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CrowdFlex Winter Trial 2024/25

Mid-point Customer Survey

NESO
National Energy System Operator

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Introduction

This report presents the results of the customer feedback surveys for the mid-point of the CrowdFlex utilisation trial for winter 2024/25. The surveys were sent to all participating customers apart from those in the trial control group.

The customer feedback work within CrowdFlex is designed to answer three research questions:

- What strategies do different consumer groups use to turn up and turn down?
- Do consumer characteristics correlate to: ease of participation; levels of satisfaction with events and rewards; willingness to maintain participation; understanding of effective demand shifting?
- Does engagement change over time for different consumer groups? (For example, can we see habits formed, technologies adopted, willingness to participate change?)

The mid-point surveys provide interim results which contribute to our understanding of customer attitudes during the winter period, as well as change over time. Detailed group analysis and statistical significance testing has not been done for this interim stage, but will be incorporated into the end of winter trial analysis to be published in summer 2025. Detailed findings of the customer surveys for the summer 2024 trial can be found in the CrowdFlex project documents on the smarter energy networks portal.

This report includes the results of two surveys. Survey 1.2 was distributed to new participants, who had not yet taken part in any CrowdFlex surveys. This survey was completed by 9329 households; our analysis includes the 9223 responses which met our quality control criteria. The analysis also provides some comparison of overall statistics to survey 1, which was completed in August 2024, by participants of the summer trial.

This report also compares changes over time between survey 1 from the summer trial and survey 2, distributed to the same participants at the mid-point of the winter trial. The same households taking part in both these surveys enables us to track change over time amongst the same individuals. The survey 2 analysis covered 1567 households which met our quality control criteria. In the next phase of reporting later this year, we will extend this analysis to the next round of surveys, combining data from the same

respondents at three points in time to conduct a full longitudinal analysis. An overview of the customer feedback surveys is provided in Figure 1.

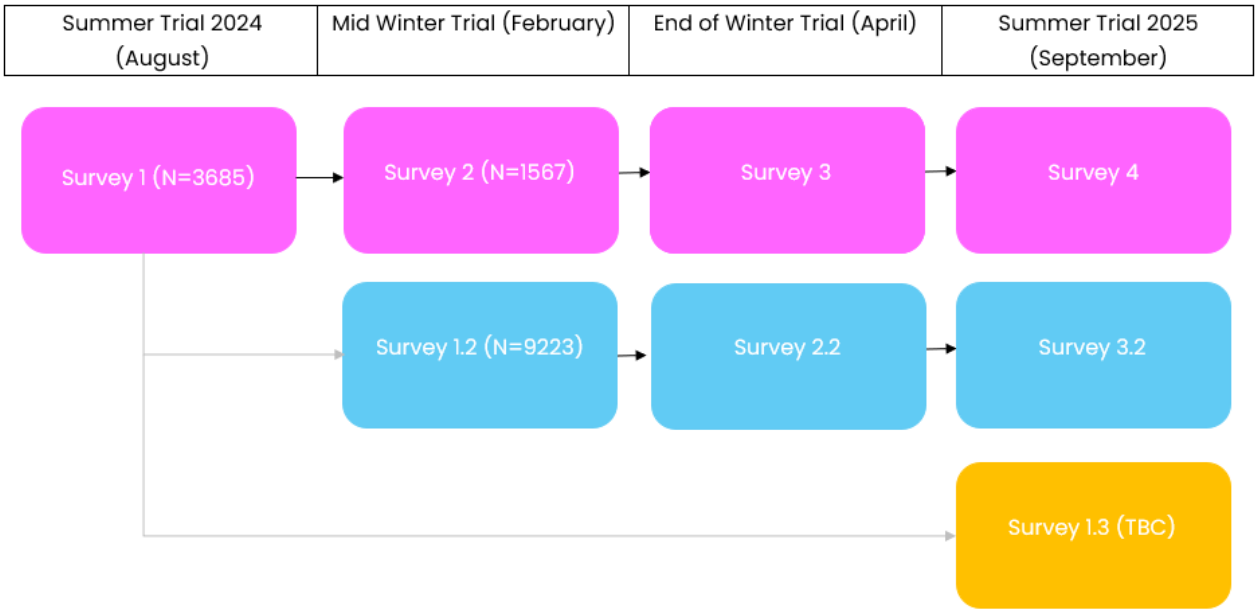

Figure 1 Survey Flowchart

Key findings

Survey 1.2

- The main draw for partaking in the trial was the chance to save money, with 72% stating this as a motivating factor in survey 1.2.
- 38% of respondents participated in events 'Most of the time', and amongst active participants there was a generally positive response with the majority both enjoying the trial and feeling they were making a difference. However, there was also an increase in reported problems with notification periods compared to the previous survey, a finding consistent with survey 2 (see Section 2).
- 4% of participants did not take part in any events, with the main factor in this a lack of worthwhile rewards.
- Over half of the respondents were also taking part in another demand shifting scheme or time of use tariff or service. Participants involved in multiple demand-shifting schemes found these conflicted with CrowdFlex more often than not. In most cases (61%), these conflicts were resolved by prioritising the scheme that fit best with the participant's routine.
- Remembering to take part in events was the greatest challenge faced across the trial, with 39% citing this as a problem.
- The most common method of shifting was manually switching devices on and off (83%), with laundry the activity that was changed the most (83%). 20% of participants automated their switching using timer plugs or energy apps.
- 23% said they struggled to participate because of their already low energy-consumption, and this was generally attributed to the small size of the household. This is a lower percentage than was reported from the summer trial.

Survey 2

- Opinions of the trial have, on the whole, remained constant for those participants completing both survey 1 and 2.
- There was overall a slight drop in engagement with events in the winter trial.
- An increased proportion of participants reported that they had bought smart energy technology in the winter.
- More households felt that the notice periods within the winter trial were problematic, echoing the findings for survey 1.2.

1. Survey 1.2 Analysis

Participation

There was fairly high participation in this trial, with 67% of respondents getting involved in at least half of the events. 4% took part in no events, with the main reasons being cited as insufficient rewards (40%), difficulty changing routines (27%) and low electricity use (19%).

