Greenhouse Gas Emissions

First Year GHG Avoided (Tonnes CO_2 equivalent)	Lifetime GHG Avoided (Tonnes CO_2 equivalent)
318.5	318.5

Section 6 Process Evaluation

This section outlines the process evaluation results. Details regarding the process methodology can be found in Section 2.3 and Appendix A.3.

6.1 LDC Staff Perspectives

The following subsections highlight the feedback received from the LDC staff about the design and delivery of the CCP.

6.1.1 High-Level Results

High-level results from the LDC staff IDI include the following:

- LDC staff stated that there were no delivery or operational issues and that customer complaints were very minimal.
- The main program challenges identified by LDC staff were the limited budget, the limited time in market, the limited number of eligible treatment customers with e-mails, and the related e-mail only outreach approach.
- Other program barriers LDC staff identified related to the limited number of other residential efficiency programs in the market, the inability to replace customers who had opted out with new customers, constraints associated with the social benchmarking platform used, and limitations of the customer data used to develop the treatment and control groups.
- If the program were to continue in future years, LDC staff suggested addressing budgetary constraints or revising CE requirements to allow for a more robust program design and delivery that could serve more customers and better meet customer needs.

6.1.2 Program Design

LDC staff reported that the program was designed similarly to other social benchmarking programs. The one major difference was the fact that the program did not use a direct mail approach to send the ECRs. LDC staff indicated that the program delivery vendor sent the program's ECRs e-mail rather than direct mail due to the budgetary constraints and the related CE of an e-mail-only approach.

Prior to program launch, the program assigned customers to one of three treatment groups (low, medium, or high energy usage) based on a consumption analysis review by the program's delivery vendor.[5] The program also assigned control groups to each of the three treatment groups

[5] The low consumption group was comprised of customers that use between 0 and 370 kWh each month, the medium consumption group used between 370 and 600 kWh per month, and the high consumption group used more than 600 kWh per month.

using the data of non-participating customers. The program design followed an opt-out only approach, meaning that customers had to be selected for inclusions and could not sign up to receive the ECRs directly. However, LDC staff noted that customers could opt out of the program at any time if they preferred to no longer receive the ECRs.

6.1.3 Program Engagement and Delivery

LDC staff reported that they purposely did not promote the program to customers outside of the treatment group given budgetary and time constraints. The program selected the treatment group from approximately 40,000 e-mail addresses associated with residential customers who had enrolled in Alectra's e-billing program. Similarly-designed social benchmarking programs often use a mix of e-mail and postal mailings to reach a wider population of customers, with postal mailing the more expensive of the two approaches.

The program's first outreach to the treatment group occurred via e-mail in October of 2019. The e-mail included the customers' first ECR and a letter that described the program and welcomed customers to it (or welcomed customers back if they had participated in a previous version of the program under the prior framework).

Following the initial outreach, the program sent out monthly e-mails to the customers in each of the treatment groups until the program came to an end in December of 2020. The monthly e-mails included the ECR and messaging that encouraged customers to log in to the program's online customer portal, called the ECR portal, to view more energy-saving tips. Customers could also update their household profile if they logged into the portal, which, in turn, could improve the comparisons made to the group of similar households that they were compared to (called a *peer* group). As a result of the COVID-19 pandemic, the vendor updated the online portal's usage profile to allow customers to indicate if they had transitioned to work from home.

6.1.4 Program Strengths, Barriers, and Improvement Suggestions

LDC staff stated that there were no delivery or operational issues during the launch or during the period of program activity. They reported that customer complaints or concerns were very minimal.

The main program challenges identified by LDC staff were the limited budget, the limited time in market, the limited number of eligible treatment customers with e-mails, and the related e-mail only outreach approach.

LDC staff indicated that the program may have been more effective if the ECR had been delivered as a postal mailer since customers may have been more likely to open a paper-based mailing from their utility. They also noted some customers may not check e-mail frequently, which means they could have been exposed to the energy-saving tips less often than they may have if they had received and opened a monthly postal mailing.

Additionally, since the program was only active from October 2019 to December 2020, treatment customers did not have a significant amount of time to institute energy-saving behavior changes or to participate in other efficiency programs, such as the Poolsaver Program, which was also offered by Alectra and was cross-promoted within the ECRs. Staff also noted that besides the

Poolsaver Program, there were not many program offerings available to residential customers, which could have helped them upgrade to more energy-efficient equipment.

The limited number of eligible customers and the limited time to deliver the program also meant that it was not possible to add new treatment or control group contacts to replace those customers who had opted out of the program. Typically, social benchmarking programs will add new customers to treatment or control groups as others opt out to help retain the study design.

LDC staff also noted that previous versions of the program involved utilizing other impact-related data sources beyond billing information to improve the classification of customers into the treatment and control groups. However, this was not possible for the CCP due to budget constraints. Instead, treatment group development relied solely on billing information to assign customers to their respective groups.

If the program were to continue in future years, LDC staff suggested an increased budget (or revising CE considerations) to allow for a more effective program design and delivery. Staff noted that there are more robust social benchmarking program platforms that could be considered for use in the future. Additionally, staff stated that the source of the customer billing data used to develop the treatment and control groups may be worth reconsidering if the program continues in the future as the source used had some data quality issues (such as missing customer data for certain months) that may or may not exist with other data sources.

6.2 Treatment Customer Perspectives

The following subsections highlight the feedback received from the CCP treatment customer survey. Results are presented either as percentages or as counts, depending on sample size.

6.2.1 High-Level Results

High-level results from the treatment customer survey include the following:

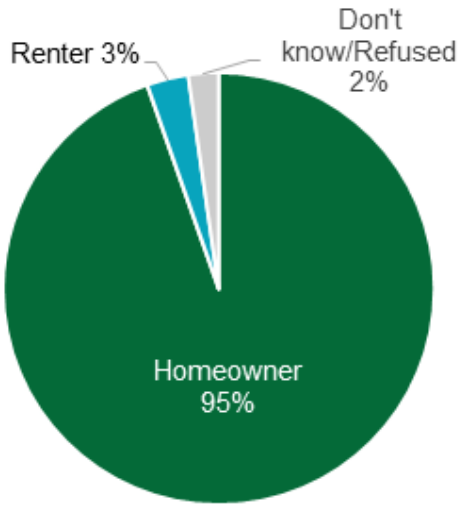
- Nearly all treatment customers (97%) reported that they read all the ECRs (52%), read certain parts of the ECRs (27%), or skimmed them (18%).
- Of the treatment customers who read any part of the ECRs, seven out of ten (70%) found them useful, rating them a 4 or a 5 on a 1 to 5 scale of overall usefulness.
- Of 13% of respondents who did not find the ECRs useful, two-thirds (66%) believed the ECRs were inaccurate, and one-tenth (10%) noted in open-ended responses that the ECRs failed to account for electric vehicles, which may impact their electricity consumption relative to other homes in the area.
- Nearly two-thirds (63%) of treatment customers who read any part of the ECRs stated that they had tried some of the energy savings tips from the ECRs.
- The tips most commonly tried by customers were associated with adjusting thermostats and changing furnace filters more frequently. Of the respondents who had not tried any energy savings tips, more than one-fourth (26%) believed they will do so in the next few months, most often saying they will turn off appliances and electronics not in use.

- More than three-fifths (62%) of respondents were quite satisfied with the ECRs, rating them a 4 or a 5 on a 1 to 5 satisfaction scale. Fewer respondents (41%) reported that it was likely or very likely (four or five on a one-to-five scale) that the ECRs helped their households reduce electricity use.
- More than one-half (53%) of respondents believed their household energy use has increased since the COVID-19 crisis began. Most (70%) believed their usage has increased by 25% or less.

6.2.2 Treatment Customer Profile

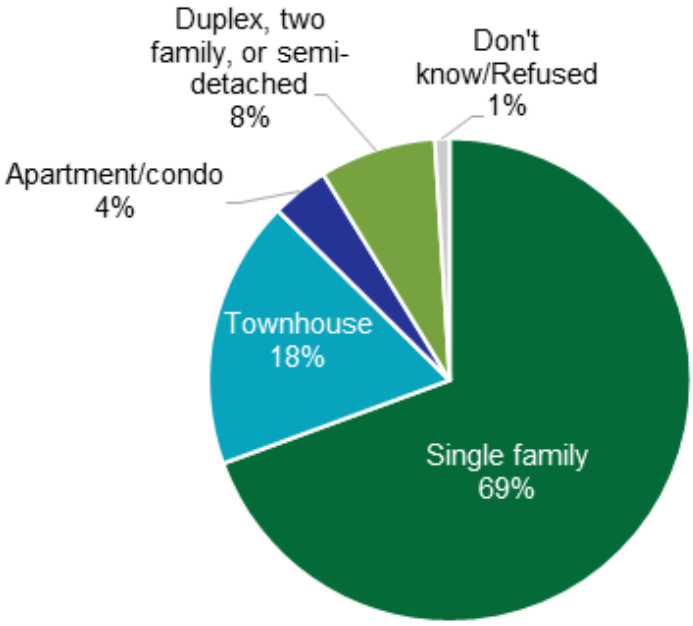
As shown in Figure 3, almost all respondents (95%) were homeowners and just 3% were renters.

Figure 3: Relationship to Home (n=706)



The following figures display characteristics of respondents' homes, including the type of dwelling, year it was built, square footage, and primary heating fuel. Over two-thirds (69%) of respondents' homes are single-family houses and nearly one-fifth (18%) are townhouses or row houses (Figure 4).

Figure 4: Type of Home (n=706)



Three-fifths (60%) of respondents' homes were built prior to 1990 (Figure 5) and two-fifths (40%) were 2,000 square feet or greater (Figure 6).

Figure 5: Year Home Built (n=706)

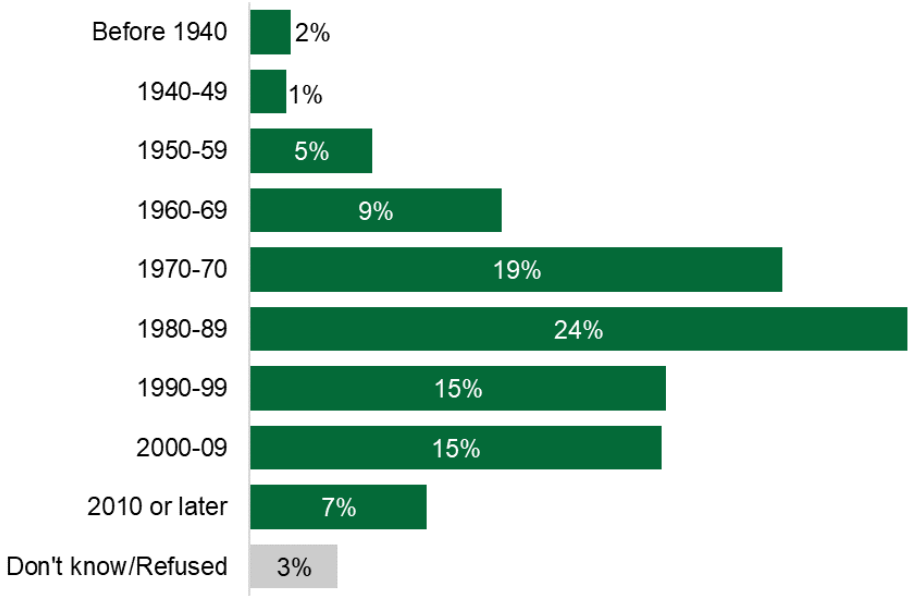
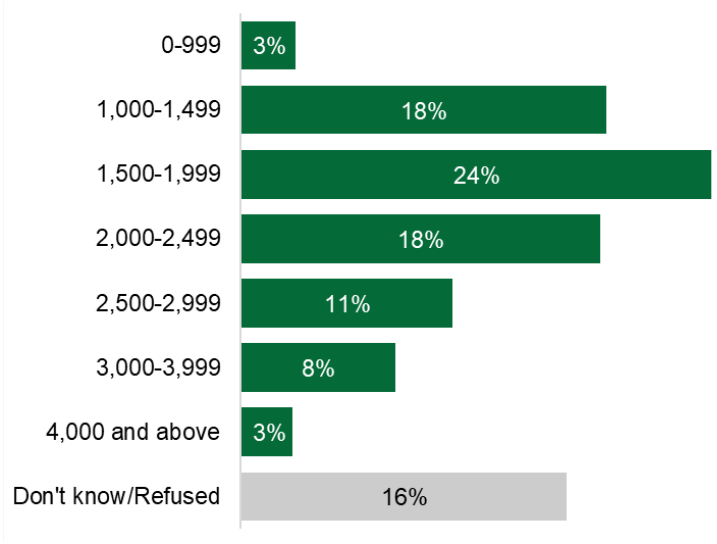


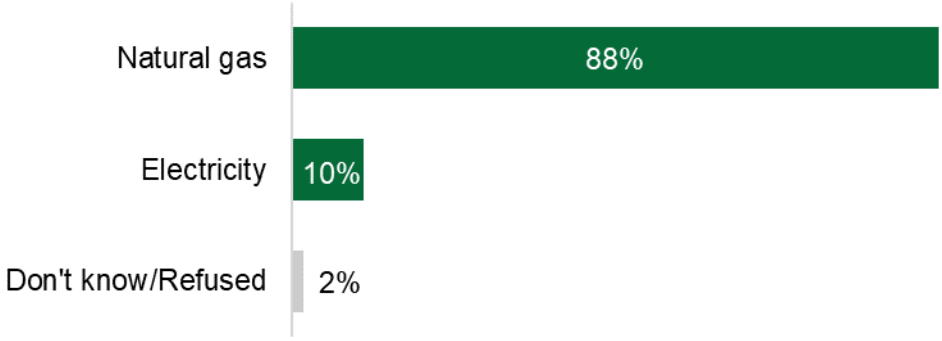
Figure 6: Home Square Footage (n=706)*



*Does not sum to 100% due to rounding.

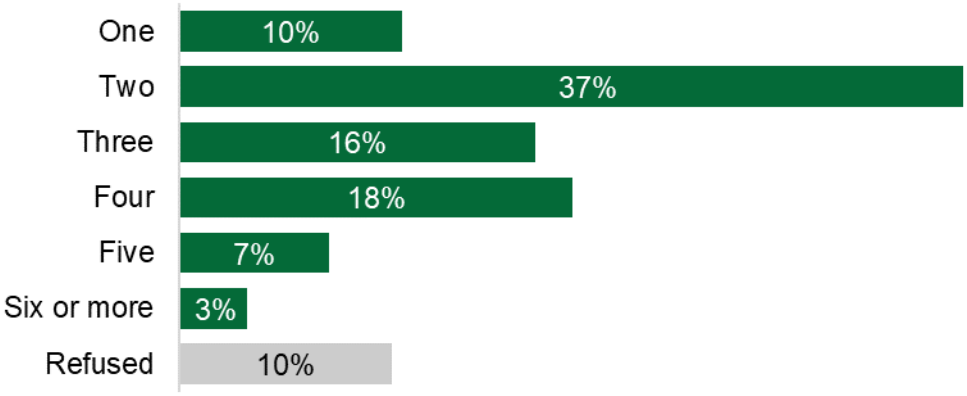
One-tenth (10%) of respondents' homes were primarily heated by electricity and nearly all the remaining homes (88%) were primarily heated by natural gas (Figure 7).

Figure 7: Primary Heating Fuel (n=706)



As shown in Figure 8, one-tenth (10%) of respondents live alone. Nearly three-fourths (71%) of respondents' households contain between two and four people.

Figure 8: Number of Occupants (n=706)*



*Does not sum to 100% due to rounding.

Figure 9 displays the age of the responding treatment customers. Nearly three-fifths (57%) of respondents were under 65 years of age.

