

CrowdFlex Customer Feedback Research

End of Trial Insights Report

Centre for Sustainable Energy

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Introduction

CrowdFlex is a NESO-led innovation project investigating the potential of domestic flexibility to help operate the grid.

Two types of domestic electricity flexibility service were trialled:

- **Utilisation service:** OVO customers were paid to turn up or turn down their electricity usage during notified events. The utilisation trial included two types of demand flex event – **turn down** (incentives for reducing demand) and **turn up** (incentives for increasing demand).
- **Availability service:** OVO and Ohme customers were paid to make their electric vehicles available to the grid by plugging in whenever they were at home.

CSE carried out customer feedback research throughout the trial to explore the experiences of different consumer groups, linking people's feedback with information about their homes, circumstances and their energy data.

CrowdFlex is funded by energy network users and consumers through the Strategic Innovation Fund, a programme from the UK's independent energy regulator Ofgem managed in partnership with Innovate UK.

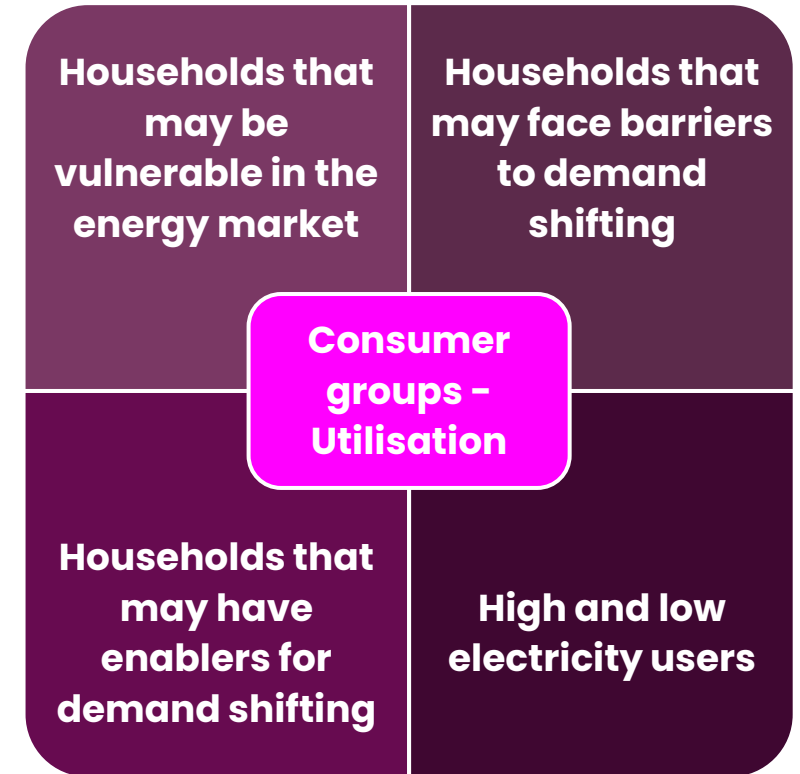


Figure 1. Consumer groups explored in the utilisation trial.

Customer feedback research

The customer feedback research aimed to answer three core research questions:

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

During the trial, we surveyed over 37,000 people:

- **Utilisation:** 28,600 respondents, 42,600 surveys.
- **Availability:** 8,600 respondents, 11,800 surveys.

This included ~800 customers who repeated surveys over 18 months, allowing us to measure change over time.

This research achieved an impressive breadth of insights from many participants across different consumer groups. It also achieved in-depth understanding through 30 interviews and three focus groups to explore some customers' experiences in more detail.

Public

Utilisation service

Customer Insights

Did people enjoy the trial?

Overall, survey respondents felt positively towards the CrowdFlex trial:

- In the most recent survey, **69% of respondents felt positive** to some extent about the trial as a whole.
- At the end of the trial, **60% said that “changing my energy demand felt good”**.
- **61% felt they did not have many other options for shifting their demand**, showing that CrowdFlex is a much-needed service that fills a crucial role.