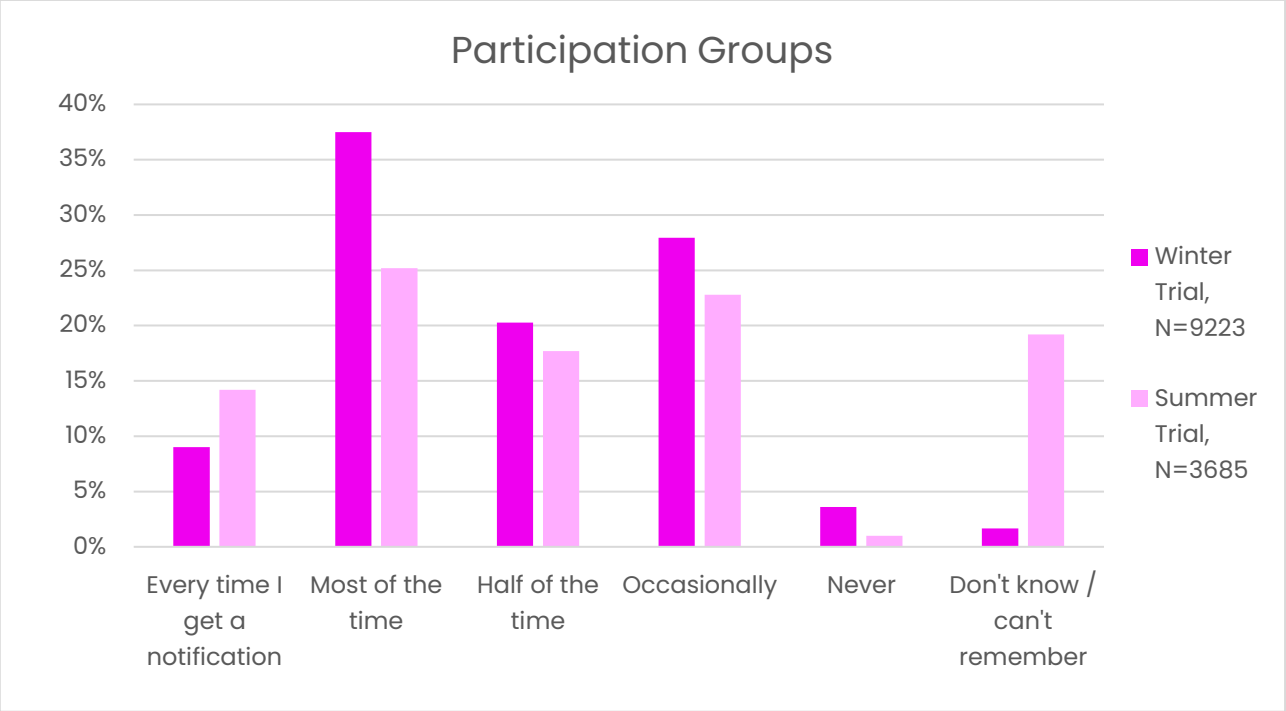

Figure 2 Participation Groups

Multi-Service Interaction

39% of households were only participating in the CrowdFlex trial. 53% were taking part in more than one demand shifting scheme or time of use tariff / service.

Of the households participating in another service alongside CrowdFlex, the majority (57%) found there was conflict between the services. In these situations, 62% prioritised the service that fit best with their routine and 46% chose what they thought would save the most money.

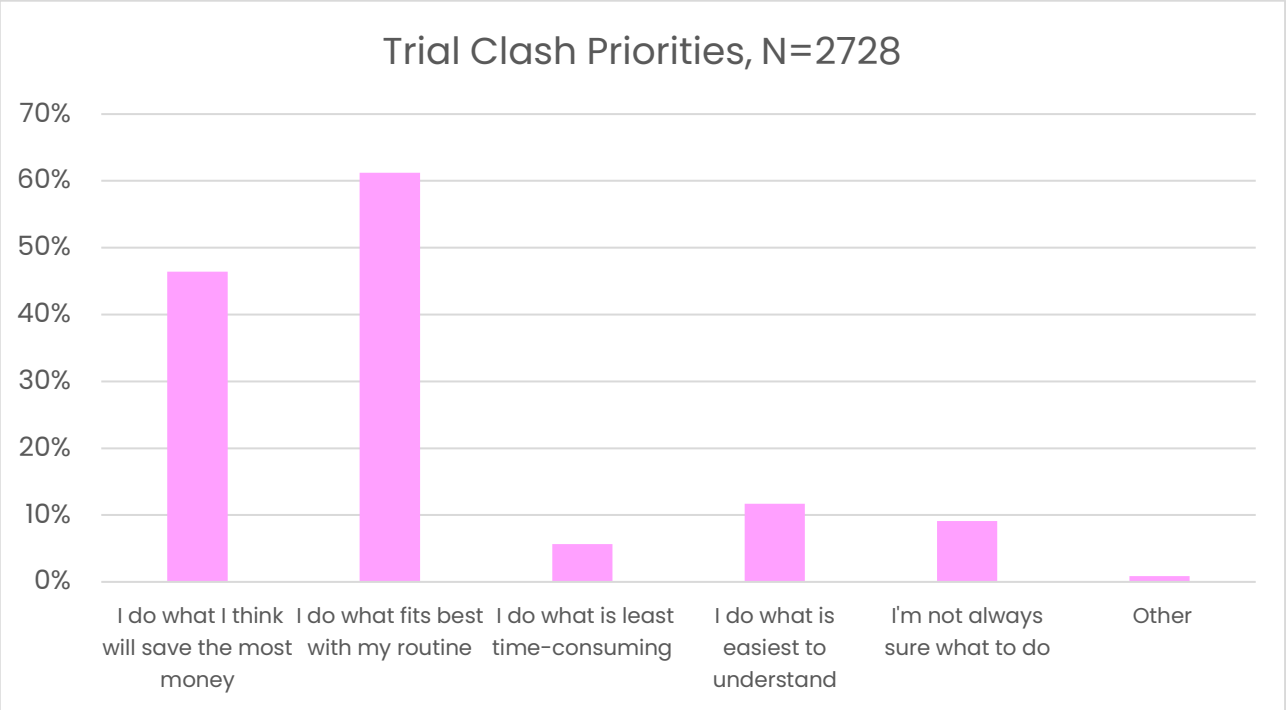

Figure 3 Trial Clash Priorities

Energy Management

In order to participate in CrowdFlex events, a substantial majority of households (83%) manually switched things on and off, just as in the summer trial. However, 20% of households used smart technology (timer plugs or energy apps) to manage energy usage and 19% used delay functions, which shows an increase from the previous survey. This is particularly interesting, as remembering to take part in events was cited as the most common challenge within the trial (see below). Use of smart technology can facilitate more meaningful CrowdFlex participation by removing the risk of participants forgetting to engage in flex events.

In terms of household activities, laundry was the activity which the largest number of households said they shifted (83%), along with cooking (50%) and using the dishwasher (43%). This matches findings from the survey completed in the summer trial. 6% reported that they didn't change any household activities to participate in events.

Of households that reported to have both an electric vehicle and an electric vehicle charger, 72% said they used this differently through the trial. In the summer trial, this figure was slightly higher, at 78%. For the winter, customers on OVO's specific electric vehicle tariff were included in the availability trial rather than the utilisation trial, which may explain this difference.

Home batteries were less utilised across both the summer trial (survey 1) and the winter trial (survey 1.2), with 27% of households with a battery reporting to have changed the usage of this in the winter trial, a slight decrease from 30% in the summer trial.

Households who changed their electric heating during the winter trial (34% of respondents) had different strategies depending on whether this is primary or secondary heating, as shown in Figure 4.