Figure 9: Respondent Age (n=706)

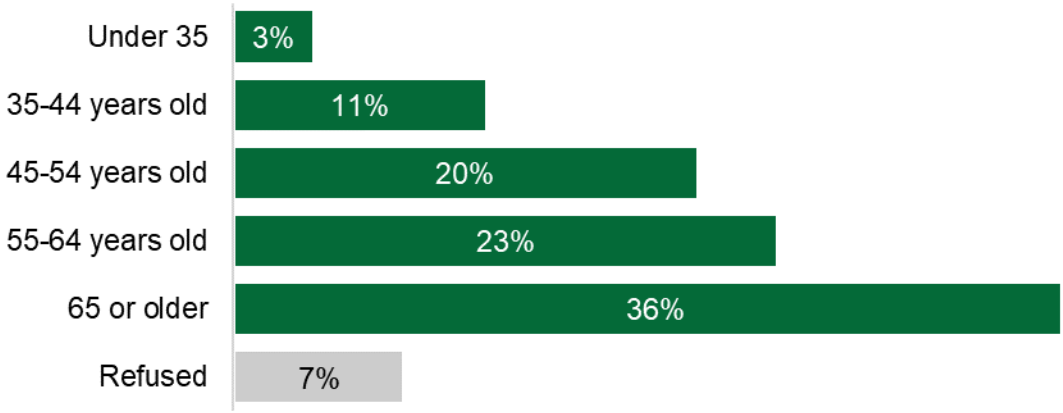
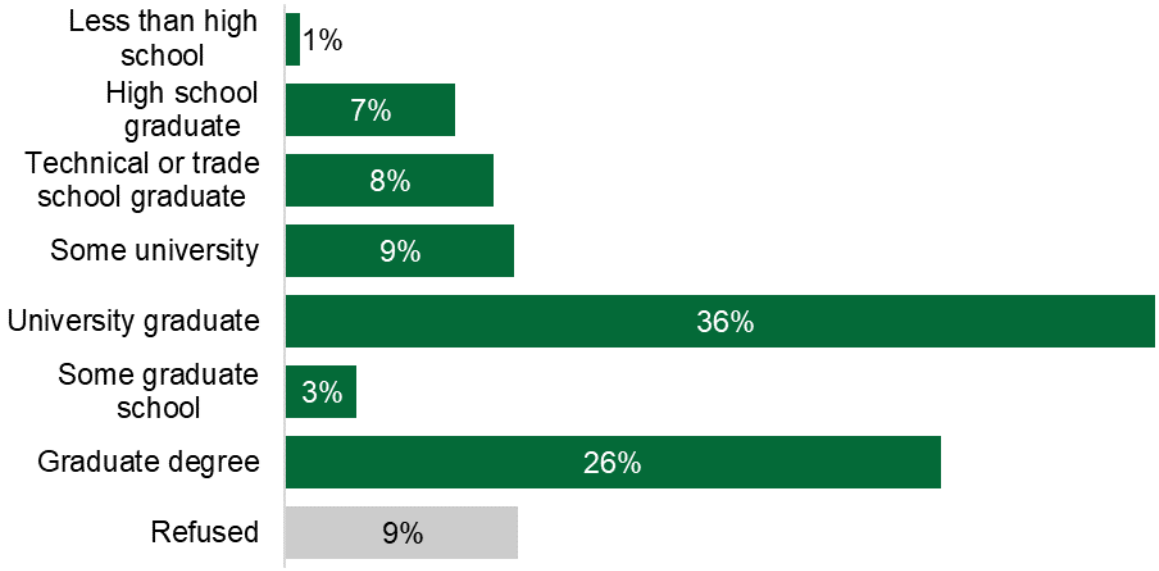


Figure 10 displays respondents' highest education level. Nearly two-thirds (65%) of respondents had a college degree or higher.

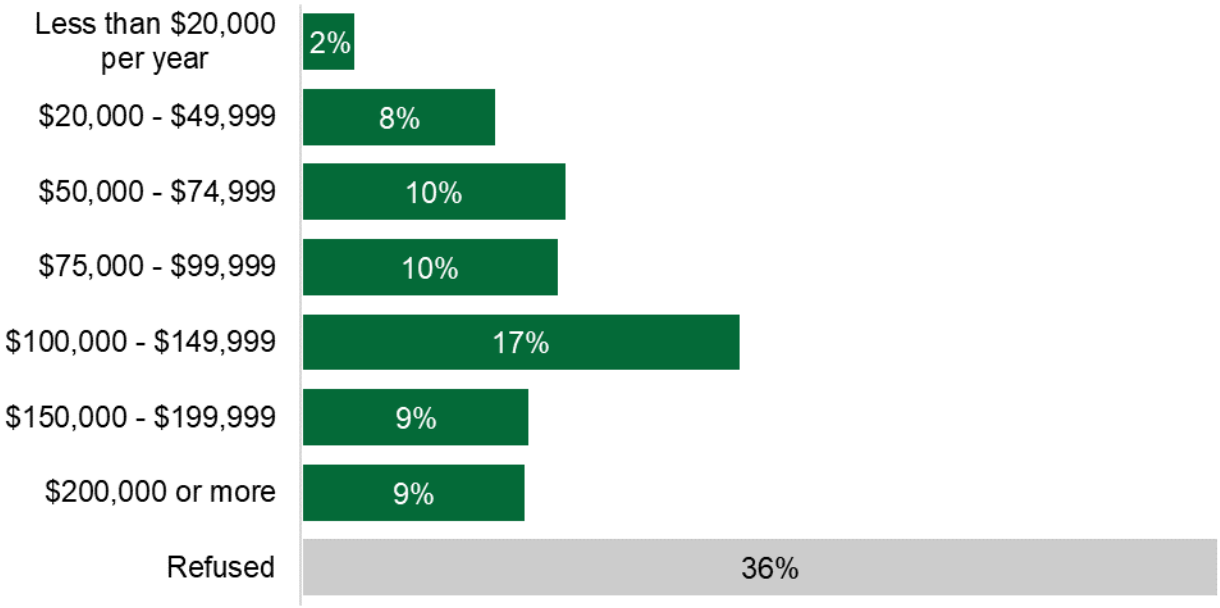
Figure 10: Highest Education Level (n=706)



*Does not sum to 100% due to rounding.

Figure 11 displays respondents' household income. Over one-third (35%) of respondents had a household income of $100,000 or greater and three-tenths (30%) had a household income less than $100,000. A sizable portion of respondents (36%) preferred not to answer this question.

Figure 11: Household Income (n=706)*

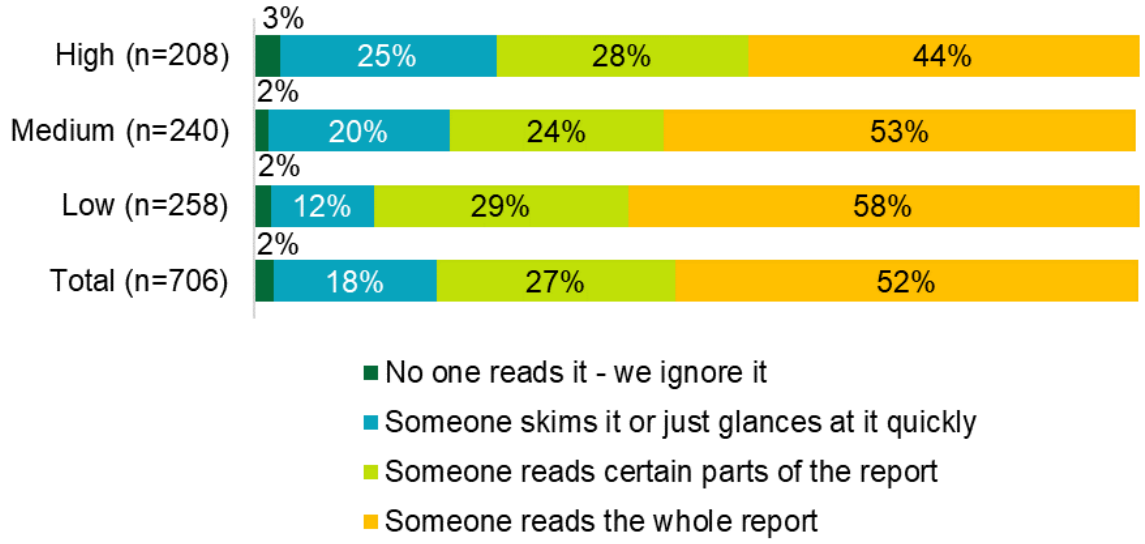


*Does not sum to 100% due to rounding.

6.2.3 Recall, Readership, and Usefulness of ECRs

Figure 12 displays what respondents did when they received the ECRs. The majority (52%) of respondents read through the whole ECR. Respondents in the low energy usage group were most likely to read through the whole ECR (58%). Those in the high energy usage group were least likely to read the whole ECR (44%) and were most likely to skim or glance at it quickly (25%).

Figure 12: How Much of the ECRs Respondents Read* (n=706)



*Does not sum to 100% due to rounding.

Respondents who indicated that no one read the ECRs provided feedback about the main reason why they did not read the ECRs and what information would have made them more likely to read them (Figure 13 and Figure 14). Most of these respondents reported that the information in the ECRs is not useful (nine respondents) or indicated that nothing would make them more likely to read the ECRs (eight respondents).

Figure 13: Main Reason No One Reads ECRs (n=15)

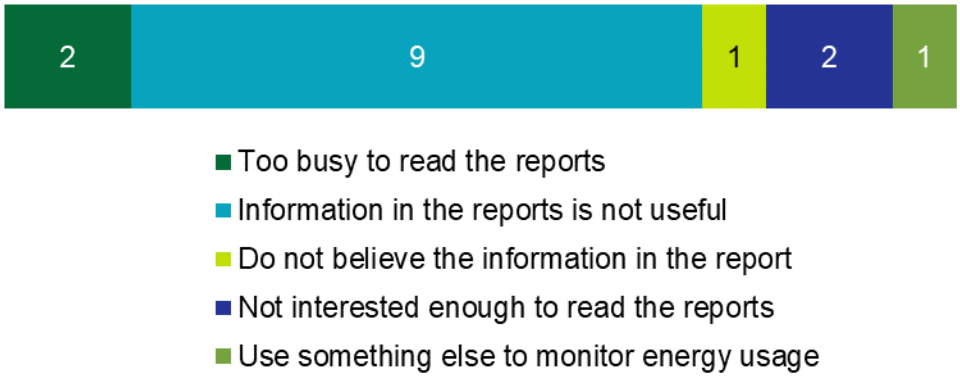
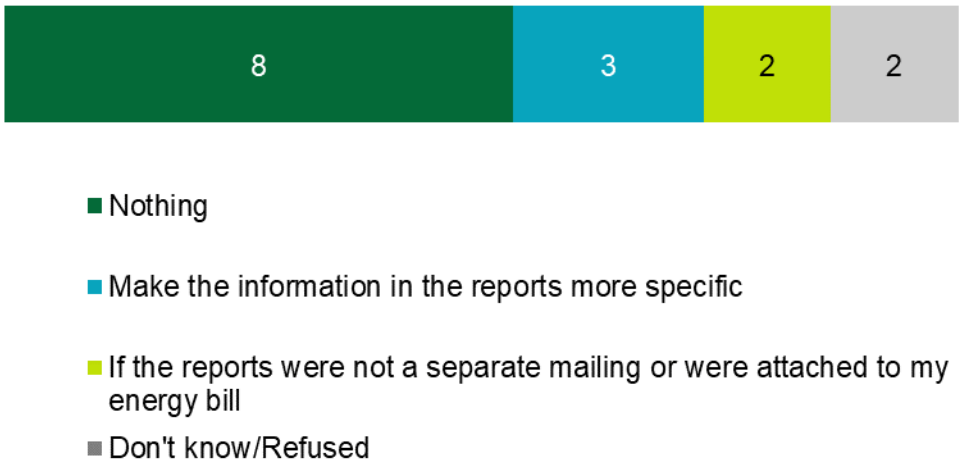


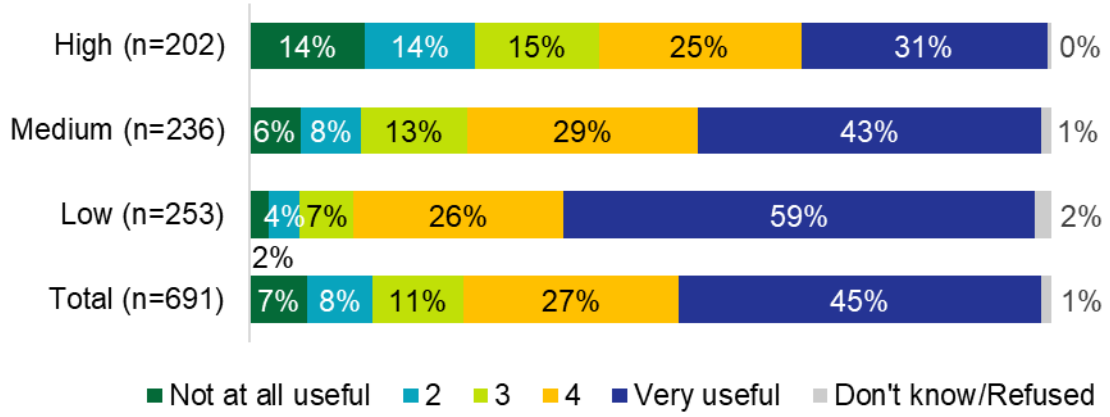
Figure 14: Information that Would Make ECRs More Likely to be Read (n=15, Multiple Response)



As shown in Figure 15 through Figure 18, respondents rated how useful various types of information from the ECRs were to them using a scale of 1 to 5, where 1 meant "not at all useful" and 5 meant "very useful." Nearly one-half (45%) of respondents rated the comparison of their home's energy use to their peer group as very useful (Figure 15). However, just three-tenths (30%) of respondents rated the energy saving tips or suggestions from the ECRs as very useful (Figure 18).

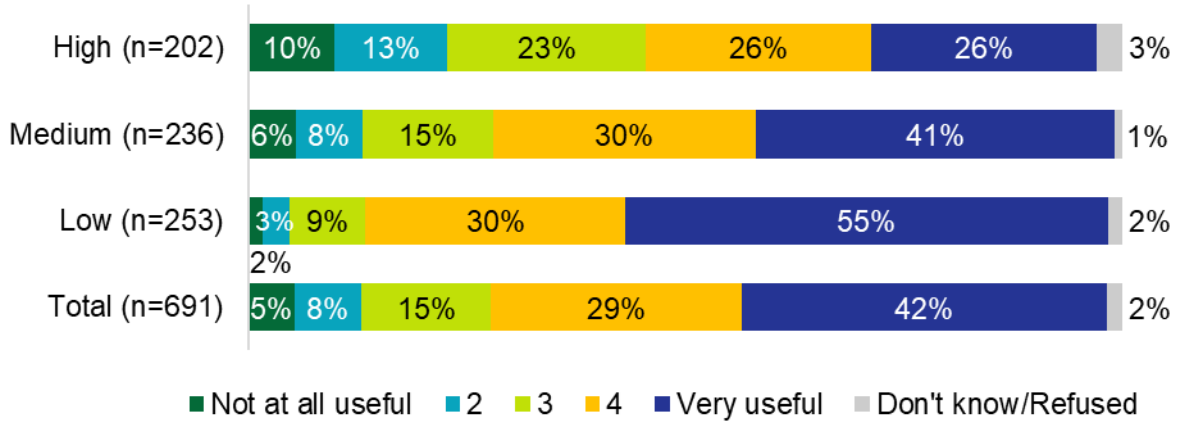
A substantially greater percentage of respondents in the low energy usage group rated information in the ECRs, such as the overall score on how the home is doing (Figure 16), energy savings and costs compared to their peer group (Figure 17), and tips for saving energy (Figure 18), as "very useful" compared to the other treatment groups. This may suggest that respondents in the low treatment group may be more proactive in trying to minimize their home energy consumption and utilizing the information provided in the ECRs.