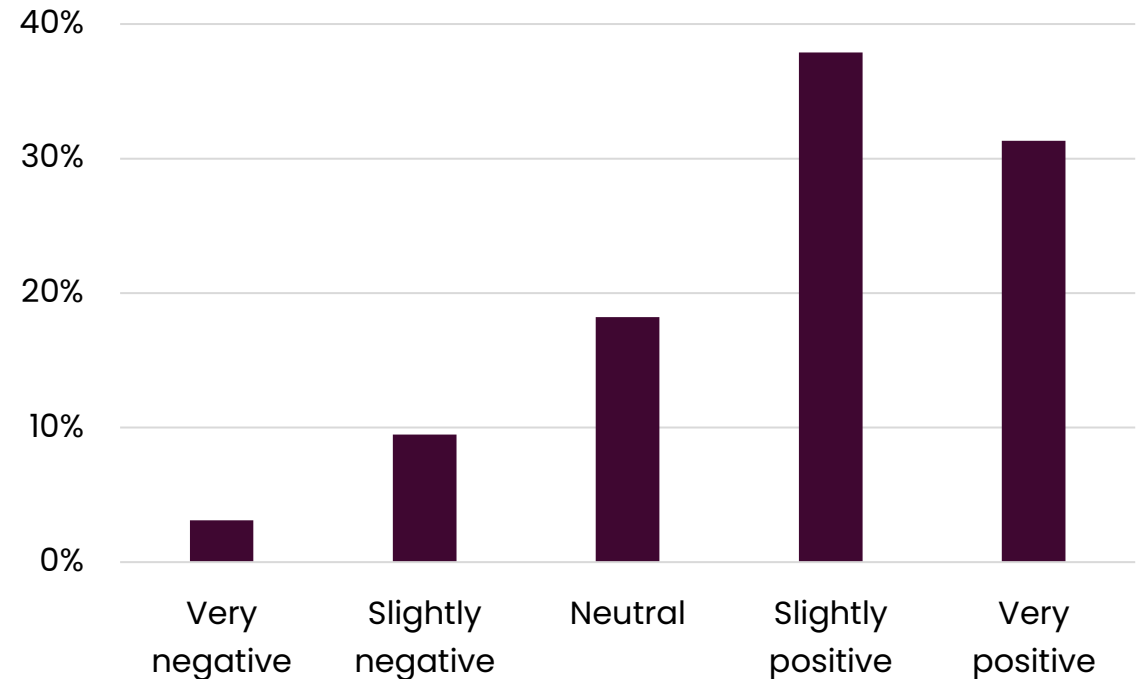


Figure 2. End-of-trial responses to the question ‘Overall, how have you found your experience of Power Move Flex [CrowdFlex]?’ (n=16,260)

How do customers want to participate in the future?

Support among respondents was stronger for notification-based schemes than other options for future demand flexibility schemes. **A continuation of CrowdFlex was the most popular option.**

Only 2% said they didn't want any flexing scheme in future, showing a **strong appetite for demand shifting schemes.**

Evidence from across the surveys suggests that future schemes such as CrowdFlex are **likely to be well-received by customers.**

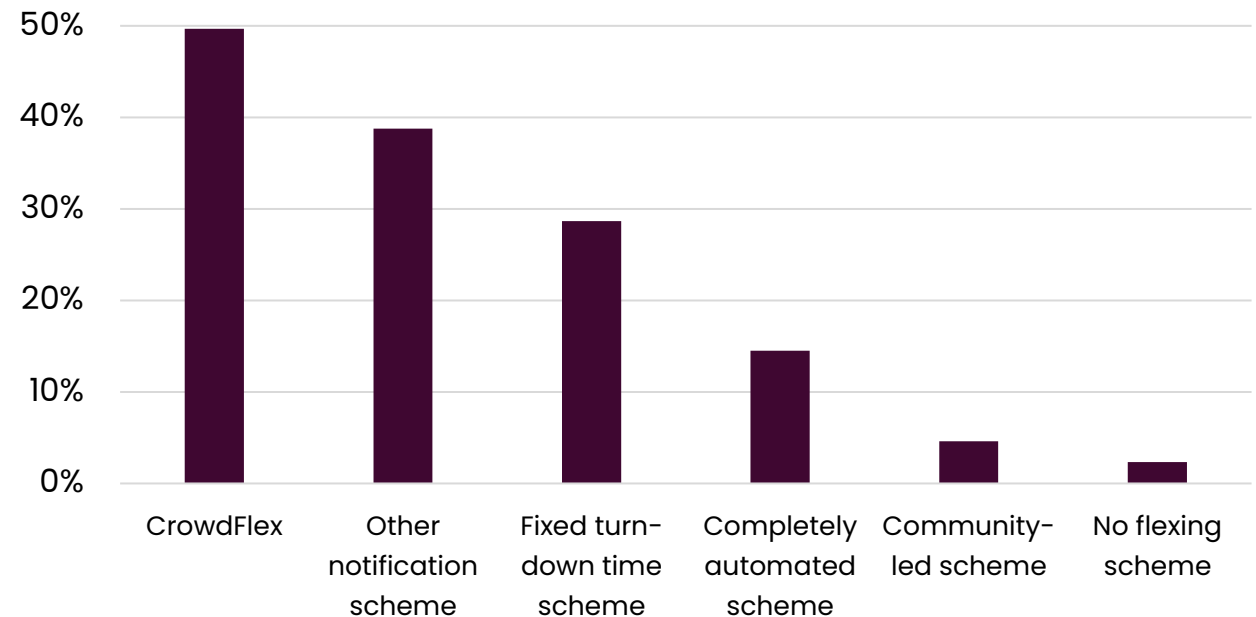


Figure 3. End-of-trial responses to the question 'Thinking about the future, how would you like to engage in energy flexibility?' (n=15,789)

What challenges did people encounter?