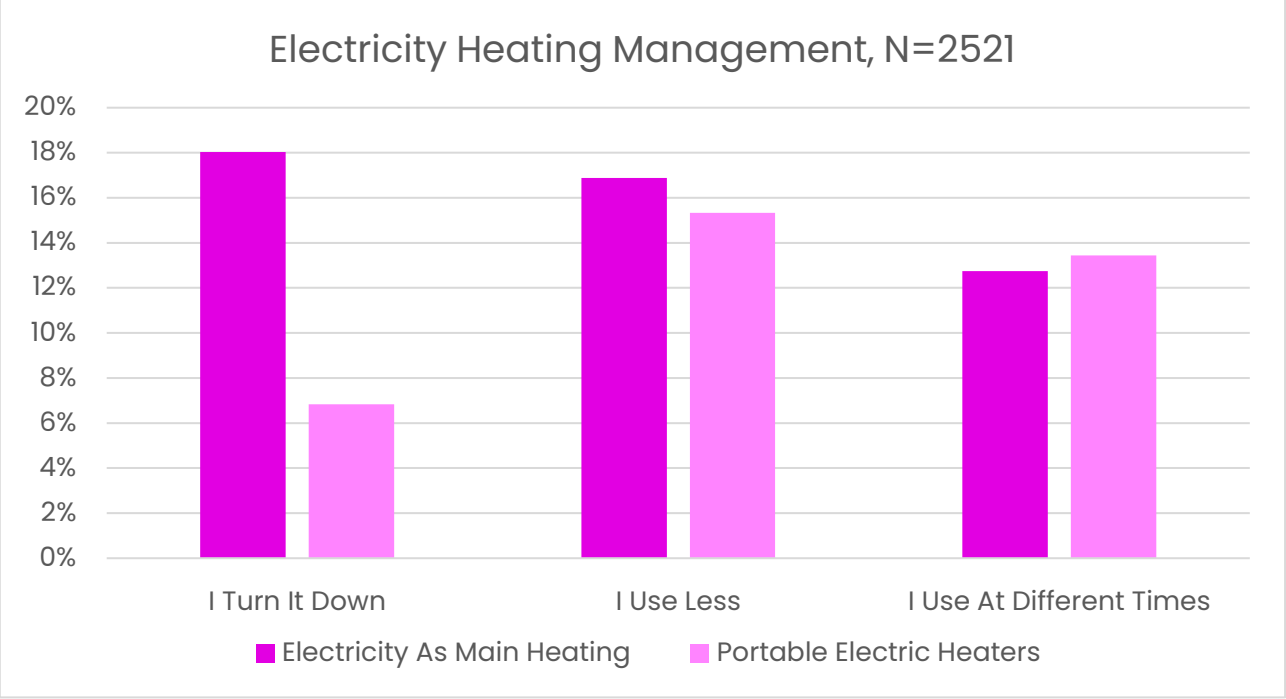

Figure 4 Electric Heating Management

Unsafe Shifting

Though 77% of participants were not engaging in any 'unsafe shifting', some participants did report these actions, as seen in Figure 5.

These categories are considered unsafe ways to shift as they can have unreasonable impacts on households. For example, in the question wording, using less electricity than needed included not eating meals or sitting in the cold, and turning off essential appliances included medical equipment or cold storage appliances.

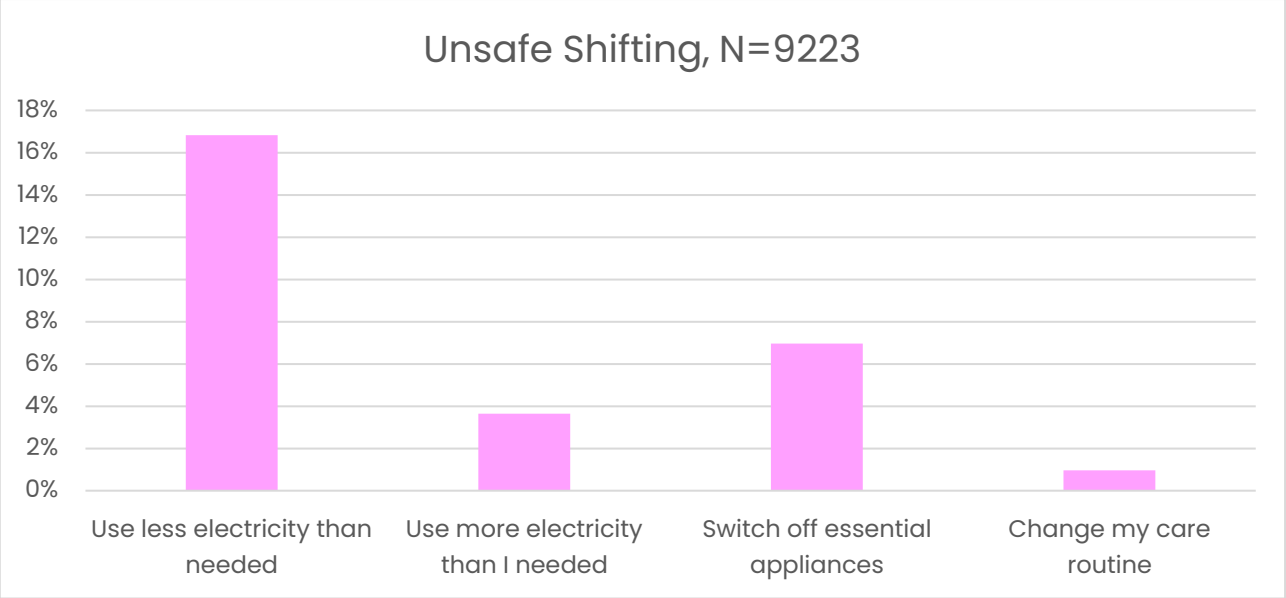

Figure 5 Unsafe Shifting

Engagement in these unsafe practices has reduced in the current trial, despite this being in the winter when energy bills are generally higher.

Trial Opinions

Participants' opinions of the trial are generally positive, with the majority of participants responding positively to questions about their experiences.

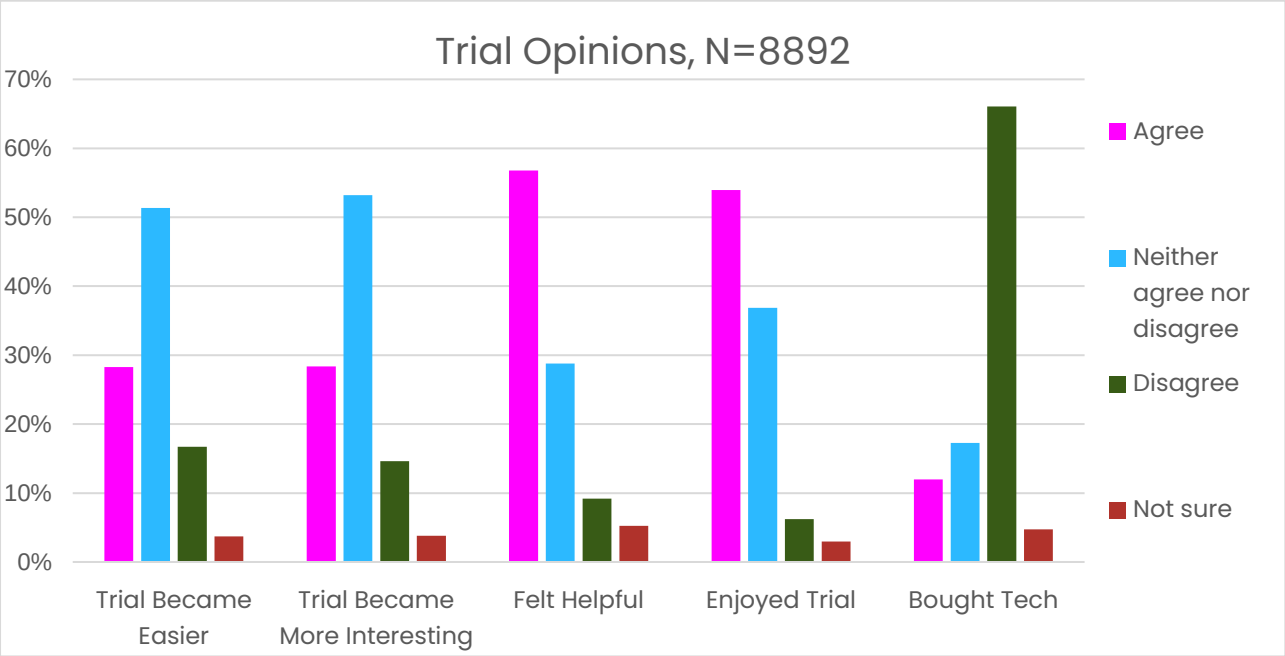

Figure 6 Trial Opinions

12% of households reported that they bought smart energy technology (e.g. timer plugs or smart controls) during the trial. This in an increase from 7% of participants in the summer trial. Section 2 of this report shows the changes from survey 1 to survey 2, further demonstrating an increasing rate of households purchasing this type of smart technology.

