Public

CrowdFlex Summer Trial 2024

Customer Feedback Insights

This short report provides insights from the first CrowdFlex customer feedback survey and interviews. The survey went out to 30,000 OVO customers participating in the summer 2024 utilisation trial. 3,600 people responded. Detailed analysis is provided in the full report: https://smarter.energynetworks.org/projects/10070764/

Findings from the winter trial customer surveys will be published in early summer 2025.

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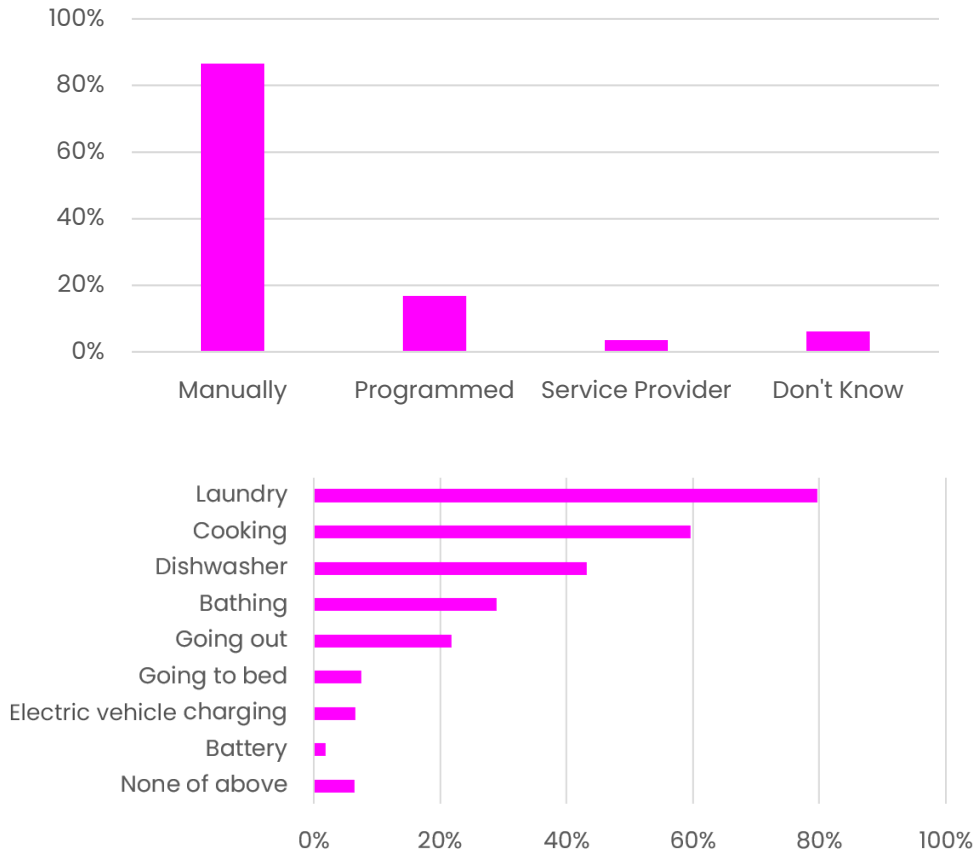
A large majority is manually shifting

Most respondents to the first CrowdFlex feedback survey (83%) were manually shifting rather than programming appliances or using a service provider. As manual shifting is likely to be more labour intensive than automated shifting and more likely to involve smaller loads (therefore earning smaller rewards), this represents a 'higher effort, lower reward' approach to demand shifting. A key question to understand through the rest of the trial is whether these households are creating a foundation for understanding and accepting demand flexibility, or whether they are opening themselves up to frustration and confusion that will limit their engagement with demand flexibility in the future.

We looked into who is more likely to respond manually or to automate and found that households with low carbon technologies and with electric heating were more likely to automate than households without, whilst households with vulnerability characteristics or known barriers were less likely to automate than those without barriers (see full report figure 8). These findings align with what we might expect when we consider 'smart energy capabilities' (the factors that influence a consumer's ability to engage with, participate in, and benefit from smart energy technology).