Throughout the trial, the most commonly reported challenge was **remembering to take part** in events. Customers also found challenges in **fitting events into a routine**. This was consistent throughout the trial, including customers who had taken part for the full 18 months. Encouraging uptake of automation could help to mitigate these most common barriers.

23% said that their **low electricity use** was a challenge, for instance because they are a small or low occupancy household. Turn up events may offer an opportunity for these customers to participate, but this can also be limited for those who don't have much demand.

It is essential that a whole system approach is taken to fairness in the energy transition whereby low energy users are rewarded for their low impact on the grid in other ways – for example, through different tariffs or adjustments to standing charges.

"It's tricky to flex as it doesn't fit in with family schedules"

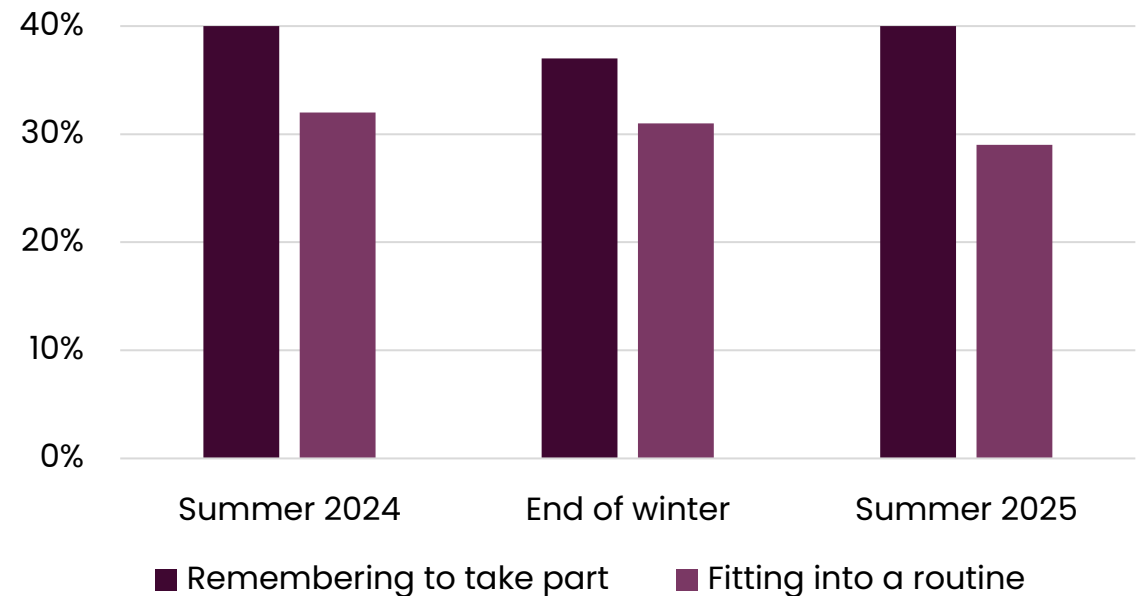


Figure 4. Responses to the question 'Did you or your household experience any of the following challenges in taking part?'

How did people shift their demand?

The vast majority chose to **shift manually**. There was a slight decrease in manual shifting between 2024 and 2025, showing that some people are taking up more automated methods.

Those using automation shifted significantly more electricity during events.

In the 2025 mid-winter survey, 12% said they had bought new smart energy technology during trial. **Demand flex schemes could be a gateway to increasing smart energy in the home.**

Recommendation: Government and service providers to promote understanding and uptake of automation, including small measures, to help people shift greater volumes and overcome some common barriers to participating.

"... we'd normally load [the dishwasher] after tea and put it straight on... We'd never used the programme to go off in an hour before, but now we do that. I do that all the time now."