Barriers to Involvement

Generally, participation in the trial was found to be easy, with this being the case for each aspect of the trial covered by the survey (signing up, receiving event notifications, turn up events, turn down events, receiving rewards).

The biggest challenge in taking part in events was remembering to take part (39%). Difficulty changing a routine (34%) and organising the household (25%) were also large factors in a lack of involvement. This roughly mirrors the findings from the summer trial.

The percentage of respondents reporting difficulty in remembering to participate dropped slightly compared to the summer trial (survey 1), and the largest change was a 6% decrease in households that struggled to reduce already low energy usage. 23% of households reported that they found the trial challenging due to their generally low

energy use in the winter trial. A majority of these had low energy usage because they had a small household, but 9% cited a necessary reduction due to financial constraints. It should be noted that the number of households that use little energy due to financial constraints may be higher than this, as those who answered as 'energy usage already reduced' may have reduced this usage due to financial constraints.

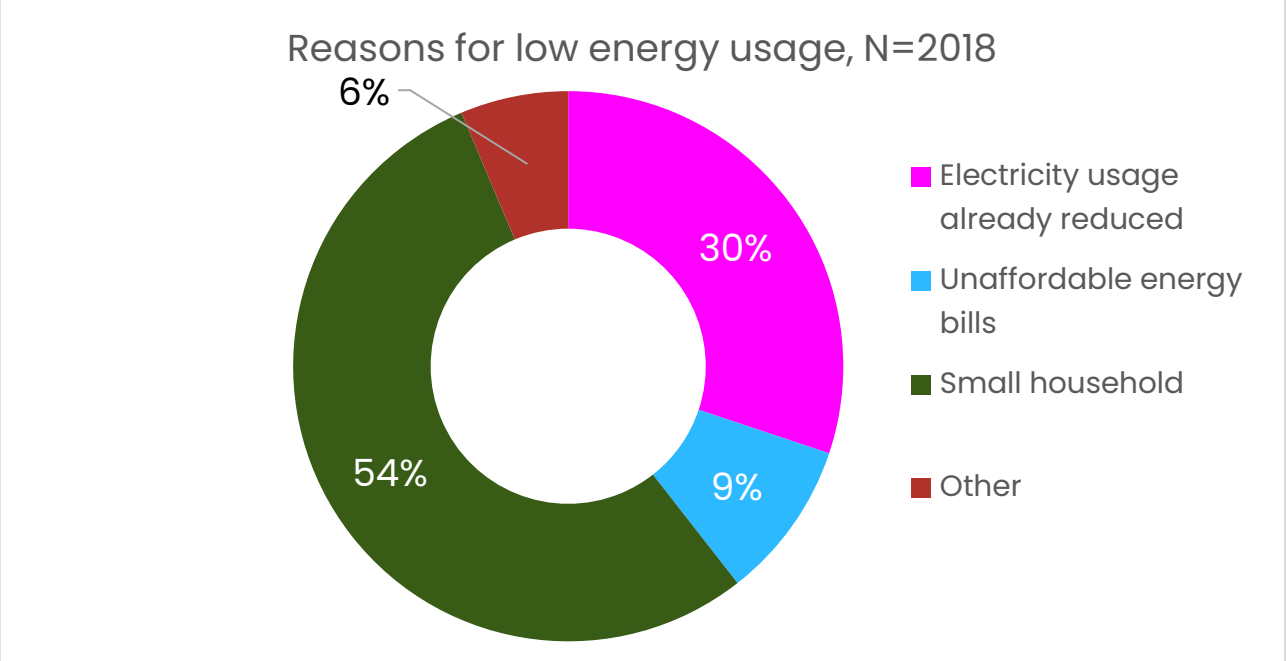

Figure 7 Reasons for low energy usage

In terms of the design of the trial (figure 8), the most common problems for households were that the rewards were not sufficient (35%) and events didn't give enough notice (24%). All other suggested problems had agreement rates of below 6%. It is important to note here that 'none of the above' could point to a participant either having no problems with the trial or having a distinct problem from those suggested in the survey.

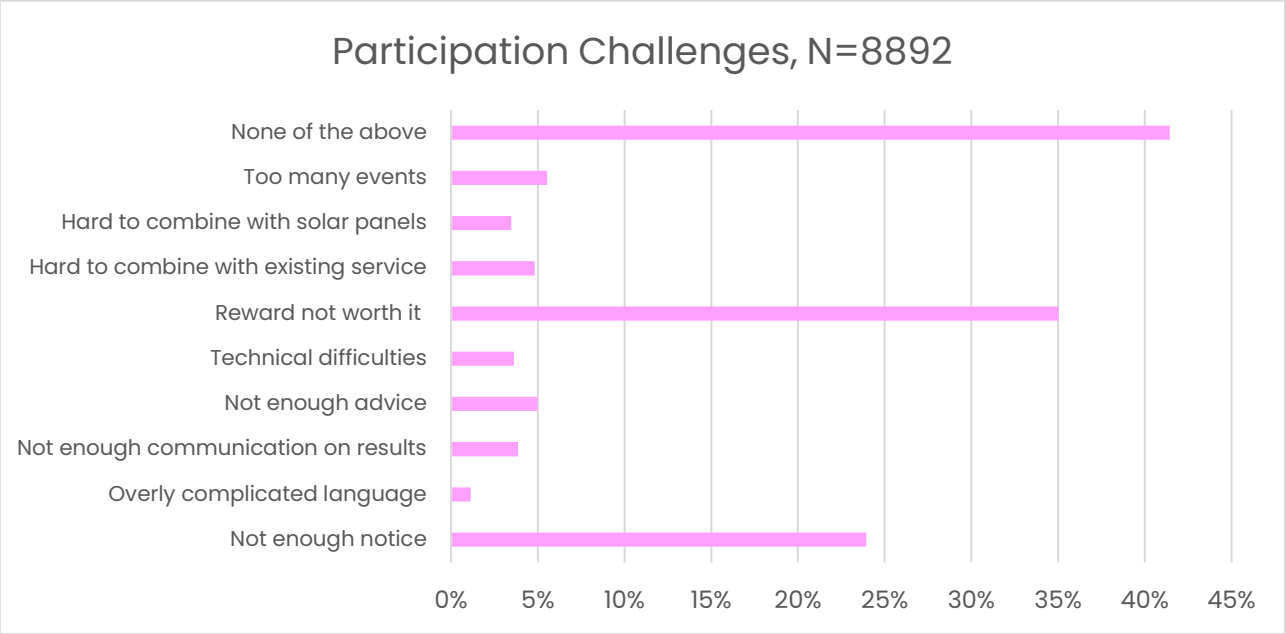

Figure 8 Participation Challenges

Compared to the results of survey 1 in the summer, there was an increased feeling that there was insufficient notice for events (an increase of 8%), and across both surveys feelings that the rewards were not worthwhile remained high.

Energy Use Literacy

60% of households claimed they became more aware of their energy usage through the trial, with 48% more aware of how to shift their usage. Generally, there was relatively low interest in new services/technologies/tariffs (Figure 9). Improvements in energy use literacy were up to 7% lower across the board (and at no point higher) in survey 1.2 compared to survey 1 in the summer, indicating a lower impact on this from the winter trial.