Unsurprisingly, households with an electric car and charger were more likely have a service provider manage their demand than households without. But 23% of electric vehicle (EV) owners that responded did not use their EV to shift their demand. This suggests either that there is a considerable additional shiftable load available, or that those households are already providing this flexibility to another service.

Figure 1. Energy management strategies (top) and household activities changed (bottom) of all participants during events. (n=3651)



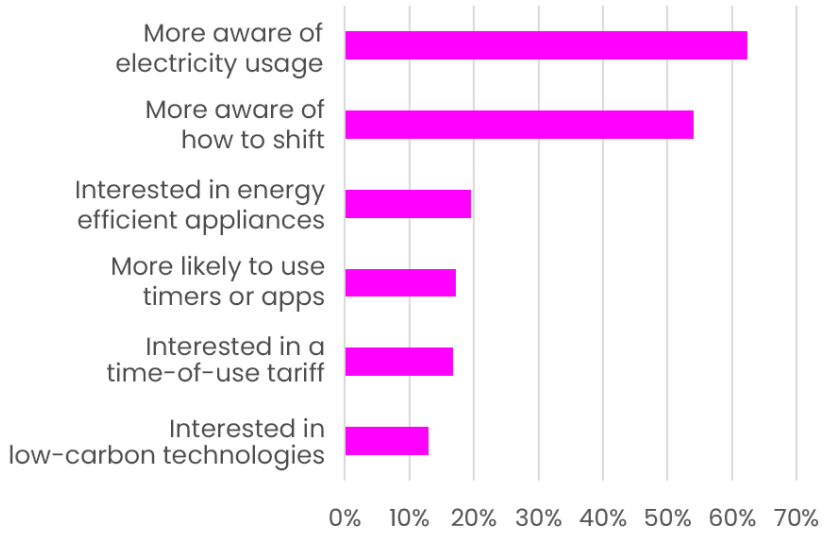
Participation increases awareness and understanding

The first survey has shown that participation in CrowdFlex has increased awareness and understanding of energy issues. Over 60% reported being more aware of their energy because of the trial and just 1% reported that participating had no impact on how they used energy at home or their awareness of wider energy issues.

For some, taking part in CrowdFlex, which is a low barrier and low risk scheme, may be helping to build a base level of understanding of demand shifting. Over half (54%) reported they were now more aware of how to shift their demand. One interviewee described learning to use the programme function on their washing machine to run after a turn down window, something they had not known about before the trial, but that they continued to use after the trial. Though actions like these might not unlock large amounts of flex or earn big rewards, they represent the first steps for some households on a pathway to more effective demand shifting.

That being said, some participants reported confusion, particularly where they were participating in two different flex services: a static time of use tariff, and the more dynamic CrowdFlex service. Though effort has been made to clearly outline the distinctions between the offerings, and to avoid conflicting signals, there is still some confusion about the similar terms, the different processes, and how participating in one impacts the other. This issue is likely to become more challenging for consumers as we continue to see more time of use and demand shifting services coming to market. Consumer understanding of different services, how they interact, and decision making about how best to respond is something we aim to explore further in future CrowdFlex surveys.

Figure 2. Changes in perceptions as a result of trial (n=3651)



"...sitting in the dark I abandoned after the first one because I guess what that taught me is probably lighting isn't a big use of electricity in terms of just for an hour, maybe that it's more your devices, isn't it? Your electric cooker, your TV and your electric vehicle, whatever. So, I guess it helped me learn what are your bigger wins."