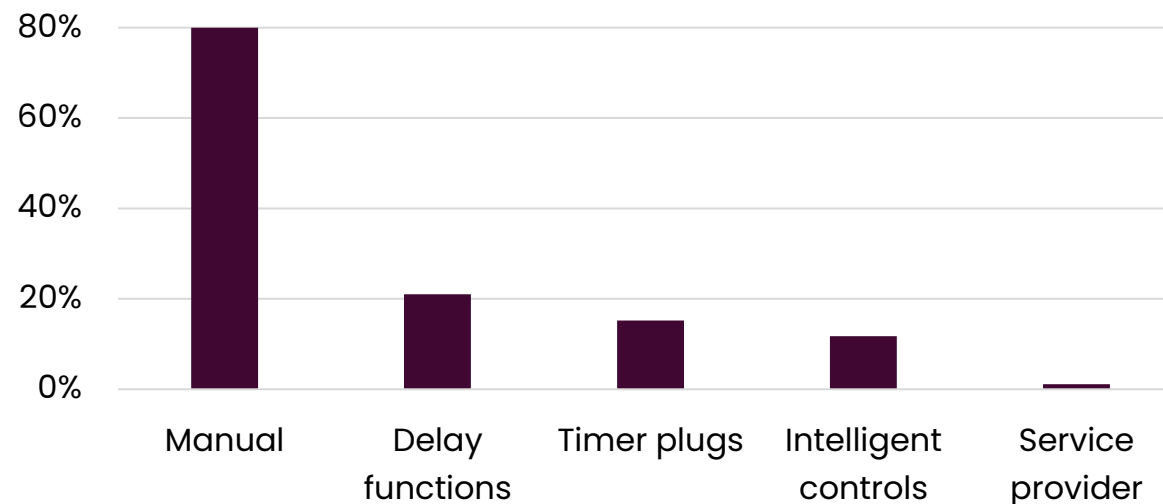


Figure 5. End-of-trial responses to the question “How do you manage your energy to make the most of cheaper, off-peak rates or rewards sessions?” (n=15,789)

Did CrowdFlex impact people's energy awareness?

A high proportion of respondents said they became more aware of their electricity usage through the trial. Around 50% became more aware of how to shift their energy use.

The trial has been effective in introducing participants to demand shifting and related concepts. Flexibility schemes may be able to act as a gateway to engagement with the energy system more broadly, especially for groups who may feel excluded from participating in other ways, such as renters and those unable to afford retrofit measures.

"when the laundry is waiting and there's a power move, I say oh, why not? Let me just do it in this one hour, if that's the time. So yeah, I've learned that I can be flexible."

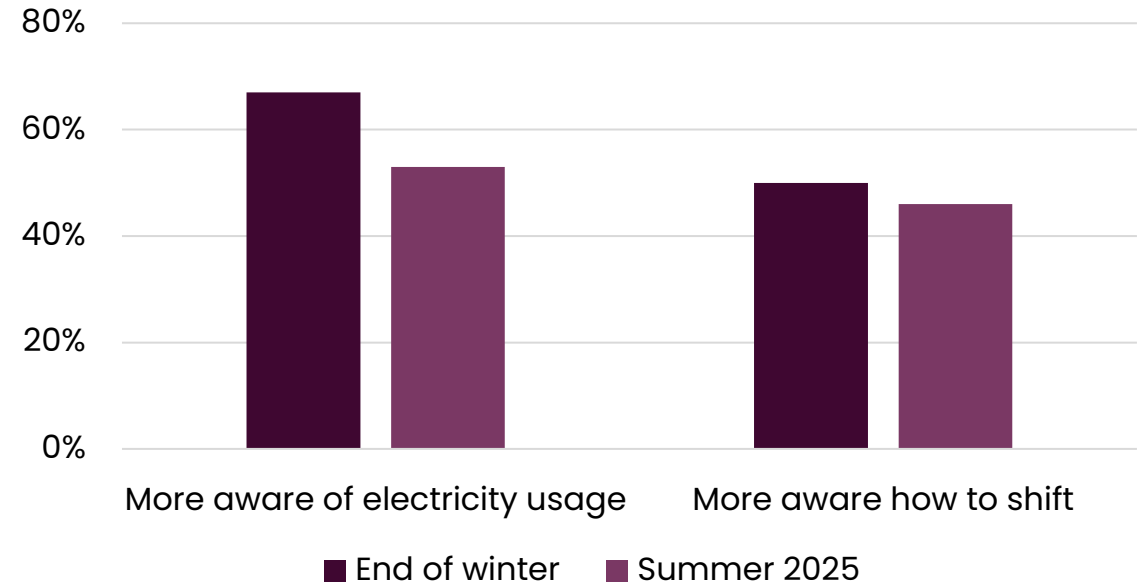


Figure 6. Change over time in the percentage becoming more aware of their electricity usage and more aware of how to shift.

Did people maintain their interest?

In the longer-term, encouraging people to maintain interest in their flex scheme will be crucial, particularly if a substantial proportion of people continue to shift manually. At the end of the trial, 22% said they were losing interest, compared to 12% in the previous survey.

The most important factors determining loss of interest were whether shifting “felt good” to the participant (winter trial), and whether they felt they were “making a difference” with their participation (summer 2025 trial). Those who felt they were making a difference were least likely to lose interest.

This suggests that **appealing to people’s normative and emotive motivations may be the most successful strategy of maintaining people’s interest.**

“...making the difference, that's the important part... taking the extra step to do it at a specific hour shows that you are conscious and you want to do what you can to help the community or to help the planet.”

“Being part of the trial helps me feel like I'm doing something to help”

Recommendation: Clear and engaging explanations on the purpose and importance of demand flexibility, from both service providers and government, could help people feel engaged and invested.

What happens when we ask people to increase their demand?

Survey respondents found it **easy to participate in turn up events** (where they were incentivised to increase their demand). They also achieved **greater shift** on average during turn up events. However, some were unsure of how to engage with turn up events and felt concerned about trade-offs between earning rewards and the risk of increasing their bills. Some felt uncomfortable about using more electricity. This suggests a need for improved communication about **why turn up events are beneficial** for optimising use of clean energy, within the context of the dominant discourse that energy action always means reducing demand.