Figure 15: Usefulnesss of Comparing Home Energy Use to Peer Group*



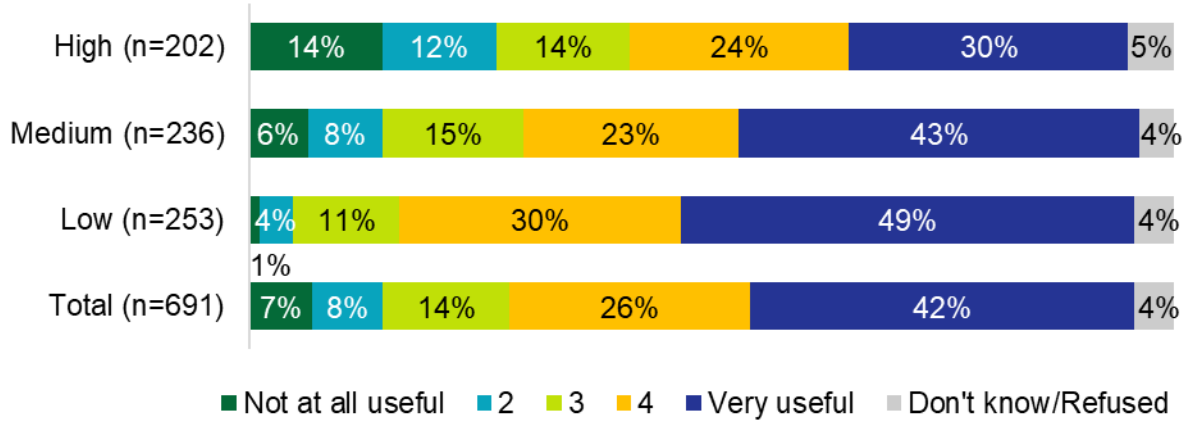
*Does not sum to 100% due to rounding.

Figure 16: Usefulness of the Overall Score on How Home is Doing*



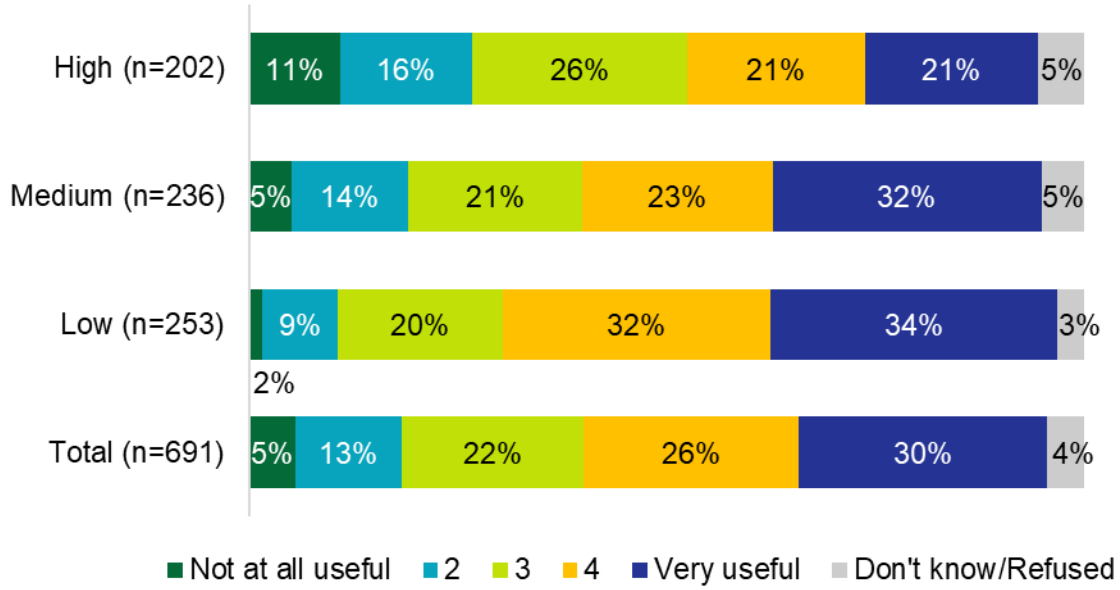
*Does not sum to 100% due to rounding.

Figure 17: Usefulness of Comparing the Energy Savings or Extra Energy Costs to Peer Group*



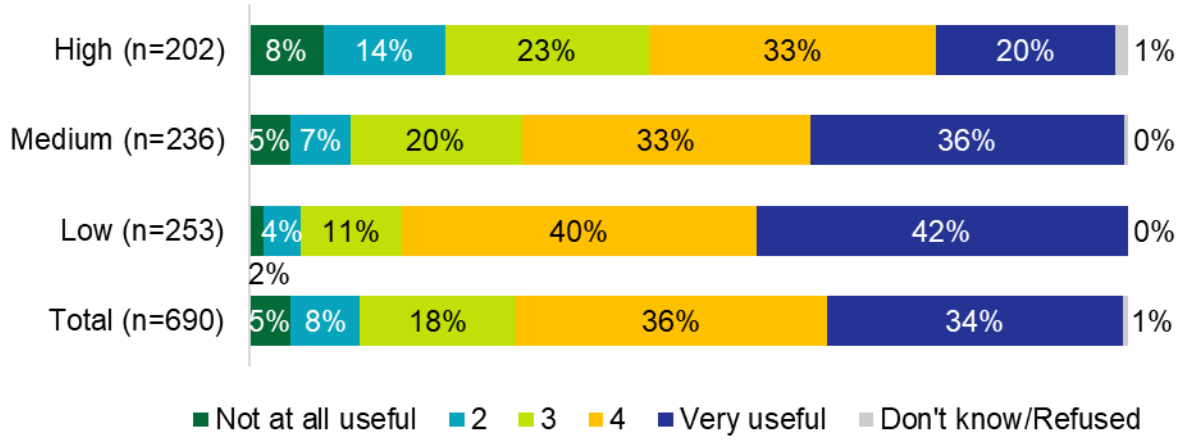
*Does not sum to 100% due to rounding.

Figure 18: Usefulness of Tips or Suggestions for Saving Energy from ECRs



Respondents also rated the overall usefulness of the ECRs, as shown in Figure 19. Seven-tenths (70%) of respondents rated the ECRs as useful overall (rating them a 4 or 5 when using a scale of 1 to 5, where 1 meant "not at all useful" and 5 meant "very useful"). Respondents who consumed less energy at home again found the ECRs to be more useful than those in the high energy consumption group.

Figure 19: Overall Usefulness of the ECRs*



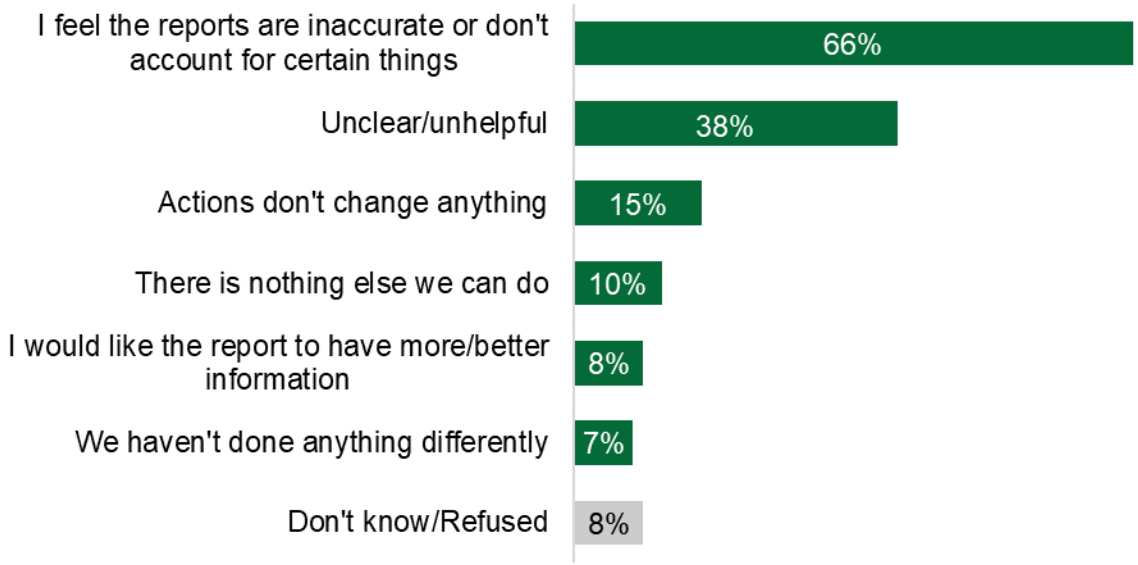
*Does not sum to 100% due to rounding.

Of respondents who rated the ECRs as not useful (a 1 or 2 on a 1 to 5 scale), two-thirds (66%) believed the ECRs were inaccurate or failed to account for certain things (Figure 20). Specifically, one-tenth (10%) of respondents mentioned how the ECRs failed to account for electric vehicles,

which may impact their energy consumption relative to other homeowners in the area who may or may not own electric vehicles.

Over one-third (38%) of respondents who did not find the ECRs useful mentioned that the ECRs were unclear or unhelpful and over one-tenth (15%) found that following the tips or suggestions mentioned in the ECR did very little to lower their energy consumption.

Figure 20: Reasons for Rating ECRs as Not Useful (n=87, Multiple Response)*



*Does not sum to 100% due to multiple response.

Table 17 displays the percentage of respondents who learned about a given energy-saving tip from the ECRs. The top tips learned from the ECRs include installing a programmable thermostat or adjusting the thermostat (36%), using ENERGY STAR® products (35%), changing furnace filters frequently (34%), and washing laundry with cold water (30%). On average, respondents in the low or medium energy consumption groups learned about these tips from the ECRs at a slightly higher rate than those in the high energy consumption group. Nearly one-third (32%) of respondents already knew about each of the tips from the ECRs.

Table 17: Energy-Saving Tips Learned from ECRs (n=690; Multiple Response)

Energy-Saving Tips	Low Treatment Group (n=253)	Medium Treatment Group (n=235)	High Treatment Group (n=202)	Total (n=690)
Adjust thermostat or install programmable thermostat	39%	37%	31%	36%
Use ENERGY STAR products (LEDs, refrigerators, TVs, ceiling fans)	39%	33%	31%	35%
Change furnace filters frequently	38%	37%	26%	34%
Wash laundry with cold water	36%	31%	22%	30%
Turn off/unplug appliances/electronics when not in use	36%	28%	23%	29%
Open shades in the winter and close them in the summer	28%	26%	15%	24%
Insulate/seal leaky areas of home	24%	23%	24%	23%
Use lighting controls (dimmers, timers, and motion sensors)	20%	28%	18%	22%
Use a smart power bar	19%	21%	16%	19%
Install efficient windows	18%	16%	19%	18%
Take short showers	17%	16%	16%	14%
Install low-flow showerheads/aerators	14%	14%	7%	13%
Use eco mode on dishwasher	14%	11%	12%	12%
Install water heater timer	6%	6%	9%	7%
Upgrade to a variable speed pool pump	4%	4%	5%	4%
None – do not recall specific tips	4%	5%	6%	5%
None – already knew about these tips	29%	32%	35%	32%
Not applicable	0%	0%	1%	1%
Don't know/Refused	1%	1%	0%	1%

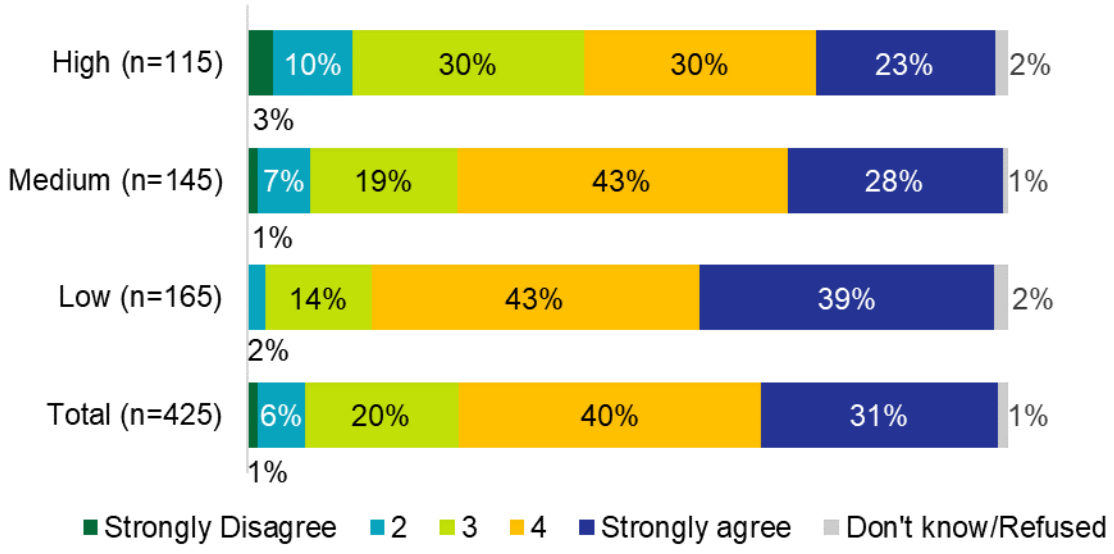
*Does not sum to 100% due to multiple response.

Using a scale of 1 to 5, where 1 meant "strongly disagree" and 5 meant "strongly agree," respondents rated the extent of their agreement with statements regarding the ECRs. As shown in Figure 21 through Figure 23, most respondents agreed (with a rating of a 4 or above) that the energy-saving tips were relevant to their home (71%, Figure 21) and the ECR tips are things everybody already knows (56%, Figure 22). Slightly less than one-half (47%) of respondents agreed that that the tips would help their home use considerably less energy (Figure 23).

A greater proportion of respondents in the lower energy consumption groups agreed that the tips are relevant to their home and that the tips are things everybody already knows. A slightly higher

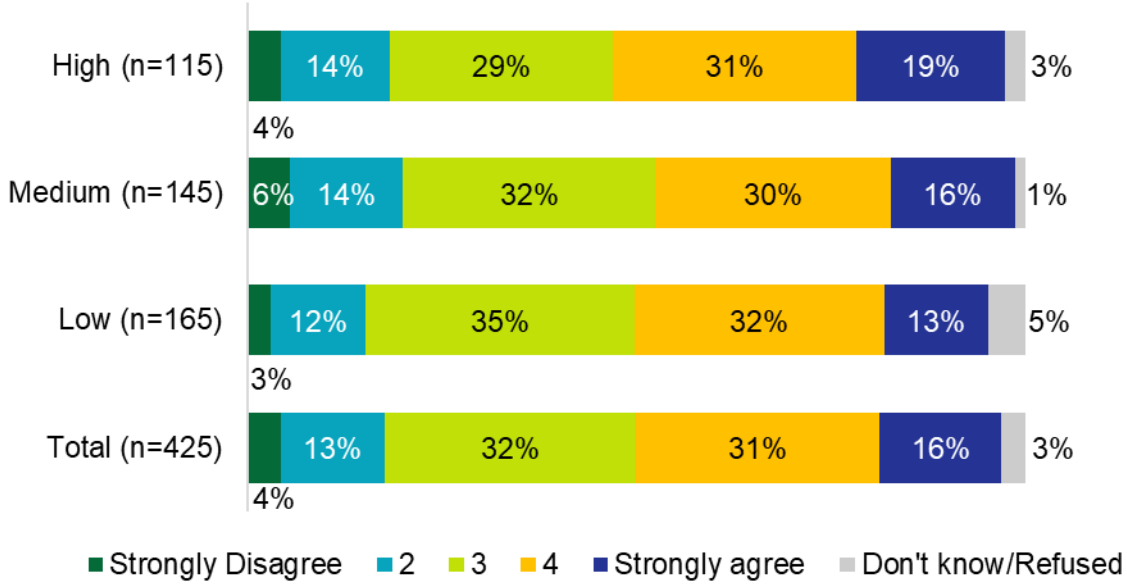
percentage of respondents in the high energy consumption group agreed that most of the energy-saving tips in the ECRs would help use a lot less energy.