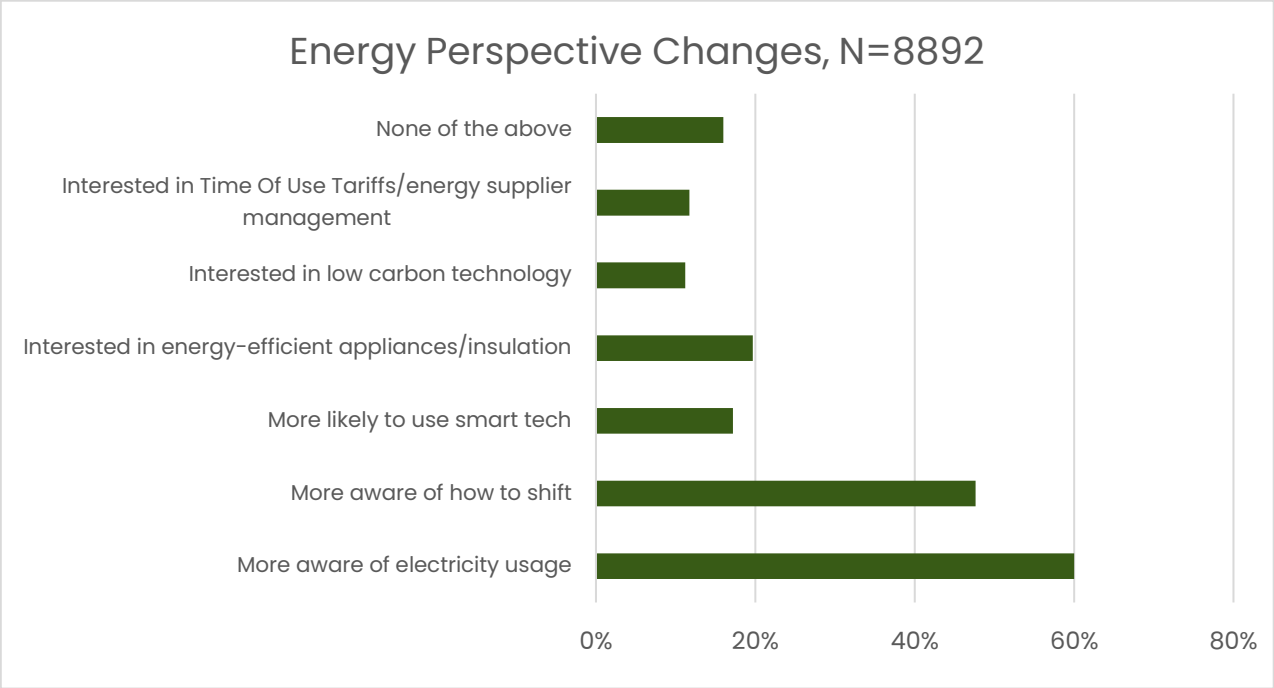

Figure 9 Energy Perspective Changes

A majority of households that own smart speaker devices (such as Amazon Alexa) do not currently use these to manage energy usage.

Household Makeup

Ethnicity

Figure 10 presents the proportion of ethnicities that participated in survey 1.2 compared to the breakdown of ethnicities in the 2021 UK Census. This shows, as in survey 1, an under-representation of all ethnic groups but 'White'. An analysis of OVO customer demographics could present interesting findings on the relationship between ethnicity and trial participation.

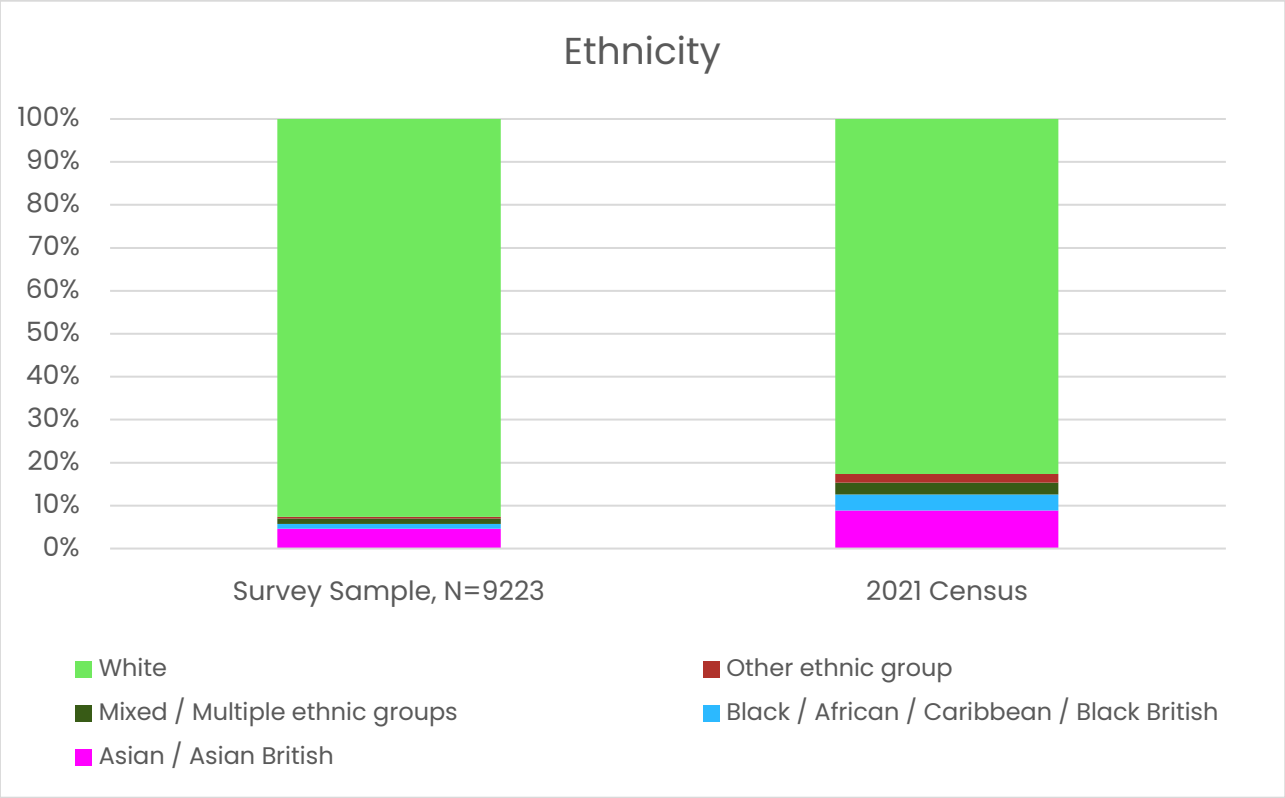

Figure 10 Proportion of Ethnic Groups

Gender

Figure 11 presents the gender identity of the survey respondent.