This suggests a broader point that shifting in general, and the principle of using the same amount of energy but at a different time, is not well understood. The same issue can be seen for turn down as people may “destroy demand” rather than shift. All system actors, including government and third sector, have a role to play in improving communication about what demand shifting means in practice.

Recommendations:

Clearly communicate messages around demand **shifting** and how this differs from demand creation and destruction.

Communicate the benefits of demand flexibility, including turn up, to the wider energy system.

How did different customer groups experience turn up events?

Though there were no differences in the ease of taking part in turn up events for different consumer groups, some qualitative feedback suggests that **those who are struggling financially did benefit from using more electricity** than they may usually allow themselves.

This included increased use of electric heaters, which helped participants to be more comfortable. It also meant children could enjoy more energy intensive activities, such as using a games console.

However, optimum notice periods for turn up events should be considered. Some participants commented on not being able to take advantage of the events if they had already done their energy intensive activities before being notified of a turn up event.

"...on power up events it helps remind me to stick a washing on or do some batch cooking!" ."

"Sometimes I'll put the washing on, and then I'm, literally five minutes later, getting an email going, we want you to power up tomorrow morning."

Did renters engage with CrowdFlex?

Both **social and private renters had better overall experiences** of the trial than those with other tenures such as homeowners.

This shows that CrowdFlex is **successfully engaging renters**, who may struggle to participate in the energy transition in other ways. Private renters also showed more positive attitudes toward **energy automation**.

Demand shifting schemes like CrowdFlex could provide new opportunities to those in social and private rental properties.

Recommendation: Suppliers could explore options to promote schemes and flexible tariffs specifically aimed at renters.

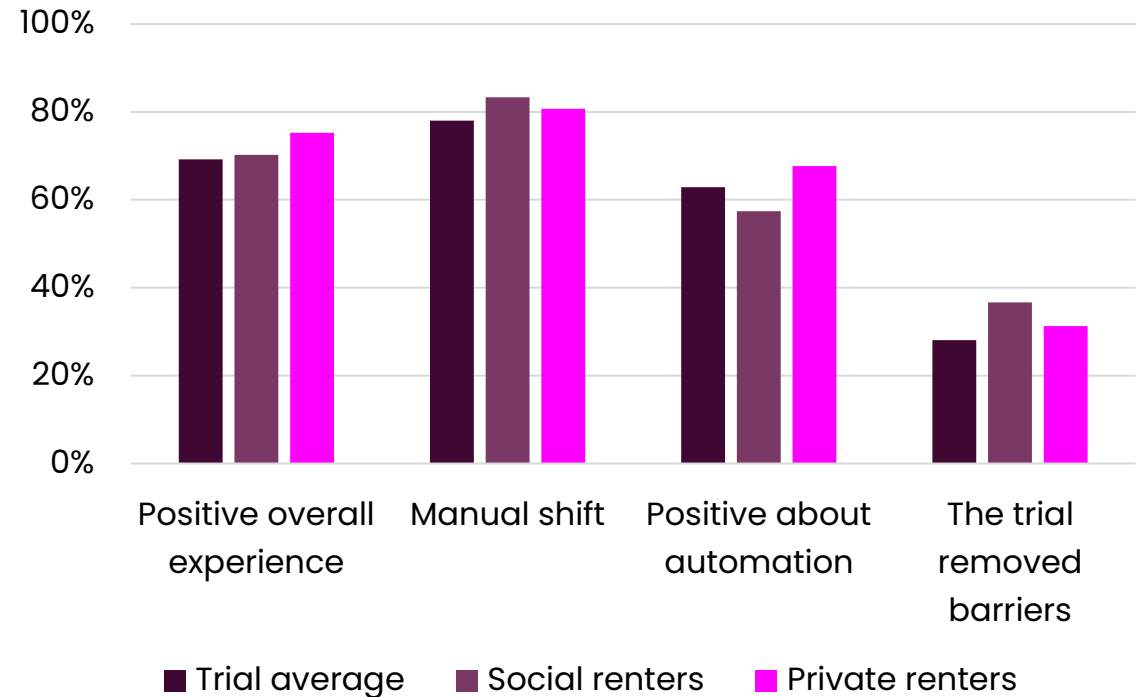


Figure 7. End-of-trial responses to questions about trial experience, mode of shifting, attitudes to automation, and perceived barriers.

Did vulnerable households engage?

We explored the experiences of groups that may be 'vulnerable' in the energy market because of their circumstances, informed by Ofgem's definition of vulnerability:

- People self-reporting financial insecurity.
- Households with someone with a long-term health condition.
- Older households (households with one or more residents over 65).

We found that **all these groups are engaged and taking part in shift events as much as everyone else**. Households with one or more vulnerabilities participated just as frequently and were almost as positive about the trial overall.