Figure 21: Agreement that Energy-Saving Tips in ECRs are Relevant*



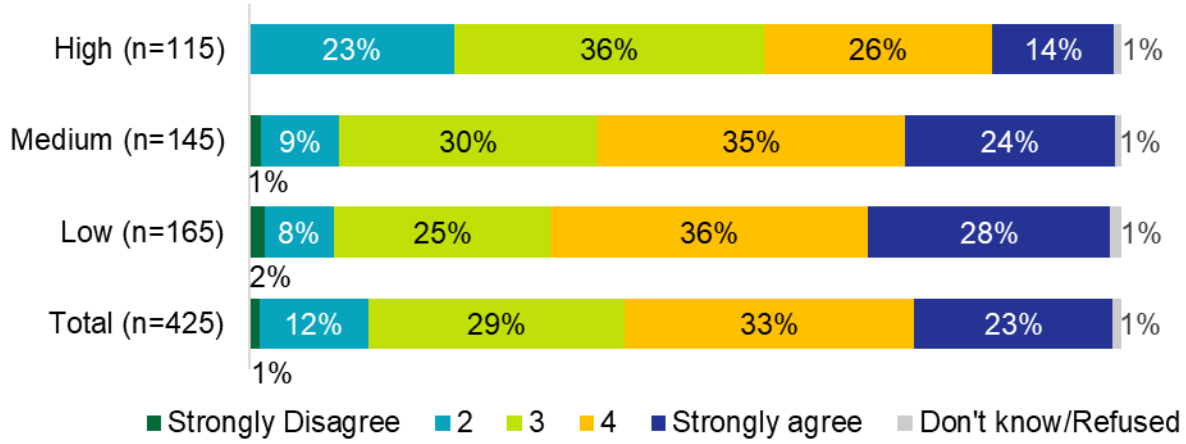
*Does not sum to 100% due to rounding.

Figure 22: Agreement that Most Energy-Saving Tips in ECRs Would Help Use a lot Less Energy*



*Does not sum to 100% due to rounding.

Figure 23: Agreement that Most Energy-Saving Tips in ECRs are Things Everyone Already Knows*



*Does not sum to 100% due to rounding.

6.2.4 Use of Online Customer Portal

Figure 24 and Figure 25 display percentages of respondents who are aware of the online customer portal (called the ECR Portal) and who had signed up to use the website. Nearly two-thirds (62%) of respondents were unaware of the portal; this percentage is fairly consistent across treatment groups.

Of respondents who were aware of the portal, just over one-third (35%) had signed up to use the portal. Over one-tenth (15%) did not know if they had signed up. Compared to the other groups, a lower proportion of the medium energy consumption group had signed up to use the portal (28%).

Figure 24: Awareness of Portal

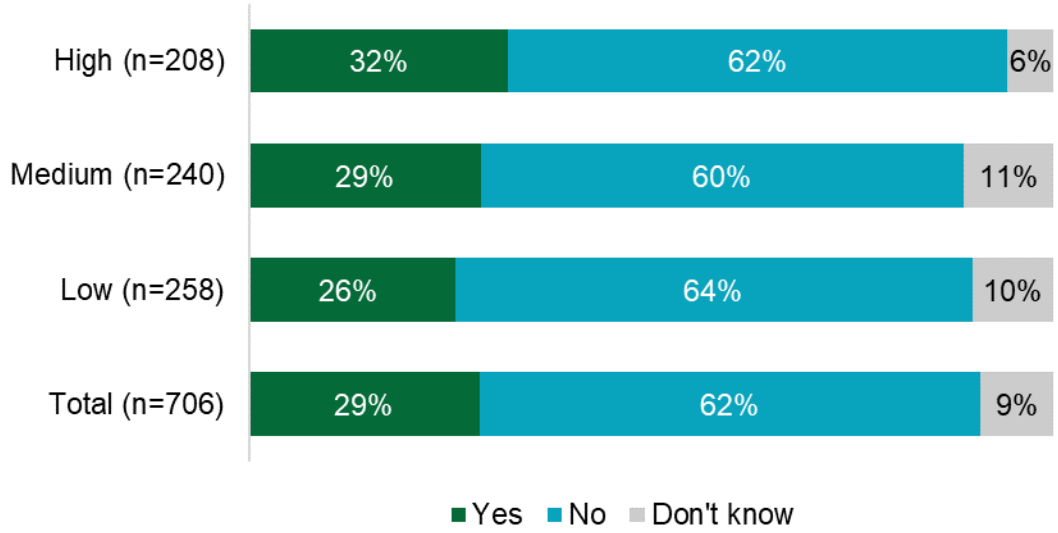
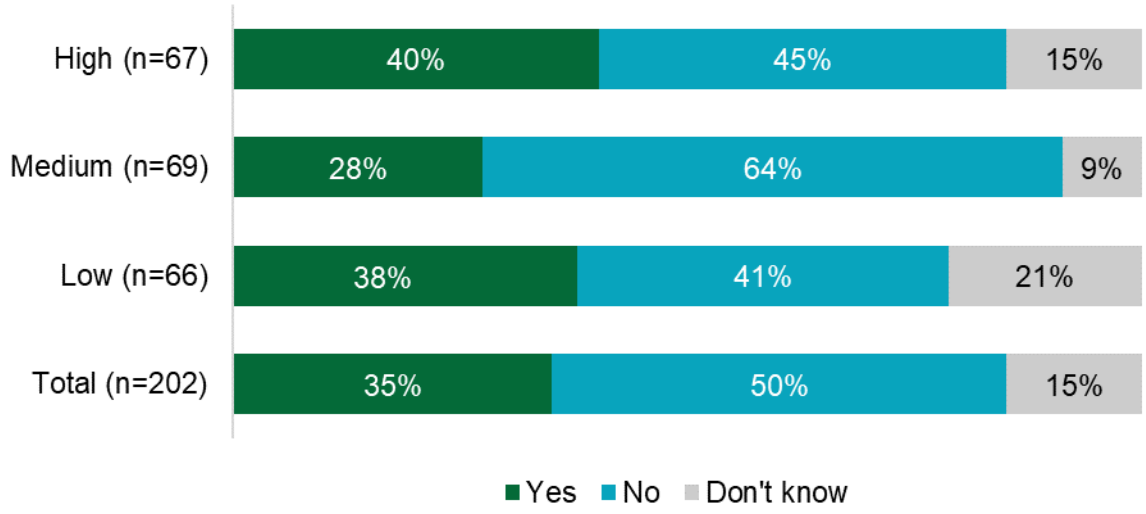


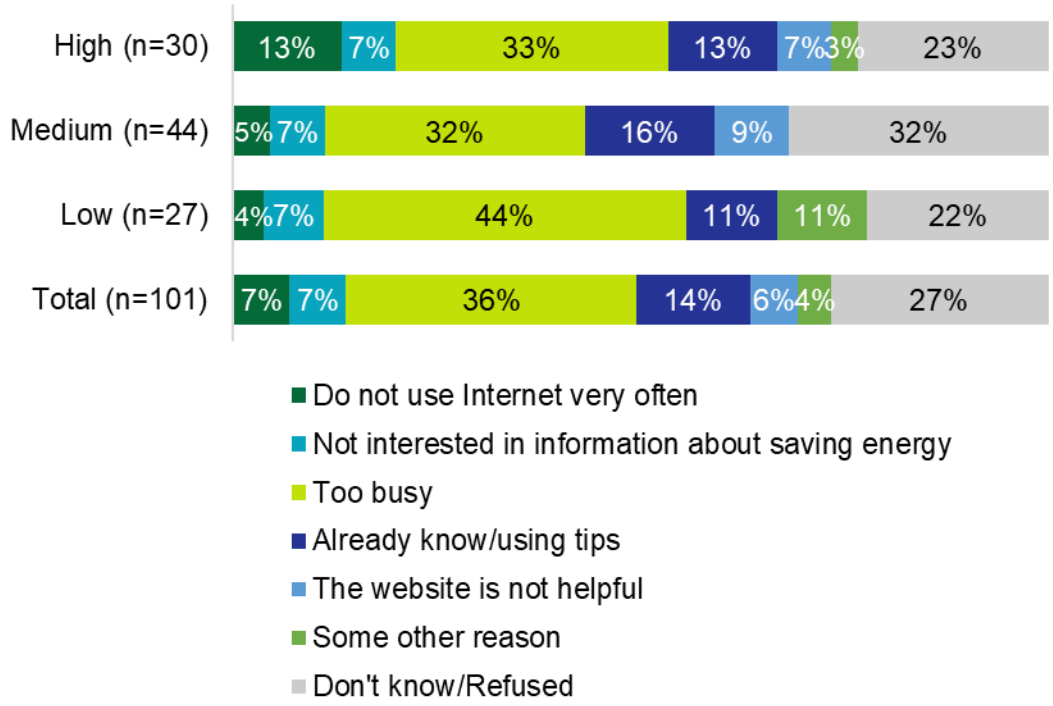
Figure 25: Respondents Who Had Signed up for Portal*



*Does not sum to 100% due to rounding.

More than one-third (36%) of respondents who were aware of the portal but had not signed up to use it mentioned being too busy as the main reason for not signing up (Figure 26). Respondents already knowing or using the energy conservation tips described in the portal (14%) was the other top reason for not having signed up to use the portal. Over one-fourth (27%) of respondents did not know or preferred not to answer this question.

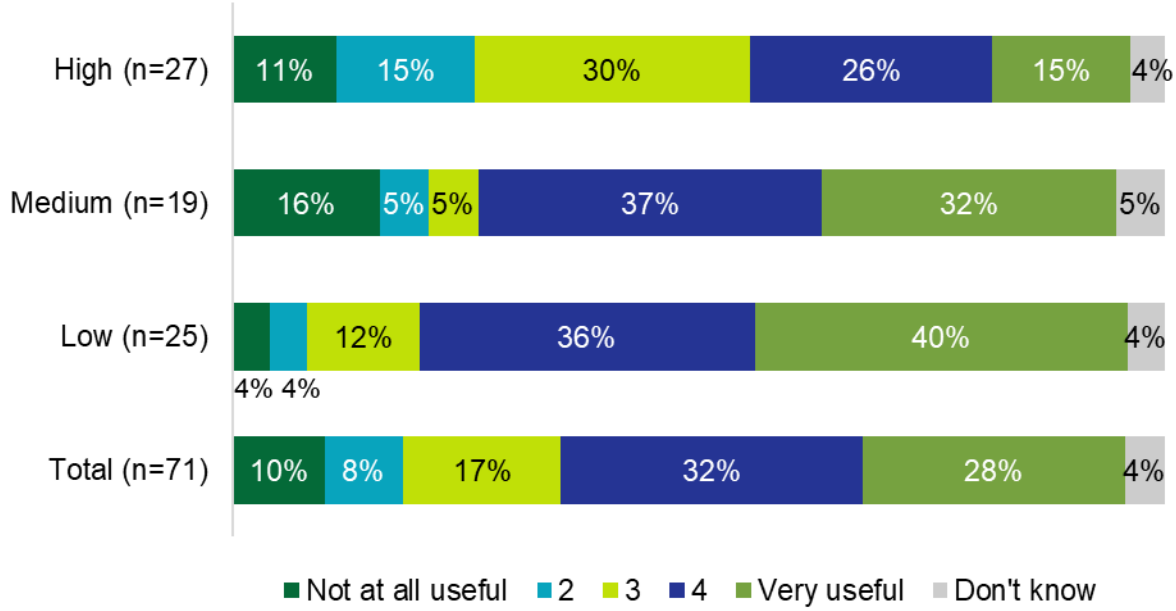
Figure 26: Main Reason for Not Signing Up for Portal (Multiple Response)*



*Does not sum to 100% due to multiple response.

Of those respondents who had visited the portal, three-fifths (60%) rated the information available as useful (a rating of a 4 or 5) for saving energy when using a scale of 1 to 5, where 1 meant "not at all useful" and 5 meant "very useful" (Figure 27). A considerably higher percentage of respondents in the low (76%) and medium (69%) energy consumption groups found the portal useful compared to the high treatment group (41%).

Figure 27: Usefulness of Information Available on Portal*



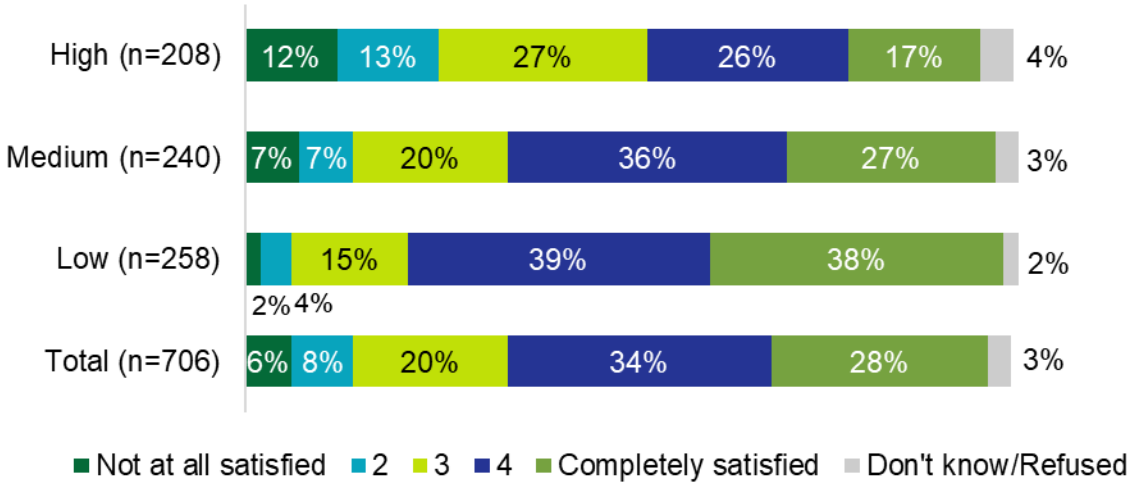
*Does not sum to 100% due to rounding.

6.2.5 Satisfaction and Suggestions for Improvement

As noted in Section 6.2.1, and in more detail in these sections, the program experience was generally positive. One respondent said, "*I liked getting the monthly reports of how my energy use compared to similar homes, and the tips that came with the report.*"

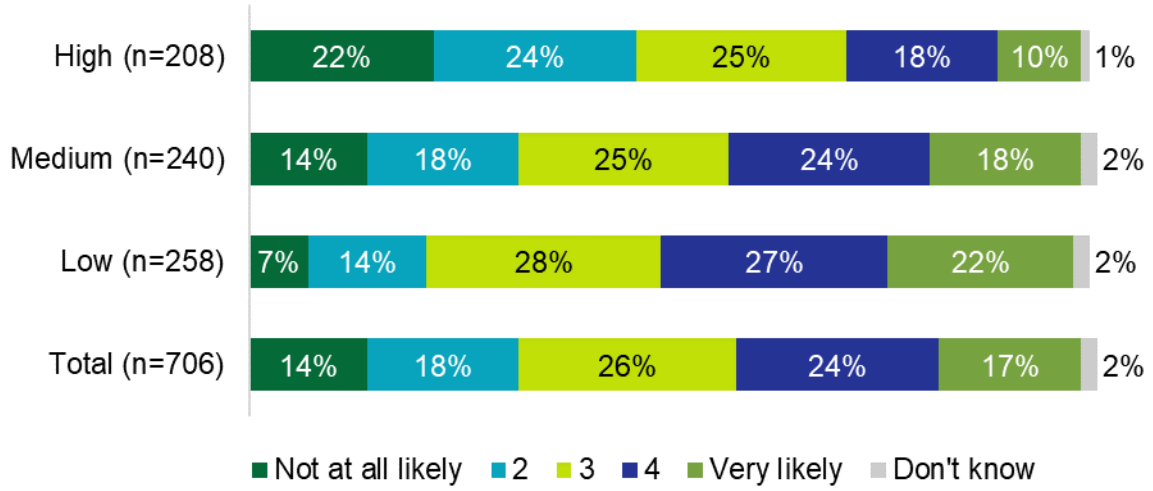
Figure 28 and Figure 29 display the respondents' satisfaction with the ECRs (using a scale of 1 to 5, where 1 meant "not at all satisfied" and 5 meant "very satisfied") and the likelihood that the ECRs helped reduce household electricity use (using a scale of 1 to 5, where 1 meant "not at all likely" and 5 meant "very likely"). Over three-fifths (62%) of respondents gave their satisfaction with the ECRs a rating of a 4 or above. However, a smaller percentage (41%) of respondents said that it was likely that the ECRs helped reduce their household electricity use. Those in the low and medium energy consumption groups were more likely to be satisfied with the ECRs and believe that the ECRs helped reduce household electricity use than those in the high consumption group.