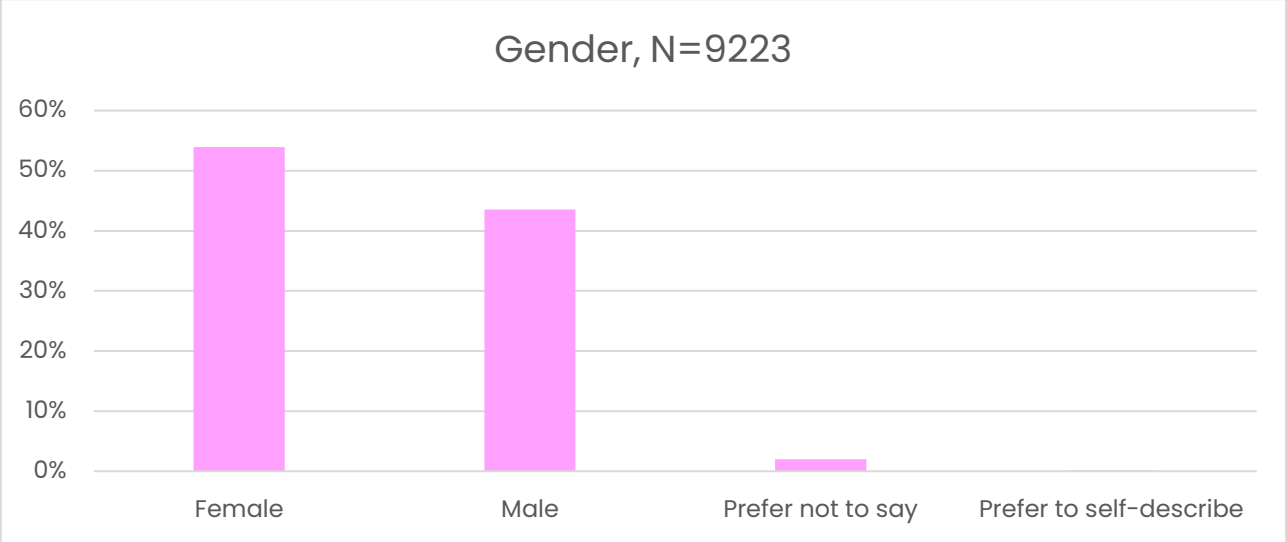

Figure 11 Gender

Household Income

Figure 12 presents the combined income for each household that completed the trial, alongside an estimate of nationwide household income falling into the same brackets, taken from household income percentile data for the financial year ending in 2022. There is a slight over-representation of households with higher household incomes in survey 1.2 respondents compared to the UK as a whole.

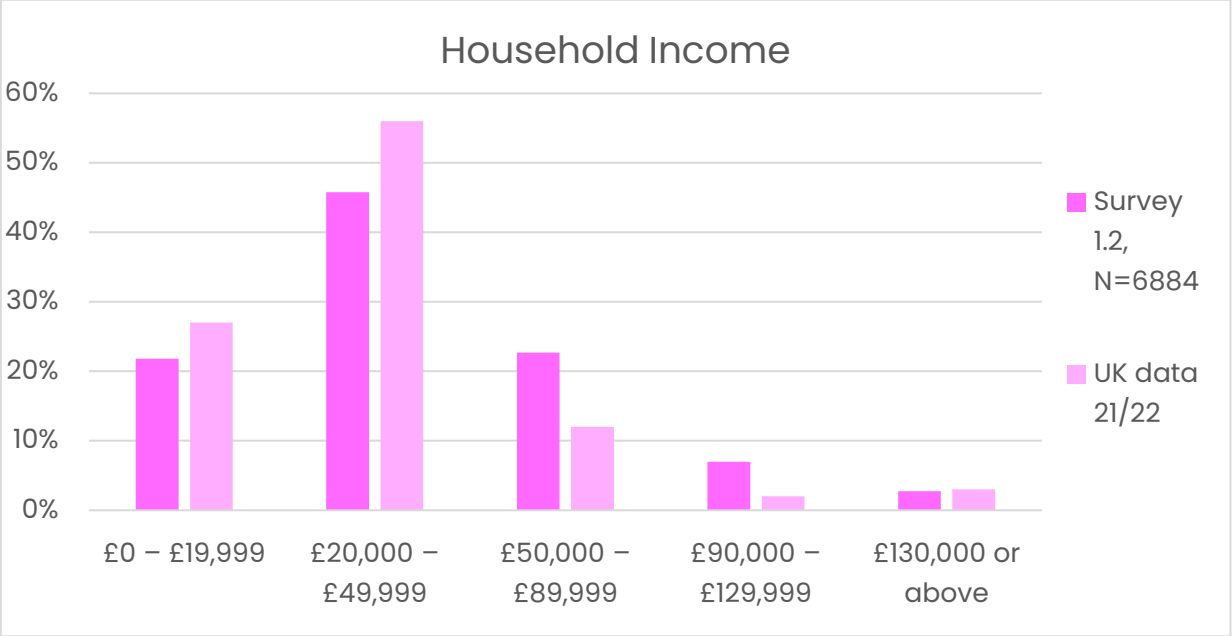

Figure 12 Household Income

For household demographics, along with factors such as heating source and smart tech ownership, proportions remained constant compared to the summer trial survey.

Home Insulation

Respondents generally reported a good level of insulation, with 40% reporting that their home is 'well insulated', and a further 14% reporting very well insulated homes. However, 12% of homes were described as either poorly or very poorly insulated.

Vulnerability

A primary research obejctive is to explore how different types of consumer participate in CrowdFlex. To understand this, we defined a set of consumer groups in our summer trial analysis, one of which is consumers who may be considered vulnerable in the energy system.

As shown in Figure 13, this includes:

- Financially insecure: Those who responded that their household's financial situation was 'quite difficult' or 'very difficult'. We used self-reported financial insecurity and avoided using proxies based on income; we found that there were households reporting financial insecurity in every income bracket.
- Health condition: Any household reporting that somebody in the house has a health condition, regardless of whether they felt it impacted day-to-day activities.
- Older people: Households with a greater number of adults aged 65 and over than under 65.
- Multiple vulnerabilities: Those households with two or more of the above vulnerability factors.

The individual vulnerability factors (financially insecure, health condition and older people) have been defined exclusively, i.e. possessing multiple vulnerabilities excludes a participant from falling into individual vulnerability pots.

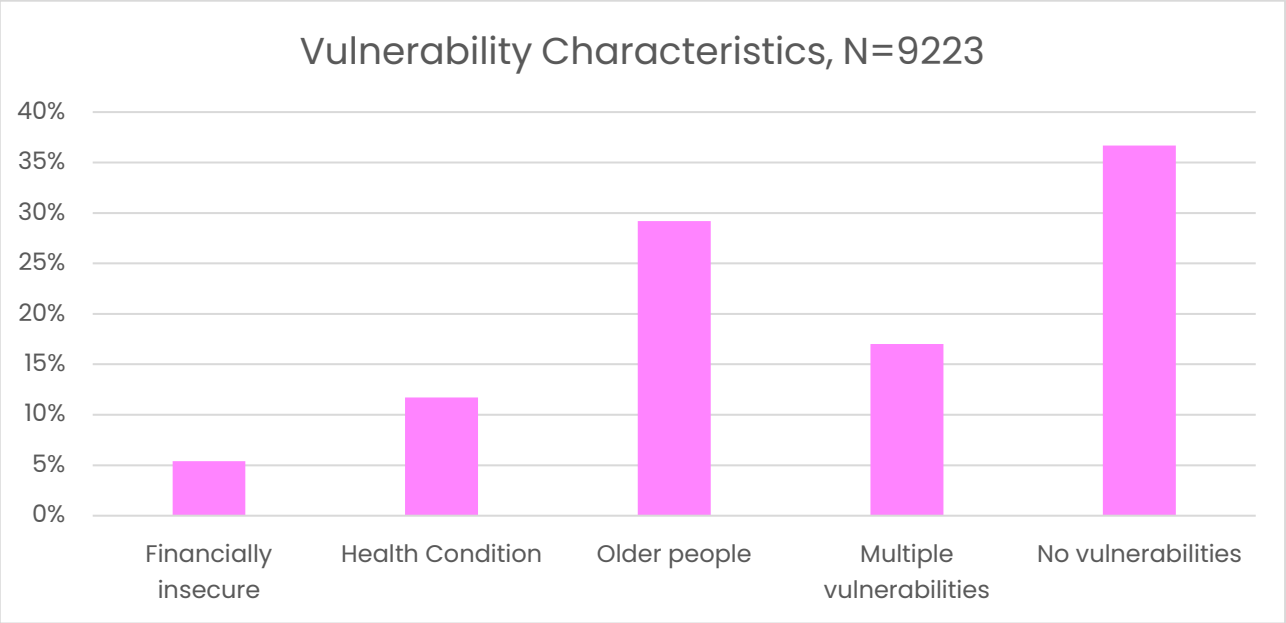

Figure 13 Vulnerability characteristics

2: Survey 2 - Comparison Over Time

The following analysis focuses on the households that responded to both the mid-winter trial survey (survey 2) and the summer 2024 trial survey (survey 1). This enables us to see early indications of changes over time in the same households, although we currently only have two survey points. In the next phase of reporting later this year, we will extend this analysis to the third round of surveys for a full longitudinal analysis.