However, they were less likely to say they were enjoying the trial, and slightly less likely to be interested in future demand shifting schemes. Though the **differences between 'vulnerable' households and the trial average were small**, inclusive service design and a range of offer types will be needed to ensure broad participation and good outcomes for different types of household in the emerging flexibility services market.

Recommendations:

Further consumer research is needed to explore what inclusive and accessible service design means for different consumer groups.

Government/Ofgem to monitor participation of different groups at the population level and address any gaps to ensure there are offers on the market for different types of household.

Are there particular risks we need to be aware of?

Throughout the trial, we asked participants if they were doing things that were not recommended in order to take part – using less or more electricity than needed, changing their care routine, or turning off essential appliances. Deeper analysis showed that the majority of those reporting these behaviours were either already doing them before CrowdFlex or did not find them to cause a negative experience.

However, **for a small minority, pre-existing risk factors interacted with their participation, resulting in negative outcomes,**

This was especially the case for people **already rationing their energy use for financial reasons**, who may **only have essential usage left to shift**. We heard from people who had cold and dark homes during events, and who turned off essential items such as freezers, despite being advised by OVO to shift non-essential demand only.

“It made me look at the electricity I was using, or gas, ... and I realised, you know, I couldn't afford it. So ... I thought the best way would be to obviously not use it.”

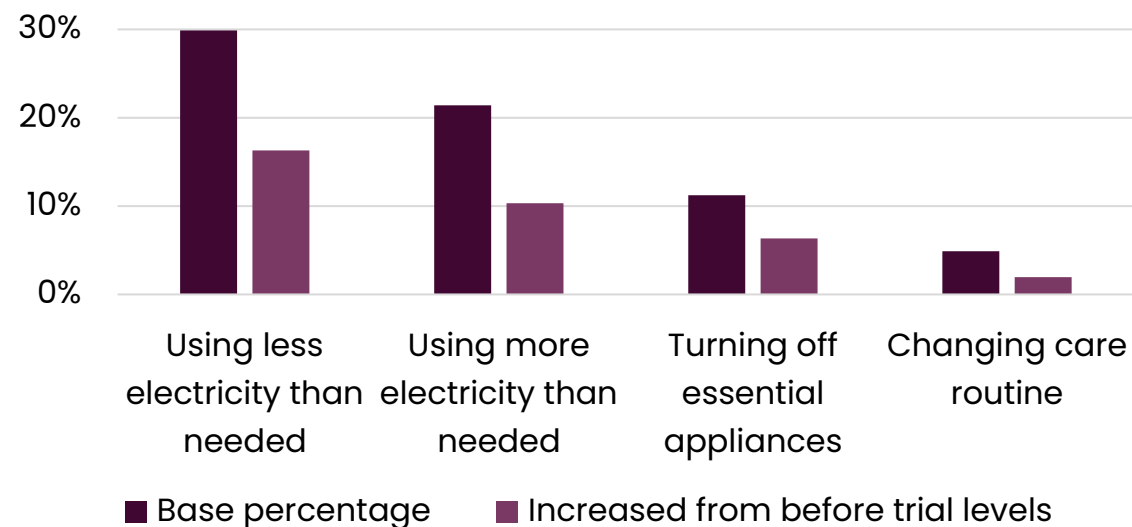


Figure 8. End-of-trial responses to the questions ‘Thinking back, how often did you do any of the following during the trial?’ and ‘To what extent did you do this before the trial?’ (n=15,789)

How can we mitigate these risks?

Demand flexibility asks people to interact with energy in a new way, so we therefore need to engage and support some customer groups accordingly. This offers an opportunity for support that could help mitigate existing energy related vulnerabilities.

Recommendations: Service providers

- Collect information about people's circumstances at onboarding to identify customers who might need more support.
- Provide ongoing communication to emphasise safe participation, and accessible support and information for those who need it.
- Consider mechanisms to check whether customers are participating effectively, and intervening if a customer is not benefitting from services as expected.

Recommendations: Government

- Ensure provision of energy advice that addresses a range of energy related issues and is bespoke to household and personal circumstances.
- Improve understanding of how vulnerability interacts with domestic flexibility and the role of the existing Priority Services Register in a smart energy market.

Public

Availability service

Customer insights

Did people enjoy the availability trial?

In the availability trial, Ohme and OVO customers were asked to plug in their electric vehicles when at home to make them available to the grid.

Overall, **respondents felt positive** about the trial. 80% reported favourable experiences at the end of the trial. Positive perceptions decreased slightly over time, in summer compared to winter.

Participants liked that the trial had **minimal impact on their life or their routines**.

Though the majority of survey respondents did actively change their plug-in to take part in the trial, the most common reason given for feeling positive was 'being rewarded for existing behaviour'. This suggests that people didn't view these changes as big or disruptive and that the trial may have **helped to unlock some latent flexibility** from these households.

"Received payments for little to no impact on day-to-day life."