Figure 28: Satisfaction with ECRs*



*Does not sum to 100% due to rounding.

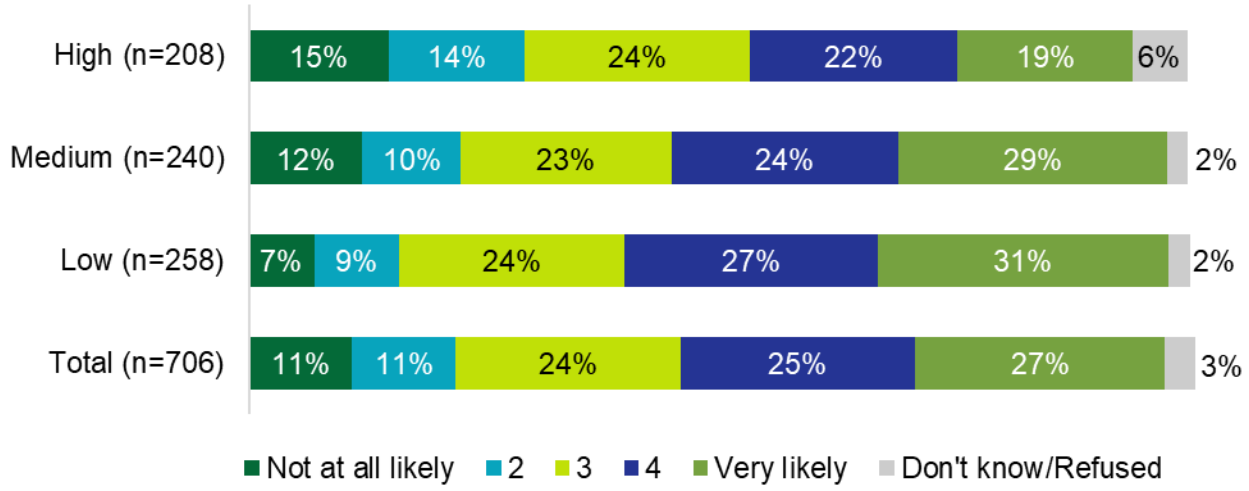
Figure 29: Likelihood the ECRs Helped Reduce Electricity Use*



*Does not sum to 100% due to rounding.

Respondents described how likely they would be to recommend the ECRs to others using a scale of 1 to 5, where 1 meant “not at all likely” and 5 meant “very likely” (Figure 30). Over one-half (52%) of respondents were likely to recommend the ECRs to others (rating of 4 or 5).

Figure 30: Likelihood to Recommend ECRs to Others*



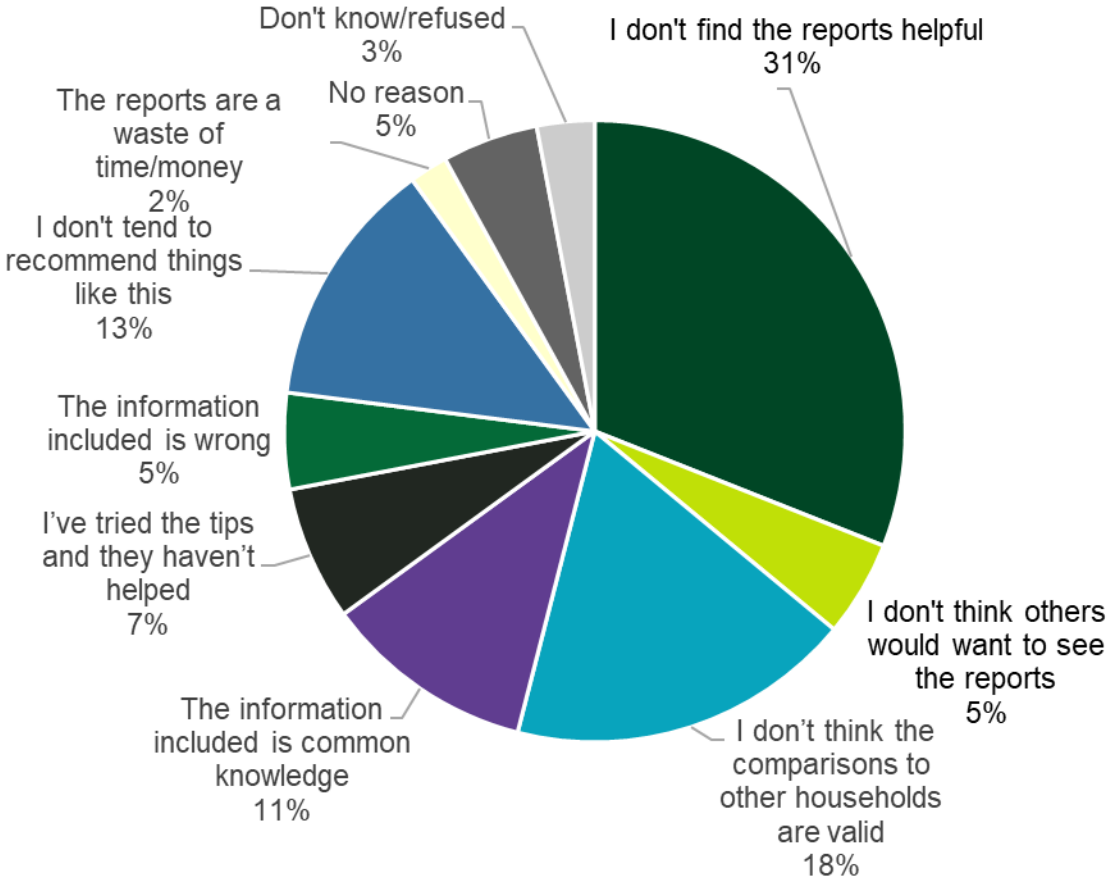
*Does not sum to 100% due to rounding.

As shown in Figure 31, nearly one-third (31%) of respondents who were unlikely to recommend the ECRs (rating of a 1 or 2) explained that they did not find them helpful. One respondent reported, "We used energy based on our family needs, so opening ECRs and then reading them doesn't help."

Another respondent commented on how the ECRs do not contain enough information from their perspective, stating, "*While I was very surprised to know that we use more electricity than our peers, I still don't understand why (or therefore what to do about it) since we already practice most of the tips provided. So, yes, I know more than I did before, but I don't have any idea what to do about it. It may even be that the "peers" selected for us are not in fact peers, but I don't have enough information to know for sure.*"

Over one-tenth of respondents each questioned the accuracy of how their household energy usage compared to other households (18%), believe the information included is common knowledge (11%), and that they do not tend to recommend things like this to others (13%). One respondent said, *"I guess it is private stuff, don't want to push my agenda on to other people who have their own lives."*

Figure 31: Why Unlikely to Recommend ECRs to Others (n=168, Multiple Response)*



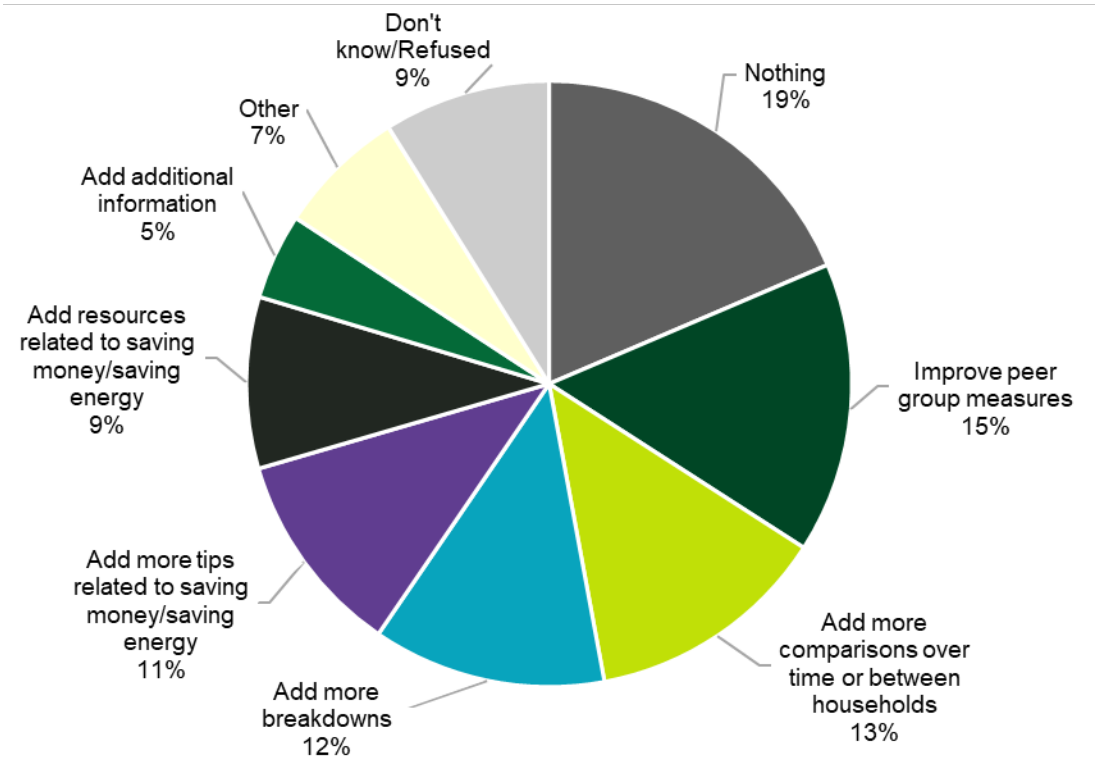
*Does not sum to 100% due to multiple response.

Nearly one-fourth (23%) of respondents said that nothing could make the ECRs more useful for their household (Figure 32). However, many suggestions for improving the ECRs centered around adding better comparisons or breakdowns of how a household compares to other households in the area. Nearly one-fifth of respondents each suggested improving peer group measures (19%), adding more comparisons over time or between households (16%), and adding more breakdowns (15%).

One respondent provided the following context: "*While it is fine and dandy to compare households, energy usage is individual to every homeowner where usage is defined by working conditions, home habits, energy-wise retrofits and other things you have control over. To be lumped in with others just does not make sense.*"

Over one-tenth of respondents each suggested adding more tips (13%) and resources (11%) related to saving money or energy.

Figure 32: Recommended Improvements to ECRs (n=319, Multiple Response)*

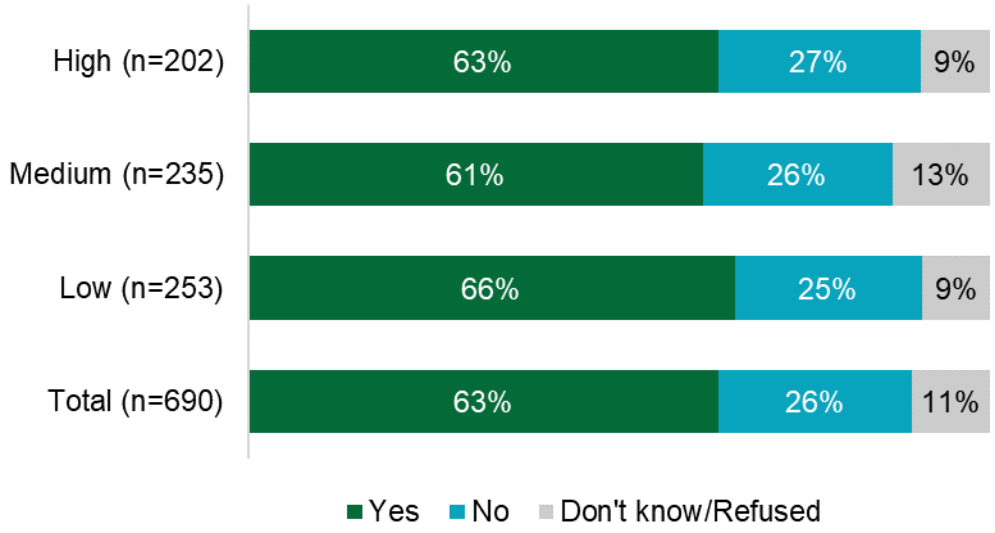


*Does not sum to 100% due to multiple response.

6.2.6 Actions Taken or Anticipate Taking

As shown in Figure 33, nearly two-thirds (63%) of respondents had tried at least one of the energy-saving tips that were described in the ECRs. The top tips tried since receiving the ECRs include installing a programmable thermostat or adjusting the thermostat (37%), changing furnace filters frequently (35%), using ENERGY STAR products (34%), and washing laundry with cold water (30%) (Table 18). On average, respondents in the low and medium energy consumption groups tried these tips from the ECRs at a slightly higher rate than those in the high energy consumption group.

Figure 33: Whether Respondents Had Tried Energy-Saving Tips*



*Does not sum to 100% due to rounding.

Table 18: Energy-Saving Tips Tried Since Receiving ECRs (Multiple Response)*

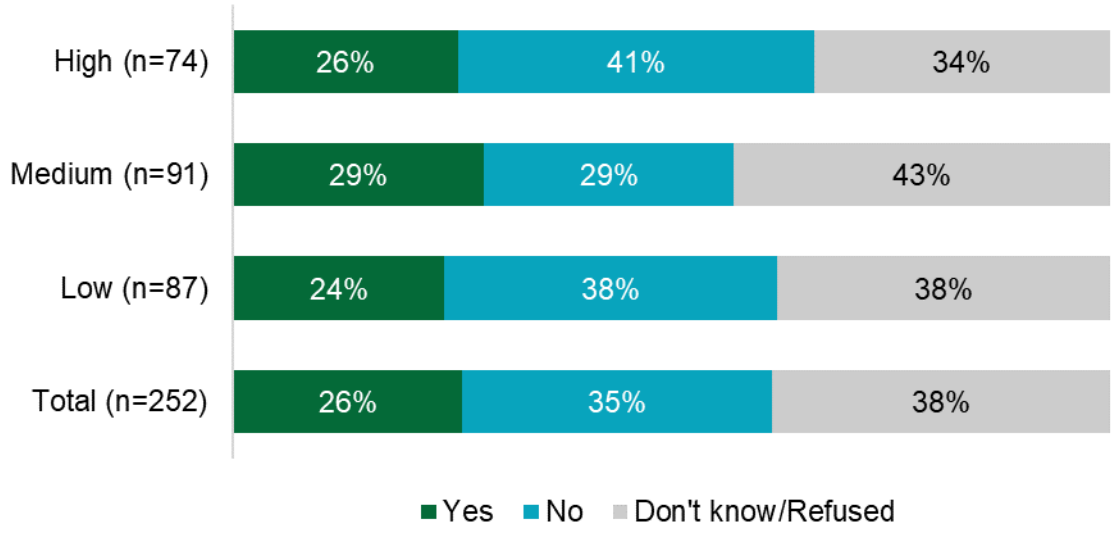
Energy-Saving Tips	Low Treatment Group (n=166)	Medium Treatment Group (n=144)	High Treatment Group (n=128)	Total (n=438)
Adjust thermostat or install programmable thermostat	36%	39%	35%	37%
Change furnace filters frequently	34%	44%	27%	35%
Use ENERGY STAR products (LEDs, refrigerators, TVs, ceiling fans)	33%	38%	30%	34%
Wash laundry with cold water	34%	33%	20%	30%
Turn off/unplug appliances/electronics when not in use	34%	28%	20%	28%
Open shades in the winter and close them in the summer	25%	28%	15%	23%
Use lighting controls (dimmers, timers, and motion sensors)	14%	24%	20%	19%
Insulate/seal leaky areas of home	19%	18%	15%	18%
Use a smart power bar	16%	13%	14%	14%
Take short showers	13%	18%	5%	12%
Use eco mode on dishwasher	10%	10%	9%	10%
Install efficient windows	7%	12%	10%	9%
Install low-flow showerheads/aerators	8%	13%	7%	9%
Upgrade to a variable speed pool pump	2%	3%	4%	3%
Install water heater timer	0%	1%	2%	1%
Not applicable	1%	1%	1%	1%

Energy-Saving Tips	Low Treatment Group (n=166)	Medium Treatment Group (n=144)	High Treatment Group (n=128)	Total (n=438)
Don't know/Refused	16%	10%	25%	17%

*Does not sum to 100% due to multiple response.