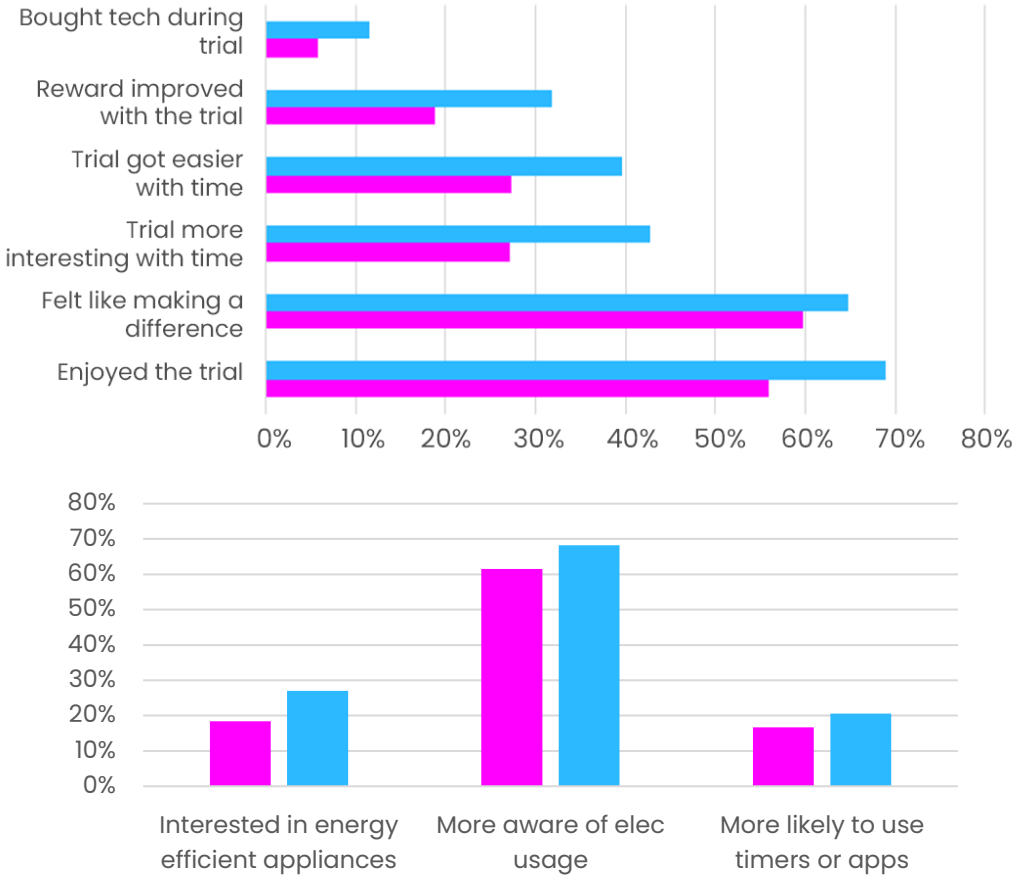
Tenure is a differentiating factor

People in private rented homes reported stronger positive changes to their energy perceptions as a result of the trial, and were more likely to report an increased awareness of energy use, more interest in energy efficient appliances, and interest in using timers and apps to control demand (see Figure 3).

These positive outcomes for private renters would not have been anticipated based on the limitations this group faces in owning low carbon technologies and being able to make substantial changes in the home to manage their electricity demand. This suggests that demand shifting may offer a positive opportunity for tackling inequality in the energy transition by focusing on actions bill payers can take that don't solely rely on installing measures.

The findings were less positive for households renting from social landlords. Social renters reported lower positive perception changes as a result of the trial compared to non-social renters, lower interest in energy efficient appliances, low carbon technologies, and time of use tariffs. As social renters typically do own their own white goods and are responsible for their tariffs they could benefit from increased engagement with domestic flexibility.

Figure 3. Trial perceptions of private rented participants. All differences shown are statistically significant (Chi-square test)



Some households face competing demands for their flexibility

Some households taking part in both a static time of use tariff, and the more dynamic CrowdFlex service reported on the difficulty of providing enough flexibility to both. Participants could not always shift their usage during CrowdFlex events if they were already shifting outside of the peak evening times to make the most of their cheaper tariffs, and were confused that they were being asked to. Those with solar panels also reported some difficulties. They had a 4% higher response rate in finding turn up events challenging compared to those without solar. This was confirmed through the qualitative data as people with solar panels and batteries described not being able to benefit from shifting events, as they were already shifting their consumption to match their solar output.