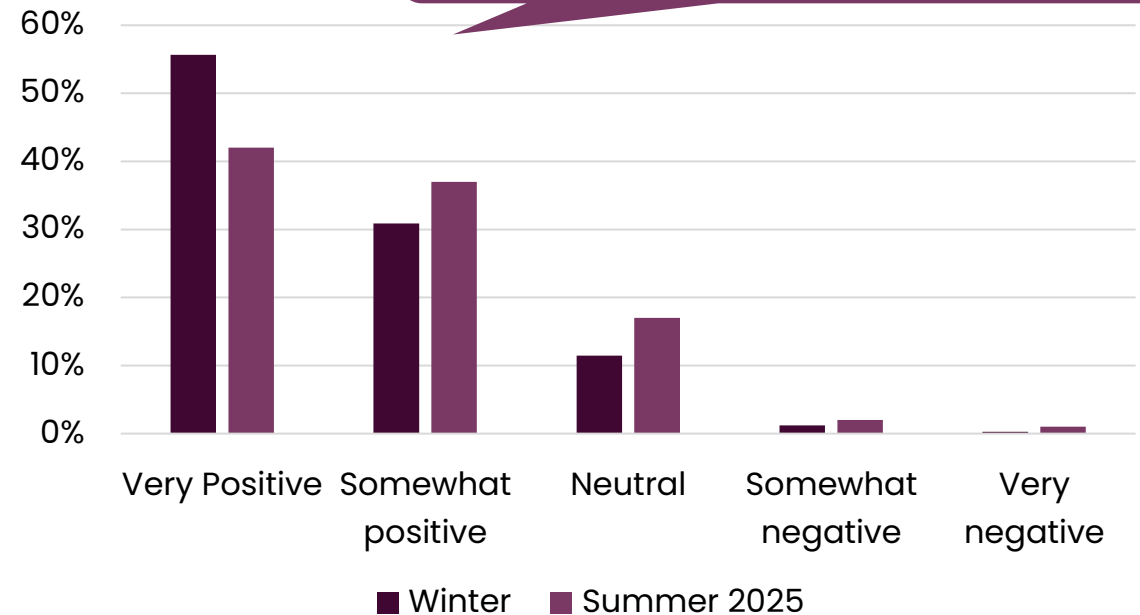


Figure 9. Responses to the question 'Overall, how would you describe your experience of the trial?'. Change over time.

How did different consumer groups experience the trial?

Experiences were generally positive across all groups we surveyed – including those with vulnerabilities, home workers, urban and rural participants, and households with children. **The trial successfully engaged EV owners from diverse consumer groups.**

Rural participants showed positive and effective participation, despite some challenges with internet signal and lack of other transport options.

Some groups reported concerns in higher numbers:

- Those who are financially insecure and those with a health condition were more concerned about peak costs and battery range.
- Older and non-working households were more concerned about not driving enough to deplete the battery.

"I didn't want to ruin the battery by plugging in when it wasn't needed."

The most common barrier was "not using the car enough to deplete its battery," suggesting there **may be a natural limit to the flexibility that can be achieved from those with low mileage** without bidirectional charging.

Recommendation: Tailored messaging could help overcome specific challenges for different consumer groups.

Recommendation: Use these learnings in preparation for Vehicle-to-Grid charging, since low mileage currently presents a barrier.

Are habits being built?

The majority of respondents started to build a habit around plugging in for availability.

Of those who initially changed their charging habits to take part, 78% said they would maintain the habit.

Only 4% said that the trial became more difficult over time, whereas 46% said it got easier. The most common reason for finding it easier over time was that it had become part of their regular habits.

However, **at the end of the trial around 20% said they were losing interest.** This might be a crucial factor in the durability of this approach under business-as-usual.

Reasons for losing interest reflected the most common barriers to participation, such as **not needing to plug in as often as the trial suggested.**

"I learned about charging and felt more able to understand how it works and how, when driving, to practice driving habits that conserve charge."