For respondents who indicated they had not tried any of the energy-saving tips since receiving the ECRs, just over one-fourth (26%) anticipated trying any of the tips within the next few months; although, over one-third (38%) did not know or preferred not to answer (Figure 34).

Figure 34: Whether Respondents Will Try Suggested Energy-Saving Tips in the Next Few Months*



*Does not sum to 100% due to rounding.

For respondents who thought they would try any of the tips within the next few months, over one-tenth each indicated they would try to turn off or unplug appliances or electronics when not in use (17%), change furnace filters frequently (15%), open shades in the winter and close them in the summer (14%), and adjust thermostats or install a programmable thermostat (11%). Nearly one-half (45%) of the respondents did not know what tips they may try (Table 19).

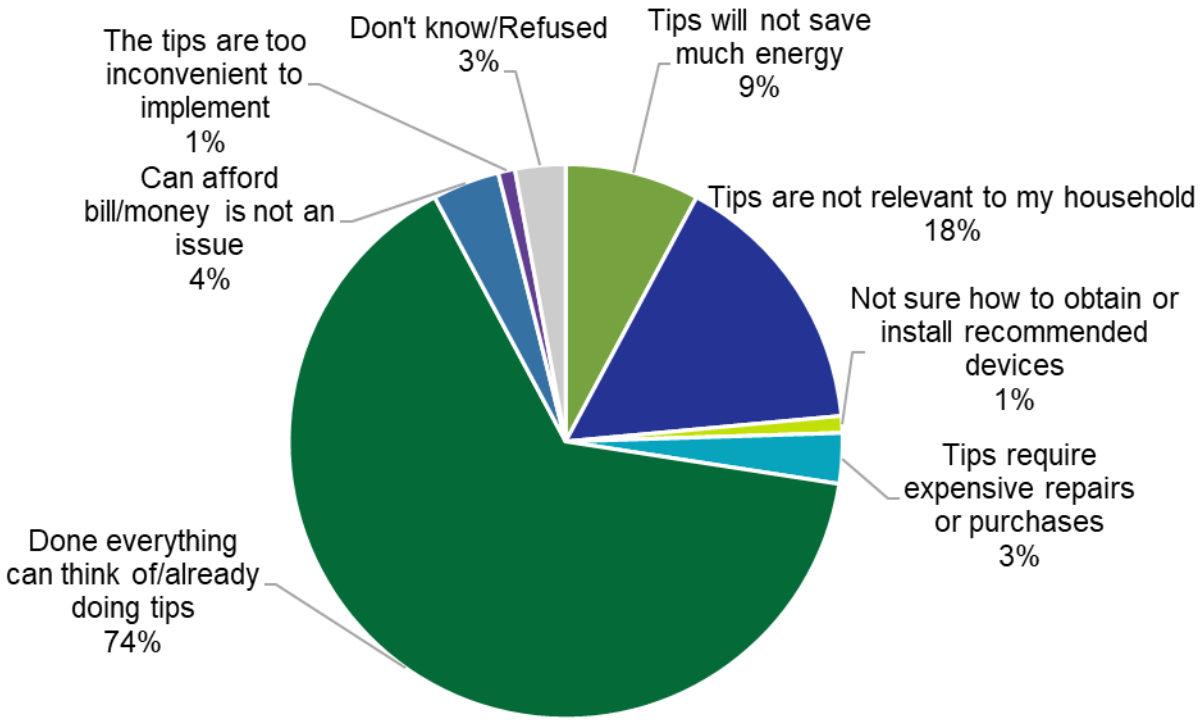
Table 19: Energy Saving Tips Respondents May Try in Next Few Months (Multiple Response)

Energy-saving Tips	Low (n=21) Treatment Group (n=21)	Medium Treatment Group (n=26)	High Treatment Group (n=19)	Total (n=66)
Turn off/unplug appliances/electronics when not in use	14%	12%	26%	17%
Change furnace filters frequently	14%	12%	21%	15%
Open shades in the winter and close them in the summer	19%	12%	11%	14%
Adjust thermostat or install programmable thermostat	19%	0%	16%	11%
Wash laundry with cold water	5%	0%	26%	9%
Use ENERGY STAR products (LEDs, refrigerators, TVs, ceiling fans)	14%	18%	5%	9%
Use eco mode on dishwasher	5%	8%	5%	6%
Use a smart power bar	0%	8%	5%	5%
Install efficient windows	5%	0%	11%	5%
Install water heater timer	5%	4%	5%	5%
Insulate/seal leaky areas of home	5%	4%	0%	3%
Use lighting controls (dimmers, timers, and motion sensors)	5%	0%	5%	3%
Take short showers	0%	4%	5%	3%
Not applicable	14%	12%	0%	9%
Don't know/Refused	48%	50%	37%	45%

*Does not sum to 100% due to multiple response.

Respondents who indicated they would not try any of the energy-saving tips in the next few months described the reasons behind why they were unlikely to try any of the tips. Nearly three-fourths of these respondents (74%) said they were already doing what was recommended or had done everything they could think of to save energy (Figure 35). Nearly one-fifth (18%) indicated that the tips were not relevant to their household.

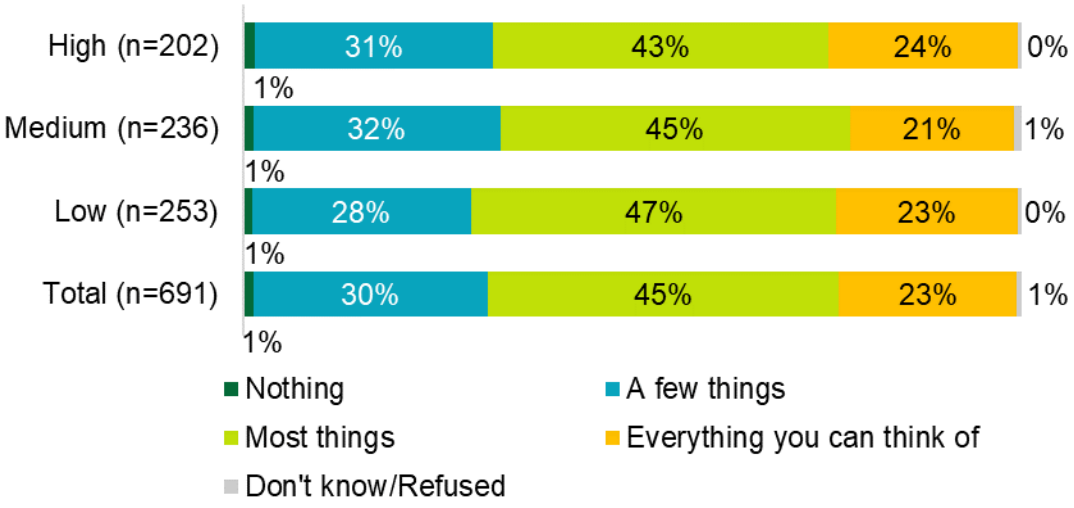
Figure 35: Reasons for Being Unlikely to Try Any of the Energy-Saving Tips (n=89, Multiple Response)*



*Does not sum to 100% due to multiple response.

Over two-thirds (68%) of respondents indicated they were doing most or everything they could think of to conserve energy in their household (Figure 36). These percentages were consistent across the three treatment groups.

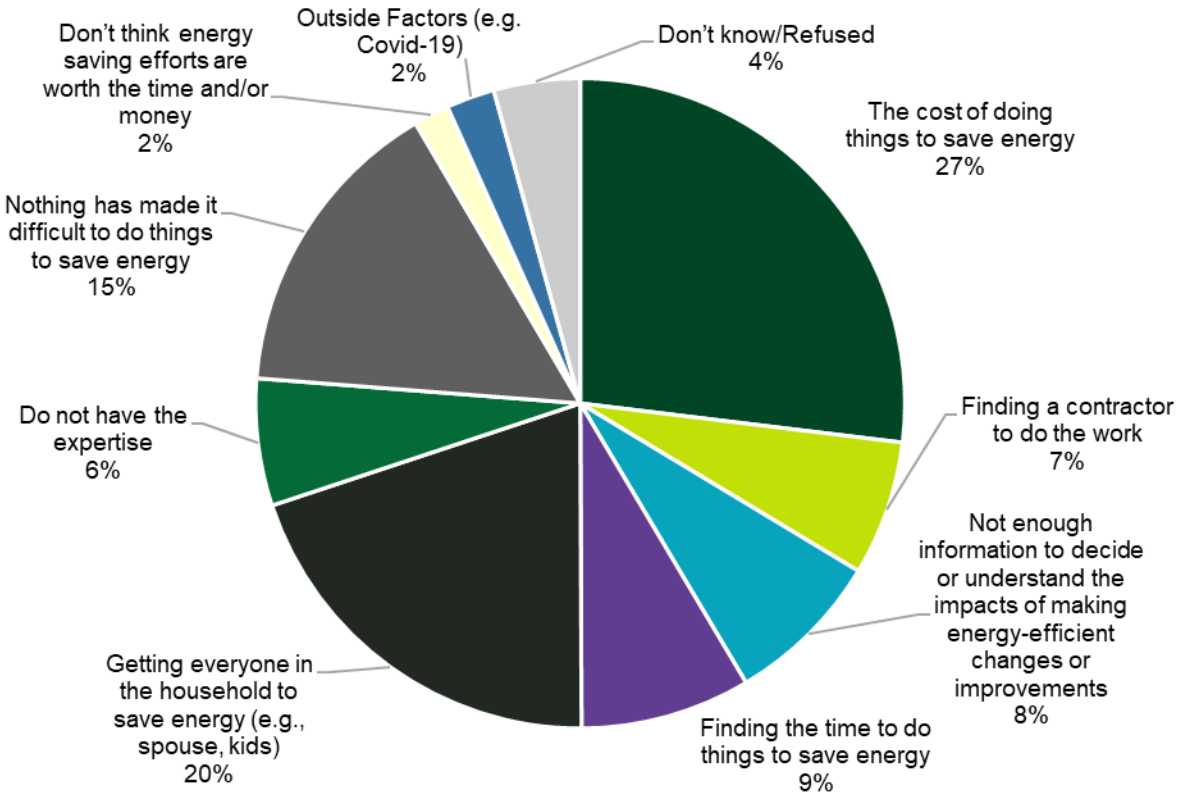
Figure 36: Whether Respondents Had Done Most or Everything They Can Think of to Conserve Energy*



*Does not sum to 100% due to rounding.

Respondents who said they had not done everything they could think of to save energy described which factors made it difficult for their household to do things to save energy. Two-fifths (40%) of respondents indicated that the cost of doing things to save energy made it difficult to save energy in the household (Figure 37). The next most common barrier was getting everyone in the household to save energy (e.g., spouse, kids) (30%). Over one-fifth (23%) of respondents said that nothing had made it difficult to do things to save energy.

Figure 37: Factors that Made it Difficult to Save Energy (n=533, Multiple Response)*

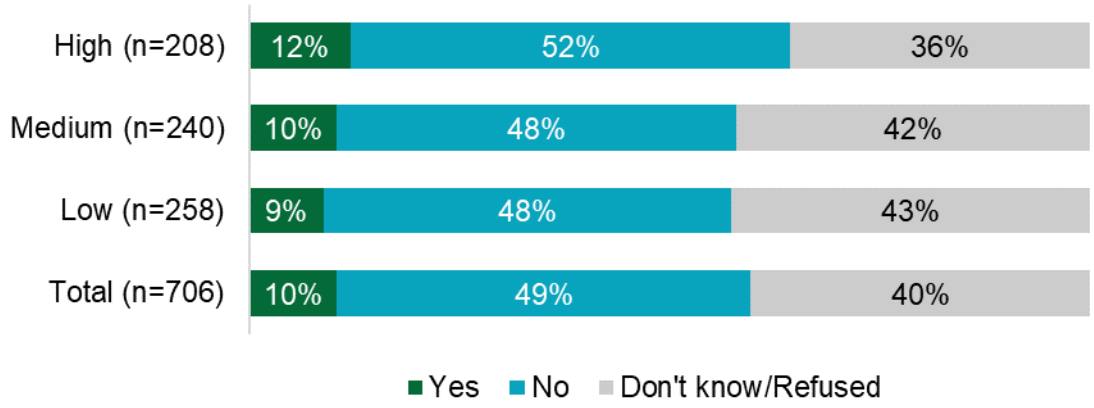


*Does not sum to 100% due to multiple response.

6.2.7 Resulting Participation in Other Programs

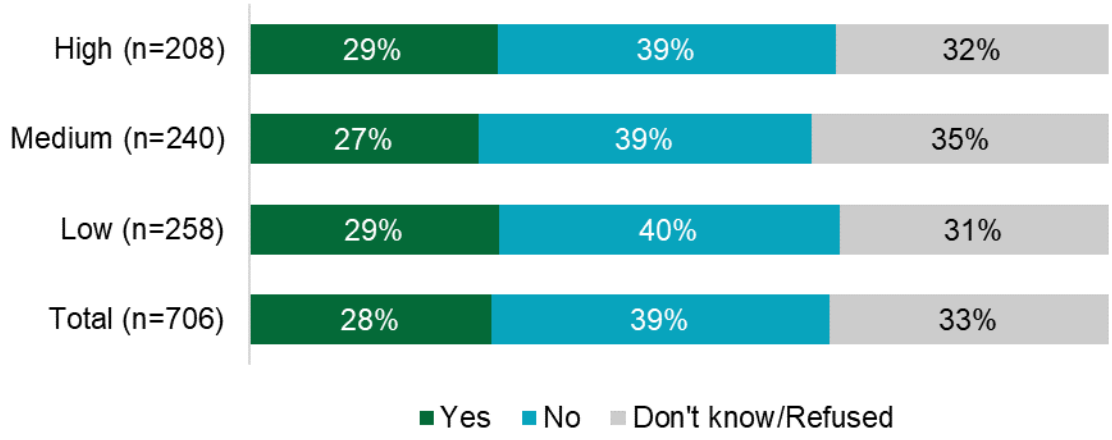
The survey asked respondents which programs they were aware that they could have received support for from Alectra or the IESO. Only one-tenth (10%) of respondents indicated they were aware of the Poolsaver Program that was offered by Alectra in 2019 and 2020 (Figure 38). However, nearly three-tenths of respondents each were aware of HAP (28%) that was offered by the IESO to income-eligible customers in 2019 and 2020 (Figure 39) and the Energy Affordability Program (28%) that is currently offered by the IESO in 2021 to income-eligible customers (Figure 40). Very minimal variation in program awareness existed across treatment groups.