Trial Attitudes

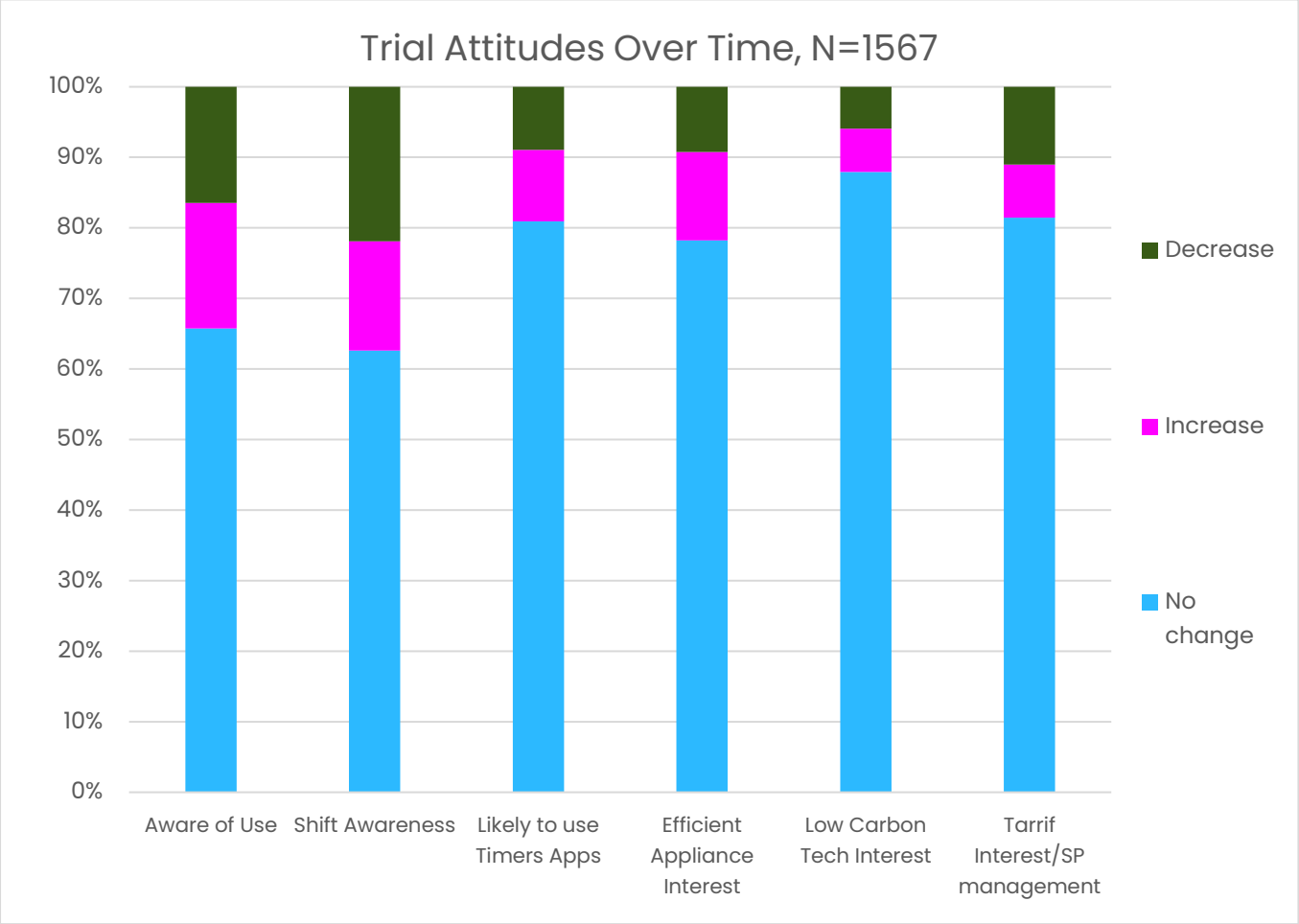

Figure 14 Trial Attitudes Over Time

Figure 14 shows the change in attitudes between the summer and mid-winter surveys and the percentage of households who responded positively to each area. The biggest change in attitudes was awareness of how to shift, with 22% reporting a decrease, possibly due to already feeling as though they had relatively high shift comprehension as a result of the first trial. However, 16% of respondents said their shift comprehension increased in the winter period. Similarly, many households reported a change in awareness of their electricity use in survey 2, but with almost equal proportions of increases and decreases in awareness.

Event Participation

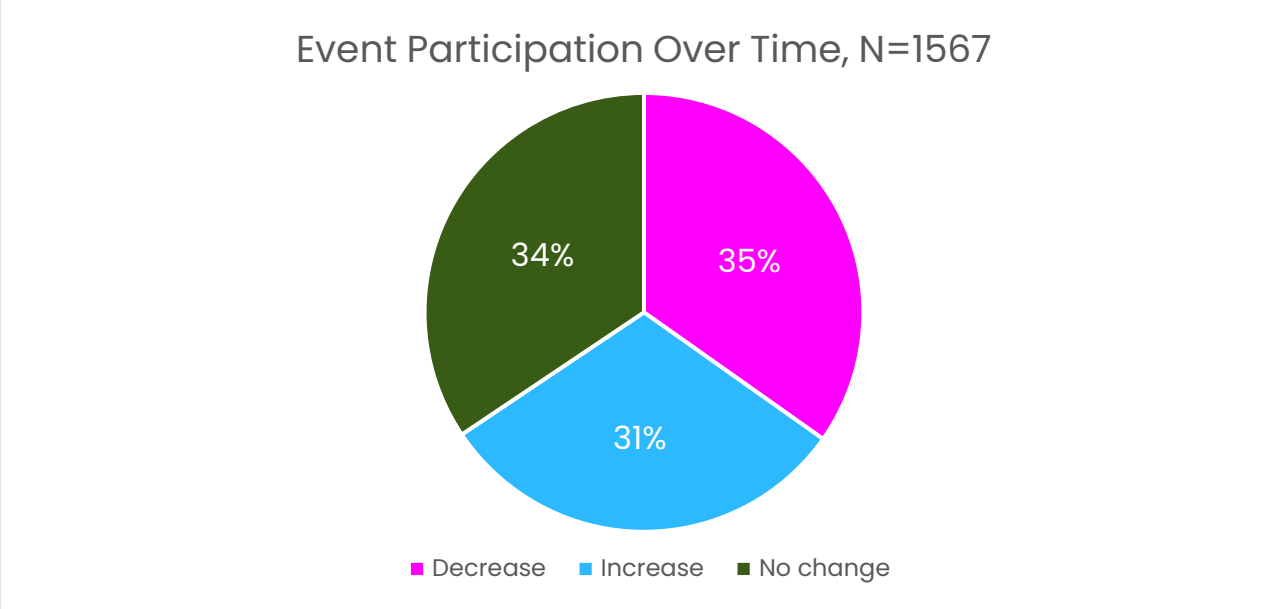

Figure 15 Event Participation Over Time

There were some signs of disengagement in the winter trial, with a decrease in event participation more common than an increase across households. Of those engaging less, the greatest change was from participation in every event to participation in most events (7%), and this may indicate that the increased number of events in the winter trial made it more difficult to participate in every event. Given this context, and the fact that 14% of respondents participated in 'most events' in the winter trial who only engaged with 'half the events' or 'occasionally' in the summer, we do not identify any major cause for concern over disengagement here.