These two points indicate broader challenges around domestic flexibility. As the market increases and more services are available to households, there will be practical challenges for both industry and consumers. This will create uncertainty about how much flexibility a household actually has, how much is already covered by existing contracts and services, and what additional flexibility could be created, at what incentive level. While a range of flexibility service offerings will be important for different customers to access value in ways that work for them, action may be needed to ensure this doesn't result in confusion that curtails available flexibility. This could include more education materials, or more segmentation of customers to ensure they are guided towards products and services that best meet their needs. System design will need to consider to what extent conflicting signals are needed to reflect system needs, and how to manage this conflict and overlap.

"The overlap between the flex events and the ongoing initiative to reduce usage between 6 and 9 every day makes it difficult to understand what reduction I could make in those times. It's like two different gamification strategies having a negative effect on each other."

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Risks and opportunities around inequality

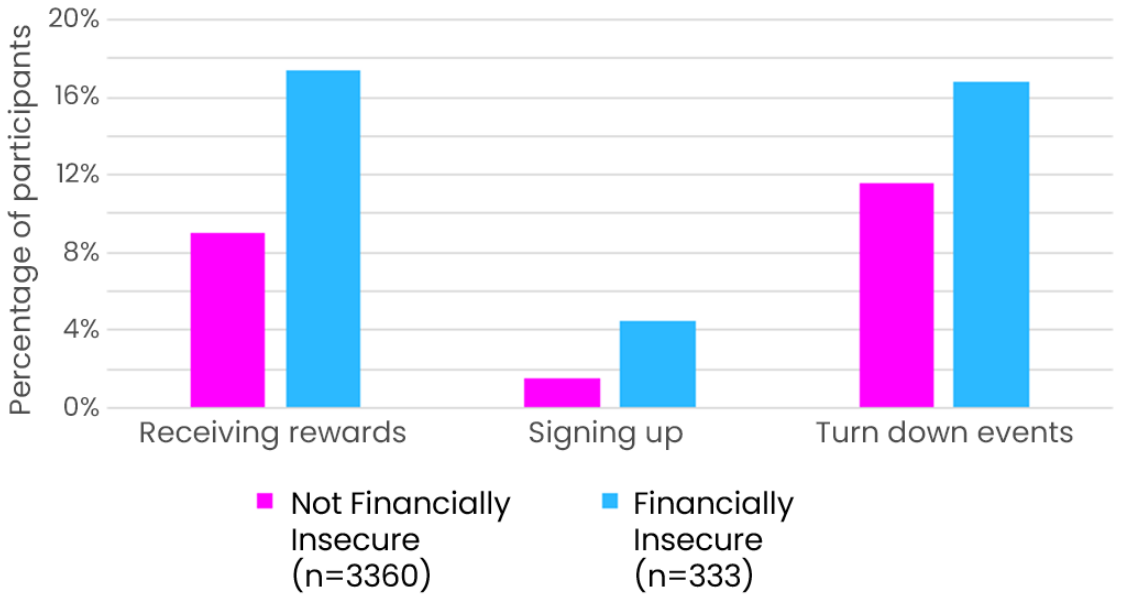
The first survey has confirmed that households with low carbon technologies found it easier to take part. Whilst those who reported struggling financially or were low energy users faced more challenges. This raises questions around whether the focus should be on encouraging all eligible households to take part in flexibility services like CrowdFlex, or if they should be targeted at those households more likely to find dynamic demand shifting easy. For some, the challenges and perceived inconsistency will result in disengagement, and there is a risk that frustrations today may lead to lower acceptance of demand shifting in the future.

This is a complex balancing act though as we have seen evidence of respondents gaining knowledge and understanding of flexibility through participation. And we have seen a positive opportunity for overcoming some traditional barriers for people in rented homes.

There is also an opportunity to support households to take up the most appropriate flexibility service for them. Many of the challenges participants reported could be reduced by using a different type of flexibility service. A static service with fixed event windows may be easier to remember and to adapt routines around. While the low electricity use issue could be addressed by a turn up only service. Though turn up won't address the challenge for small households that have a small finite demand.

"Looks like another game for rich people."