Figure 38: Awareness of Support from the Poolsaver Program*



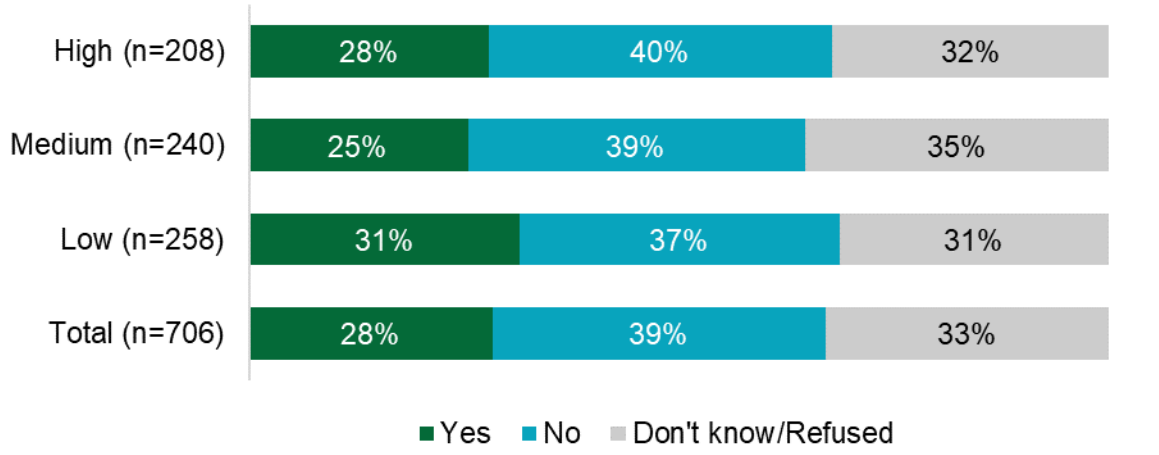
*Does not sum to 100% due to rounding.

Figure 39: Awareness of Support from HAP*



*Does not sum to 100% due to rounding.

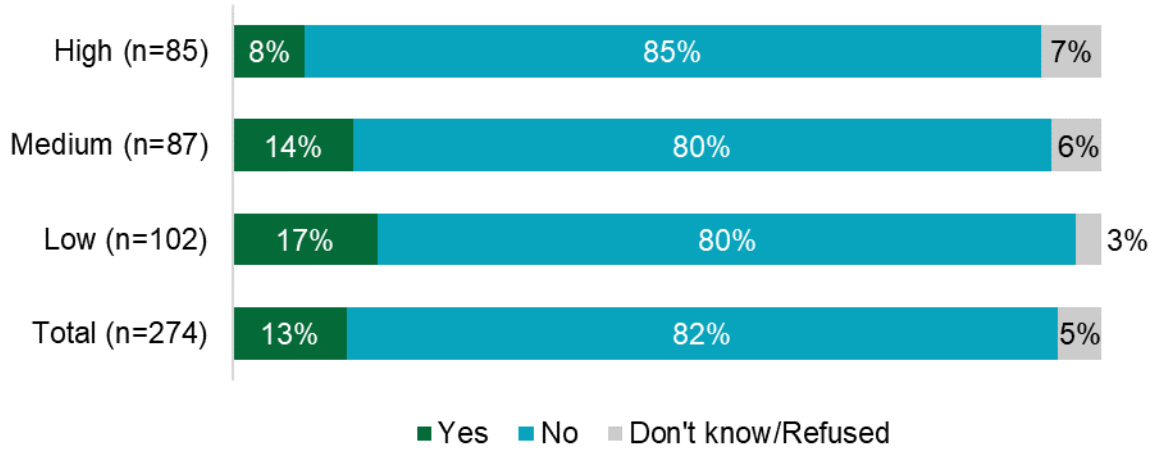
Figure 40: Awareness of Support from Energy Affordability Program*



*Does not sum to 100% due to rounding.

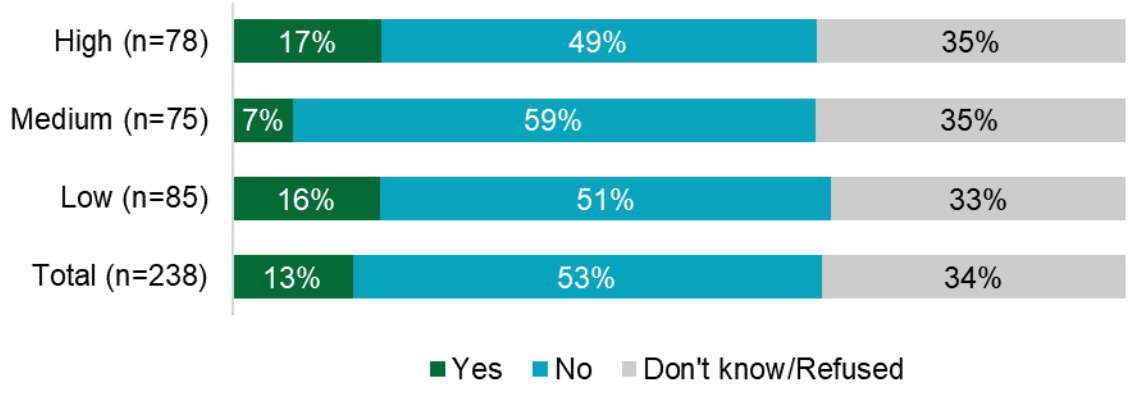
Thirty-six respondents or just over one-tenth (13%) applied to at least one energy-efficiency program offered by Alectra or the IESO as a result of their experience with the CCP (Figure 41). Nearly one-half (47%) of these individuals were in the low energy consumption group. Four of the 36 respondents who had applied to at least one program received support from the Poolsaver Program, 11 respondents received support from the HAP program, and 16 respondents received support from the Energy Affordability Program.

Figure 41: Whether Respondents Had Applied to Any Energy-Efficiency Programs Due to Experience with CCP



Respondents who had not participated in other energy-efficiency programs described whether they anticipated applying to any energy-efficiency programs offered by Alectra or the IESO in the next few months. As shown in Figure 42, nearly nine-tenths (87%) of these respondents did not anticipate applying to other energy-efficiency programs in the next few months or were not sure what they may do. Of the just over one-tenth (13%) of respondents who indicated that they did anticipate applying to other programs, 20 respondents anticipated applying to the Energy Affordability Program.

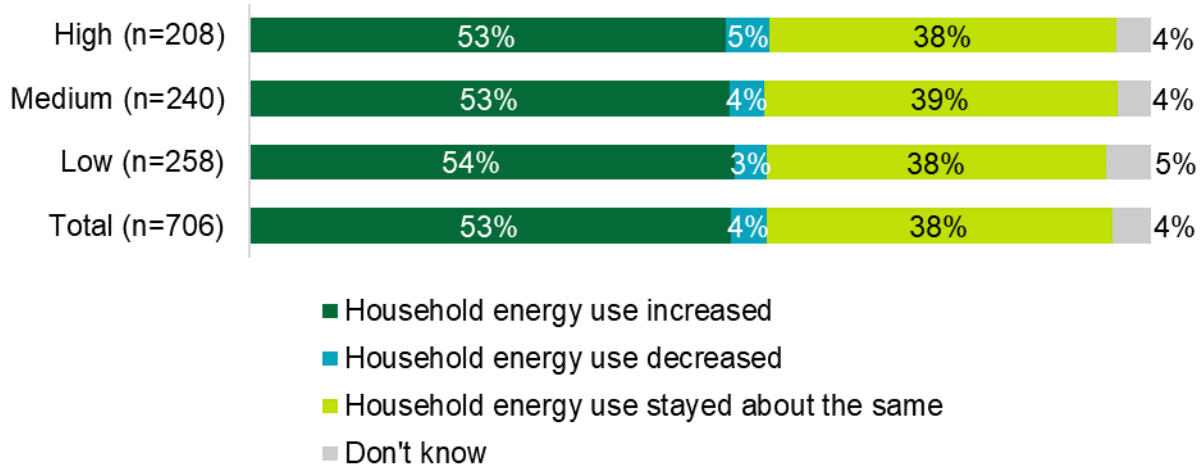
Figure 42: Respondents' Anticipated Application to Any Energy-Efficiency Programs Due to Experience with CCP*



6.2.8 COVID-19 Impact

Respondents described how the COVID-19 pandemic had impacted their household energy use. Figure 43 displays overall household energy usage trends since the beginning of the COVID-19 pandemic. Overall, over one-half (53%) of respondents said their household energy use had increased and nearly two-fifths (38%) of respondents said that their energy usage had stayed about the same. There was very minimal variation across treatment groups.

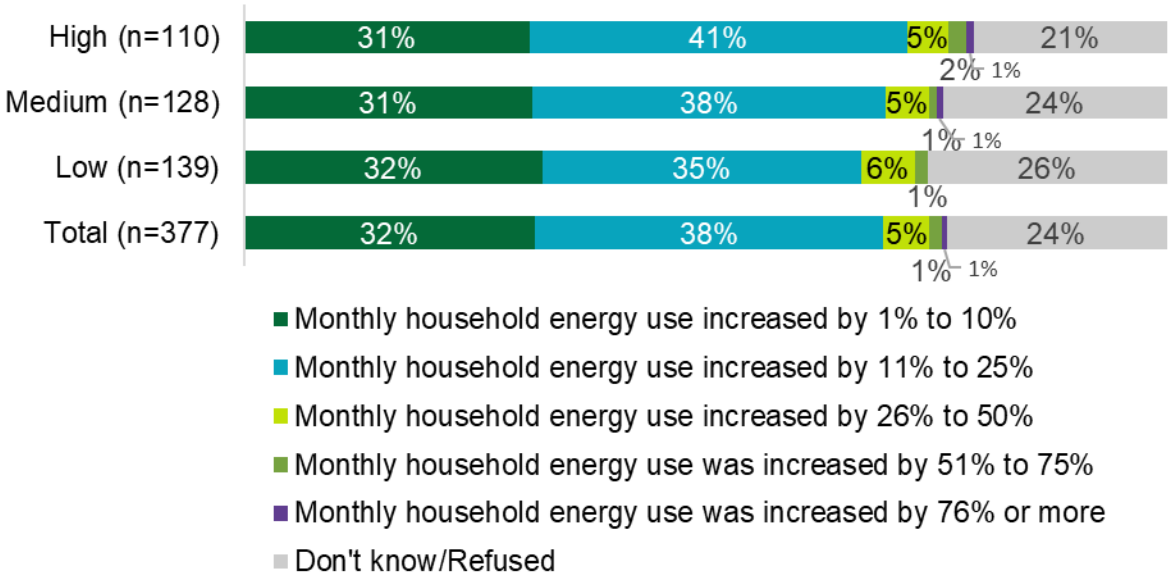
Figure 43: Household Energy Use Since the COVID-19 Pandemic*



*Does not sum to 100% due to rounding.

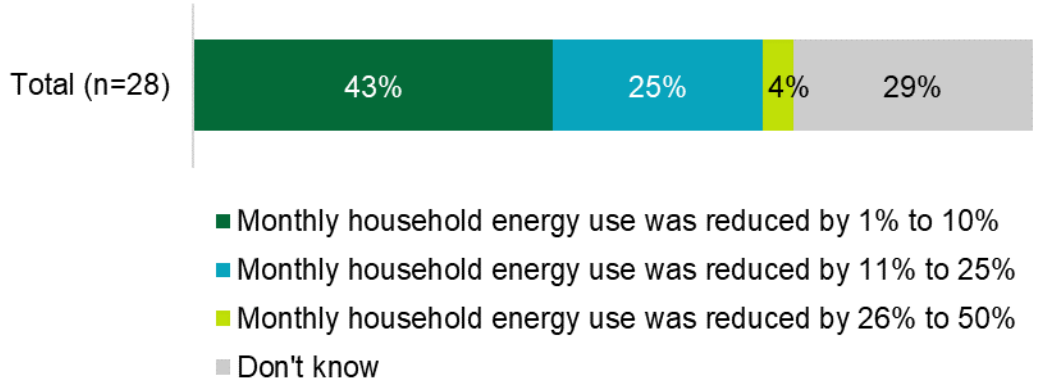
Figure 44 and Figure 45 show respondents' estimated percent increases or decreases in household energy use since the start of the COVID-19 pandemic. Of those respondents who had increased their home energy consumption, over two-thirds (70%) said their consumption increased between 1% and 25%. Similarly, over two-thirds (68%) of respondents who used less energy at home since COVID-19 said their consumption decreased between 1% and 25%.

Figure 44: Increases in Household Energy Use Since the COVID-19 Pandemic*



*Does not sum to 100% due to rounding.

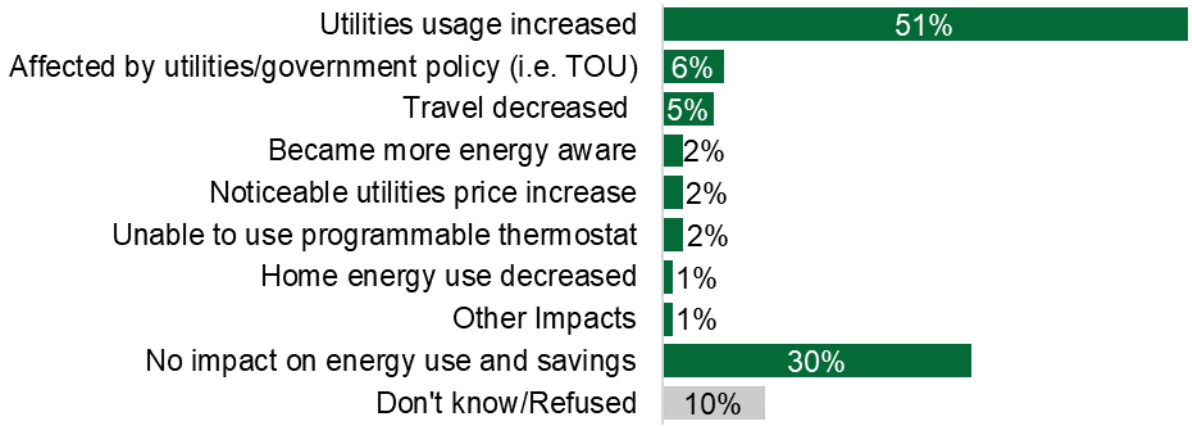
Figure 45: Reductions in Household Energy Use Since the COVID-19 Pandemic*



*Does not sum to 100% due to rounding.

Responding to an open-ended question about other impacts of the COVID-19 pandemic on home energy use and energy savings, three out of ten (30%) respondents said there was no impact and over one-half (51%) said utility usage had increased. Since respondents were spending more time at home, a small number (6%) reported time-of-use (TOU) rate effects and inability to use programmable thermostats (2%) (Figure 46).

Figure 46: Impacts of COVID-19 on Energy Use and Savings (n=442, Multiple Response)*



*Does not sum to 100% due to multiple response.

Section 7 Key Findings and Recommendations

The following section presents detailed key findings and recommendations for the CCP evaluation.

Finding 1: The CCP can continue to provide energy savings in future years. The literature shows that social benchmarking programs reach peak performance in the second or third year of implementation, and these programs, if continued, have the opportunity to increase capacity to deliver more energy savings per participant. This evaluation of CCP provides some (limited) evidence that its savings may adhere to expectations for program maturation: the program produced larger impacts from October 2020 through December 2020 than during the same time period in 2019. CCP's maturation could be studied in a future evaluation if the program is continued. Alternatively, a persistence study can be conducted in the event that the program is not continued. Persistence studies offer value in making informed EUL assumptions in CE analyses to support future business cases for similar programs in Ontario. If the program is continued, Alectra may be able to introduce a new cohort of newly-eligible customers to join the program. Should that be the case, the new cohort should also be launched as an RCT.