Trial Opinions

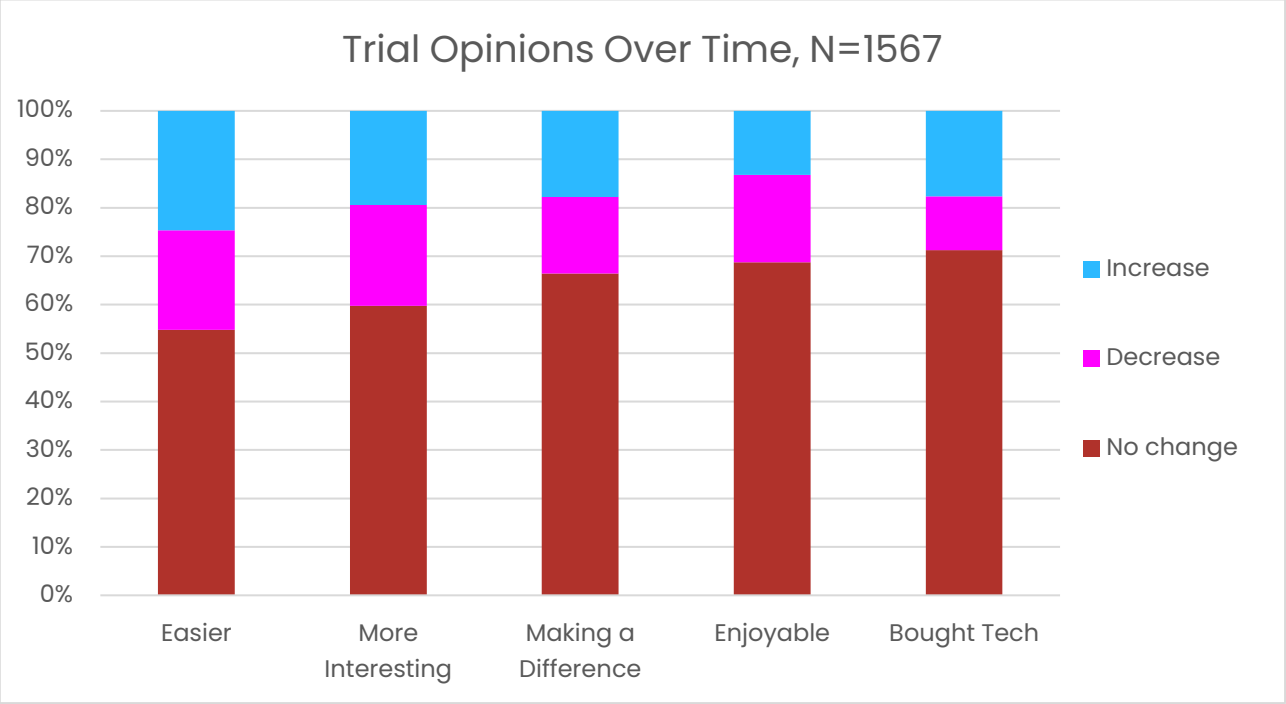

Figure 16 Trial Opinions Over Time

Whilst opinions on the trial generally remained fixed, the greatest drop in opinion was concerning the enjoyment of the trial, where 18% found the winter trial less enjoyable and only 13% found it more enjoyable.

Only 19% of households reported that they were losing interest in the trial, with 47% disagreeing with this statement. This may bolster the previous assertion that there isn't a concerning level of disengagement with the trials. Further, 26% of survey 2 responses affirmed they continued to take part in the trial because they had bulit a habit over the two trials, which could be an important factor in engagement going forwards.

Trial Difficulties

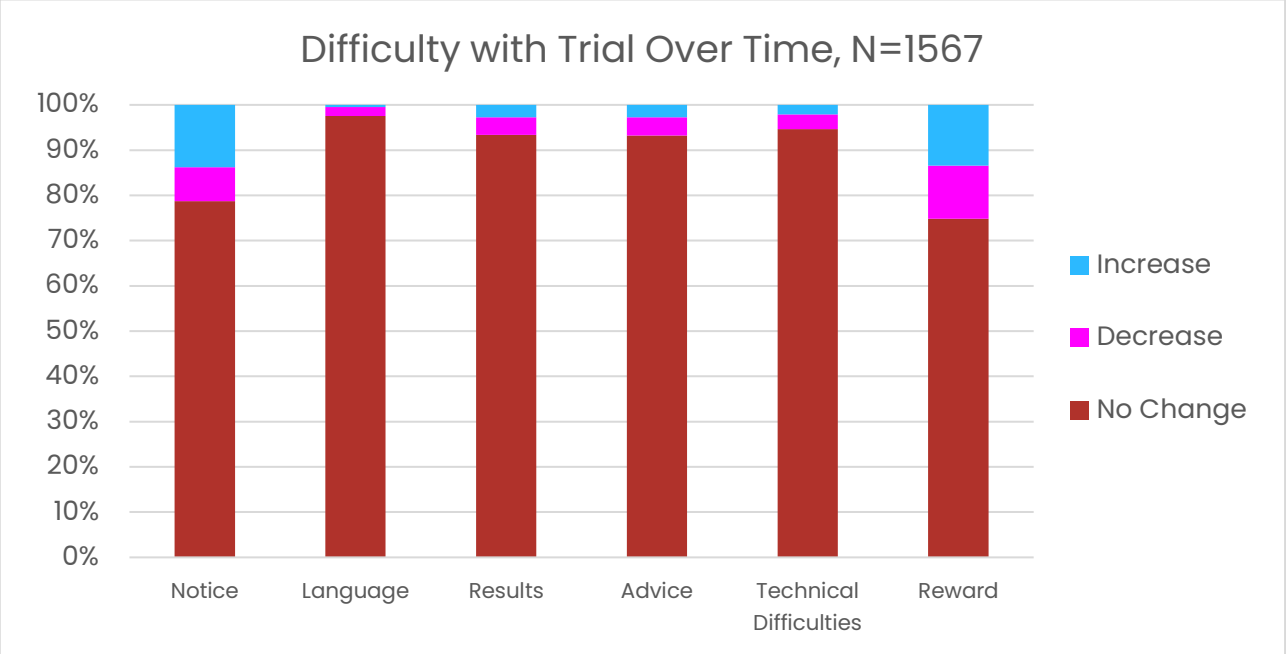

Figure 17 Difficulties with Trial Over Time

Concerning difficulties faced by participants during the trial, 14% of repeat respondents felt the notice periods were increasingly difficult in the winter trial. This aligns with our earlier finding of an increase of 10% of new respondents reporting difficulties with notice periods in the winter trial compared to the summer trial.

However, only 5% of respondents felt that taking part in the trial difficult because there were too many events, making it clear that the increased number of events was not a factor in problems with notice periods.