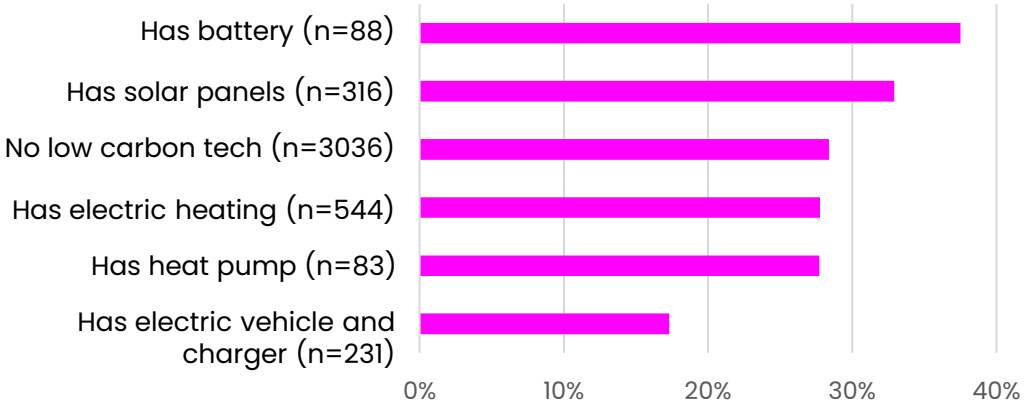
Figure 4. Reported challenges between financially secure and insecure households



Fundamental challenges for low energy users

"I felt it was difficult to lower my usage that was already very low at certain times. Getting emails saying I'm not on track just rubbed salt in that wound."

Figure 5. Percentage of respondents with different LCT ownership that reported the challenge of not typically using enough electricity to participate effectively



Low electricity users often struggled because they did not know what else they could do to shift their electricity consumption without resorting to switching off essential appliances such as fridges or freezers, or turning off lights at nighttime. Some felt they were not being fairly rewarded for already being conscientious users.

The research found different drivers causing this. For some participants, low electricity use is due to low incomes and small house sizes. For others, they are low users of grid electricity. Figure 5 shows that households with solar panels and batteries reported difficulties with shifting.

It is essential that a whole system approach is taken to fairness in the energy transition. Low electricity users may not be able to turn down or up significantly, but they should not be penalised for their limited ability to provide flexibility. Similarly, high electricity users, who place more of a burden on the electricity system, should not capture all value created through flexibility. Instead, the costs of an increasing electricity network should be shared equitably across bill payers, including the savings created through flexibility markets. Research has shown that low electricity users benefit from different tariffs or adjustments to standing charges where this makes up the largest proportion of their bills[1,2]. Mechanisms like these could be used to ensure that low electricity users see some of the value generated through increased flexibility and are not left bearing only the costs of an expanding electricity system.

[1] NEA (2023), Reforming energy standing charges for prepayment customers.
[2] Future Energy Associates (2024), Standing Charge Reduction Analysis

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Recommendations and next steps

Several of the recommendations from the full end of Summer 2024 trial report have been incorporated into the Winter 2024/25 trial - from testing different options for event reminders, to reviewing messaging to ensure a focus on shifting "electricity" rather than "energy" (which may be interpreted as including gas).

The Winter 2024/25 surveys will explore some of the key findings from the summer trial – from investigating how people might flex their heating, how people manage competing demands for flexibility, and understanding more about why households might be low energy users and how this impacts their ability to flex.

In total, six customer surveys will be delivered across the CrowdFlex trial, two of which will focus on electric vehicle users. Repeat responders over the 17 months of the trial will enable us to explore any changes over time, whether we see habits formed, technologies adopted, or participation change. We will also link individual's survey responses to some of their key trial data to provide a rich picture of whether consumer characteristics and experiences correlate to effective demand shifting and volume of flexibility delivered.

"CrowdFlex is providing much needed evidence on how effectively different types of consumers engage with flexibility services. These insights are key as domestic flexibility expands in the UK. It's great that CSE has been able to explore social inclusion in this project and run research with participating households about their experiences."

Charlotte Johnson, Director of Research & Analysis, Centre for Sustainable Energy