- **Recommendation 1a.** If CCP continues, it is important to maintain the program's RCT framework. In the event that the program is expanded to include newly eligible Alectra customers, Alectra should randomly assign newly eligible households to both treatment and control groups in parallel. This will maintain the RCT design of the programs even if the program is expanded, allowing for the estimation of energy savings for newly added customer cohorts in addition to the original cohorts.
- **Recommendation 1b.** If the CCP does not continue, the NMR team recommends that a persistence analysis be conducted for one year or two years after the closure of the program. A persistence study will offer value to Alectra, the IESO, and other LDCs in developing informed EUL assumptions in CE analyses of social benchmarking programs in Ontario.

Finding 2: Customers with the most usage provide the largest energy and demand savings. For energy savings, the impacts increase as usage increases. The low usage group produced results that were not statistically significant, while the other two groups had significant impacts – on average, medium usage customers saved 95.2 kWh per year and high usage customers saved 136.7 kWh per year. The only group to produce statistically significant peak demand reductions in both the winter and summer was the high usage group. The average reduction per high usage group customer in the winter was 0.027 kW and in the summer was 0.024 kW.

- **Recommendation 2a.** In the future, limiting program participation to high usage customers or only adding newly eligible customers who are high-usage would be beneficial to the program's CE metrics if program costs scale with the size of the treatment population and if there was a mandate to improve it. However, future decisions to restrict

participation to higher-usage customers should be made bearing in mind that the program could also be delivering non-energy benefits, such as customer satisfaction and education, to lower usage customers. Such benefits are not included in standard CE metrics, and as such, the NMR team makes a secondary recommendation as seen in Recommendation 2b.

- **Recommendation 2b.** If the CCP continues, the NMR team recommends that samples of both participants and non-participants be surveyed from all three usage groups so that any uplift in satisfaction and education is measured.

Finding 3: A small number of customers accessed Alectra's web portal to view their home energy reports. Only 3% of participants enrolled in the CCP logged into the web portal. Of the customers who accessed the portal, they average a total of three logins throughout the evaluation period. If a customer did access the portal, they were most likely to login on the day that the ECR was e-mailed to them. As seen in the treatment customer survey, three-fifths (60%) of those who reported logging into the portal rated the information available on the portal as useful or very useful.

- **Recommendation 3.** Consider using the portal as a tool to bolster customer communication and marketing of other energy savings programs offered by the LDCs or IESO. Drive more customers to use the portal by making the login process easier. Improve the portal's usefulness by requesting details from customers about their user experience.

Finding 4: An analysis of uplift in participation in other energy saving programs attributable to the CCP was limited by incomplete data. Participation data was not available for all additional programs that CCP participants may have participated in, ruling out analysis of participation uplift that CCP may have generated in those cases. Additionally, a lack of common customer-specific identifiers across programs resulted in a partial evaluation of a CCP-attributed uplift in participation in other energy-efficiency programs.

- **Recommendation 4.** The NMR team recommends that, if possible, a common set of identifiers be databased across all programs so that program participation can be cross-referenced and dual-participation can be quantified and accounted for in reporting Alectra's program savings at the portfolio level.

Finding 5: Most customers responding to the treatment customer survey (70%) found the ECRs useful. More importantly, the 13% of respondents who rated the ECRs as less useful (a 1 or 2 rating on a scale of 1 to 5, where 1 meant "not at all useful" and 5 meant "very useful") provided valuable feedback for improvement. Two-thirds (66%) of these respondents who rated the ECRs as less useful believed the ECRs were inaccurate, and one-tenth (10%) noted in open-ended responses that the ECRs failed to account for electric vehicles, which may impact their electricity consumption relative to other homes in the area.

- **Recommendation 5.** Consider customizing the ECRs to more accurately reflect electric consumption (for example, taking electric vehicles into account, accounting for a variety of hybrid work models).

Finding 6: While more than three-fifths (62%) of treatment customers were quite satisfied with the ECRs, fewer (41%) believed that the ECRs helped their households reduce electricity use. Nearly two-thirds (63%) of treatment customers had tried at least one of the energy-saving tips from the ECRs. However, nearly three-fourths of those not trying the tips (74%) said they were already doing everything to save energy and nearly one-fifth (18%) indicated that the tips were not relevant to their household. Two-fifths (40%) of treatment customers indicated that the cost of doing things to save energy made it difficult for them.

- **Recommendation 6.** Consider providing more specific energy saving tips and customizing them to the households served. Information about the costs, available program assistance, and payback periods of energy saving tips may also spur more customers to adopt them.

Finding 7: Opportunities exist to expand the program's scope in future years. LDC staff stated that there were no delivery or operational issues and that customer complaints were very minimal. However, the program's success was limited largely by the available budget, the short time in market, the limited number of eligible treatment customers, and the related e-mail only outreach approach. If the program were to continue, LDC staff suggested addressing budgetary constraints or revising CE requirements to allow for a more robust program design and delivery that could serve more customers and better meet customer needs.

- **Recommendation 7.** Expand the program scope if the program is offered again in the future (for example, offer it to a wider population of customers, allow for more time in market, provide the ECRs through postal mailings).

Finding 8: Treatment customers in the high energy usage groups reported lower levels of ECR engagement and ECR usefulness. Those in the high energy usage group were least likely to read the whole ECR (44% of high usage respondents) and were most likely to skim or glance at it quickly (25% of high usage respondents). Additionally, fewer high usage group respondents found the ECRs useful or very useful (53% rated the ECRs useful or very useful) compared to the medium and low usage groups (69% and 82% rated the ECRs useful or very useful, respectively). This may suggest that treatment customers in the low and medium energy usage groups may be more proactive in trying to minimize their home energy consumption and utilizing the information provided in the ECRs. It is possible that treatment customers in the high energy usage categories may be less proactive about minimizing their consumption due to socioeconomic, geographic, or other factors, though additional research would be required to better understand these differences.

- **Recommendation 8.** If the CCP or other similar programs continue in the future, consider performing additional research to better understand the drivers behind low, medium, and high energy usage group behaviors and attitudes. For example, this research could involve an in-depth review of demographic characteristics, additional survey outreach to future treatment customers, or in-depth interviews or focus groups with a sub-set of treatment customers that include more detailed questions about respondent behaviors and attitudes related to energy consumption and savings.

Appendix A Detailed Methodology

A.1 Impact Methodology

This section provides additional details about the impact evaluation methodology. A summary of the methodology was provided in Section 2.

A.1.1 Control Group Validation

The NMR team conducted simple tests of the differences of mean daily consumption by month for statistically significant differences between the treatment and control groups. Table 20 through Table 22 present the results of t-test statistical tests for significant differences between the treatment and control groups. Generally, the differences between average daily electricity consumption between treatment and control are not significantly different, but there were a few months with significant differences. At a significance level of 0.05, the medium group had one month and the high group had two months that had significant differences in usage between treatment and control groups. The three significant months should not be cause for concern given the number of statistical tests conducted here (considering that at the 5% confidence internal, one out of every 20 tests for a given group may turn out to be statistically different due to random chance alone).

Table 20: Testing Differences of Means for Treatment and Control Group Equivalence – Low Usage

Year-Month	Control kWh	Treatment kWh	Difference	Lower Bound (95%)	Upper Bound (95%)	P-value
2018m9	14.74	14.88	0.15	-0.09	0.38	0.22
2018m10	11.00	11.08	0.09	-0.06	0.24	0.25
2018m11	11.95	12.05	0.10	-0.06	0.26	0.22
2018m12	12.70	12.80	0.10	-0.08	0.28	0.28
2019m1	12.67	12.79	0.12	-0.08	0.32	0.26
2019m2	6.91	6.95	0.04	-0.19	0.26	0.75
2019m3	5.16	5.13	-0.02	-0.15	0.10	0.70
2019m4	6.11	6.06	-0.05	-0.20	0.10	0.50
2019m5	3.42	3.37	-0.04	-0.17	0.08	0.50
2019m6	6.54	6.64	0.10	-0.04	0.25	0.17
2019m7	7.90	8.14	0.24	-0.06	0.53	0.12
2019m8	6.67	6.56	-0.10	-0.33	0.12	0.37
2019m9	11.97	12.04	0.08	-0.13	0.28	0.47

Table 21: Testing Differences of Means for Treatment and Control Group Equivalence – Medium Usage

Year-Month	Control kWh	Treatment kWh	Difference	Lower Bound (95%)	Upper Bound (95%)	P-value
2018m9	23.44	23.21	-0.23	-0.52	0.07	0.14
2018m10	17.06	16.91	-0.15	-0.34	0.05	0.15
2018m11	18.35	18.28	-0.07	-0.28	0.15	0.54
2018m12	19.67	19.53	-0.14	-0.38	0.10	0.25
2019m1	19.90	19.66	-0.24	-0.50	0.03	0.08
2019m2	13.99	13.96	-0.02	-0.33	0.28	0.88
2019m3	11.08	11.31	0.23	0.02	0.44	0.03
2019m4	11.92	11.99	0.07	-0.14	0.28	0.49
2019m5	8.38	8.57	0.19	-0.02	0.41	0.08
2019m6	13.82	13.95	0.13	-0.09	0.36	0.24
2019m7	20.54	20.84	0.30	-0.18	0.78	0.22
2019m8	16.24	16.44	0.20	-0.17	0.58	0.29
2019m9	18.93	18.82	-0.11	-0.39	0.16	0.42

Table 22: Testing Differences of Means for Treatment and Control Group Equivalence – High Usage

Year-Month	Control kWh	Treatment kWh	Difference	Lower Bound (95%)	Upper Bound (95%)	P-value
2018m9	36.25	36.52	0.28	-0.34	0.89	0.38
2018m10	27.40	27.80	0.40	-0.09	0.89	0.11
2018m11	30.30	30.87	0.57	-0.02	1.16	0.06
2018m12	32.80	33.29	0.49	-0.16	1.15	0.14
2019m1	34.32	34.91	0.59	-0.18	1.37	0.13
2019m2	29.32	29.89	0.57	-0.17	1.31	0.13
2019m3	25.49	26.11	0.62	0.02	1.22	0.04
2019m4	24.51	25.08	0.57	0.06	1.08	0.03
2019m5	20.59	20.98	0.39	-0.09	0.87	0.11
2019m6	28.58	28.78	0.20	-0.34	0.74	0.47
2019m7	41.91	42.09	0.18	-0.64	1.00	0.67
2019m8	34.51	34.68	0.17	-0.71	1.04	0.70
2019m9	30.24	30.43	0.19	-0.37	0.75	0.51

A.2 COST-EFFECTIVENESS METHODOLOGY

The NMR team completed the CE analysis using IESO's *CDM Energy Efficiency Cost Effectiveness Tool* and in accordance with the IESO *CDM Energy Efficiency Cost Effectiveness Guide.*[6] The NMR team populated the tool with the following key information from the evaluation:

- First year energy and demand savings in kWh and kW, respectively
- EUL
- End use load profile
- Incremental equipment and installation cost. These values were both zero for the measure implemented in this program.
- Net to gross ratios for energy savings and demand savings. These were both set equal to one for this program.
- Adjustments in savings over the life of the program

Additionally, the IESO provided program administrative costs for use in the CE calculation.

The IESO *Cost Effectiveness Tool* provides many outputs and varying levels of granularity. The key outputs the NMR team selected to be directly presented in this report are as follows:

- TRC test costs, benefits, and ratio
- PAC test costs, benefits, and ratio
- Levelized unit cost cost by kWh and kW

A.3 PROCESS METHODOLOGY

This section provides additional details about the process evaluation methodology. A summary of the methodology was provided in Section 2.3. During the process evaluation, the NMR team collected primary data from key program actors, including the LDC program staff and treatment customers (Table 22). The NMR team collected the data using different methods, depending on what was most suitable for a particular respondent group (e.g., web surveys or telephone-based-IDIs). This data, when collected and synthesized, provides a comprehensive understanding of the delivery of the program.

The NMR team directly carried out or managed all process evaluation data collection activities and developed all survey instruments, interview guides, and sample files for use in the interviews and surveys. The IESO EM&V staff approved the survey instruments and interview guides. The IESO EM&V staff or the LDC staff supplied the program records that contained the data the NMR team used to develop the sample files.

The NMR team conducted the in-depth telephone interviews with the LDC program staff using in-house staff (rather than through a survey lab). The NMR team fielded treatment customer surveys

[6] *Conservation & Demand Management Energy Efficiency Cost Effectiveness Guide*, Independent Electricity System Operator, April 1,2019, http://www.ieso.ca/-/media/Files/IESO/Document-Library/conservation/EMV/2019/IESO-CDM-Cost-Effectiveness-Test-Guide.pdf?la=en

as web-based surveys in partnership with the Nexant survey lab based in Toronto. The NMR team designed the survey instruments and developed the sample lists. The Nexant survey lab then programmed and distributed the surveys using Qualtrics survey software. The NMR team worked closely with the Nexant survey lab to test the programming of all surveys and to perform quality checks on all data collected.

Table 23: Process Evaluation Primary Data Sources

Respondent Type	Methodology	Fielding Firm	Completed	Population	90% CI Error Margin
LDC Program Staff	Phone IDIs	NMR Staff	1	1	0%
Treatment Customers	Web Survey	Nexant Survey Lab	706	3,998	2.8%

The following subsections provide additional details about the process evaluation methodology.

A.3.1 LDC Program Staff Interviews

The NMR team completed one interview with three LDC program staff members to gain a detailed understanding of the program (Table 24). The purpose of the interviews was to better understand program design, delivery, and barriers, and to solicit suggestions for improvement.

The interview topics included program roles and responsibilities, program design and delivery, marketing and outreach, program strengths and weaknesses, and suggestions for improvement.

The NMR team identified the appropriate staff to interview in consultation with the IESO EM&V staff. The interview took approximately 30 minutes to complete. The NMR team conducted the IDI via phone with the LDC staff on May 17 of 2021.

Table 24: LDC Program Staff Interview Disposition

Disposition Report	Count
Completes	1
E-mails Bounced	-
Bad Contact Info (No Replacement Found)	-
Unsubscribed	-
Partial Complete	-
Screened Out	-
No Response	-
Total Invited to Participate	1

A.3.2 Treatment Customer Survey

The NMR team surveyed 706 treatment customers from a sample of 3,998 unique contacts (Table 25). The purpose of the survey was to better understand treatment customer perspectives related to program experience.

The survey topics included recall, readership, and usefulness of the ECRs; use of online portal; satisfaction and suggestions for program improvement; energy-saving actions taken or anticipated taking; resulting participation in other programs; household and respondent characteristics; and COVID-19 impacts.

The NMR team developed the sample from program records provided by the IESO EM&V staff. Given the treatment group-related survey completion goals, the NMR team developed a stratified random sample of a subset of treatment customers for inclusion in the survey sample.

The NMR team delivered the survey over the web in partnership with the Nexant survey lab using Qualtrics survey software. The NMR team conducted survey implementation between April 19 and May 14 of 2021. The survey took an average of 13 minutes to complete after removing outliers.[7] The NMR team sent weekly e-mail reminders to non-responsive contacts over the course of web survey fielding.

Table 25: Treatment Customer Survey Disposition

Disposition Report	Count
Completes	706
E-mails Bounced	57
Bad Contact Info (No Replacement Found)	-
Unsubscribed	-
Partial Complete	109
Screened Out	77
No Response	3,049
Total Invited to Participate	3,998

[7] Note that the NMR team designed the survey to allow the respondent to come back to the survey at a later time to complete it if they preferred. The NMR team calculated the average survey time with this in mind and assumed that any survey that took 40 minutes or more to complete was likely completed by a respondent who took a break before completing the survey.