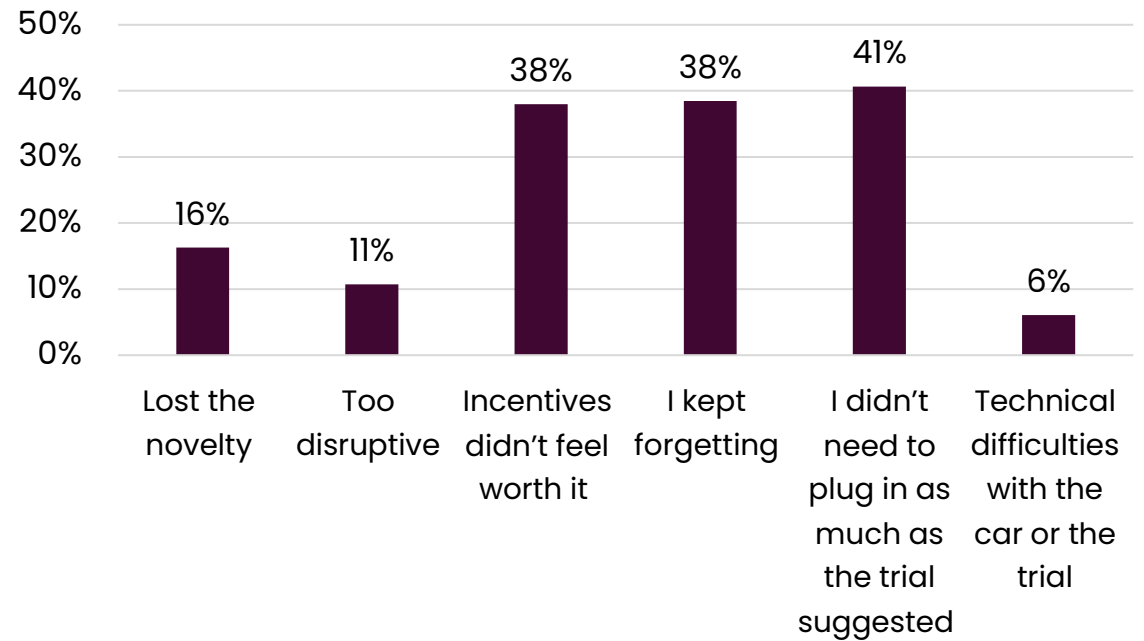


Figure 10. End-of-trial responses, 'Why would you say you started losing interest in the trial?' (only respondents who agreed that they started losing interest as the trial went on, n=1,222)

What motivates people to stay engaged?

Overall, we see a split emerging over time:

- The majority are forming habits which increase ease of participation.
- A large minority are encountering barriers and starting to lose interest.

Motivation matters. Participants motivated by achieving a greener grid were the least likely to lose interest in the trial, whilst those financially motivated were most likely to lose interest.

The financial incentives are a strong motivator for signing up to a trial. However, **maintaining interest in the longer-term might require more emphasis on altruistic and non-financial motivations.**

Households with multiple vulnerabilities and older people were more likely to be motivated by achieving a cleaner and greener grid.

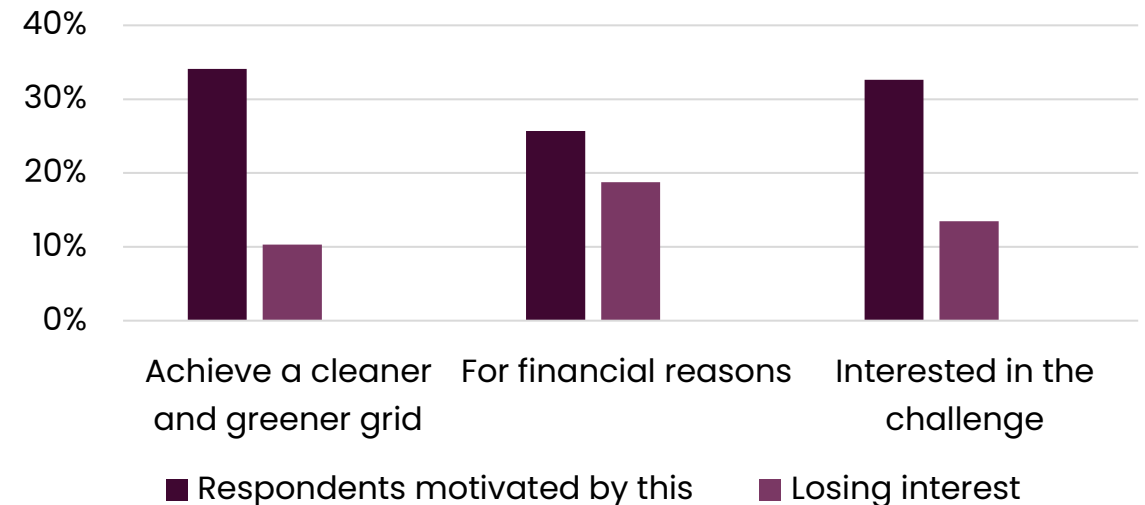


Figure 10. End-of-trial responses to questions on motivation for taking part, and whether losing interest in the trial (n=11,819)

Recommendation: Give regular feedback on users' contributions to broader social and environmental goals.

Did the trial cause rebound effects?

There is a risk that plug-in incentive schemes might encourage people to drive more, creating a rebound effect.

The vast majority of survey respondents did not change the amount they drove, showing that the CrowdFlex availability trial **is not leading to any substantial rebound effect.**

However, 8% said they drove more as the result of the trial. Of these, 28% said this was because they swapped their EV for their petrol/diesel vehicle. The most common reason for driving more was “less concerned about the cost of driving”, followed by “less worried about the battery running out”.

For a small minority, the availability trial has resulted in increased driving. This could have environmental impacts if scaled up to population level, or environmental benefits if it means people are driving their EVs more than their petrol cars.

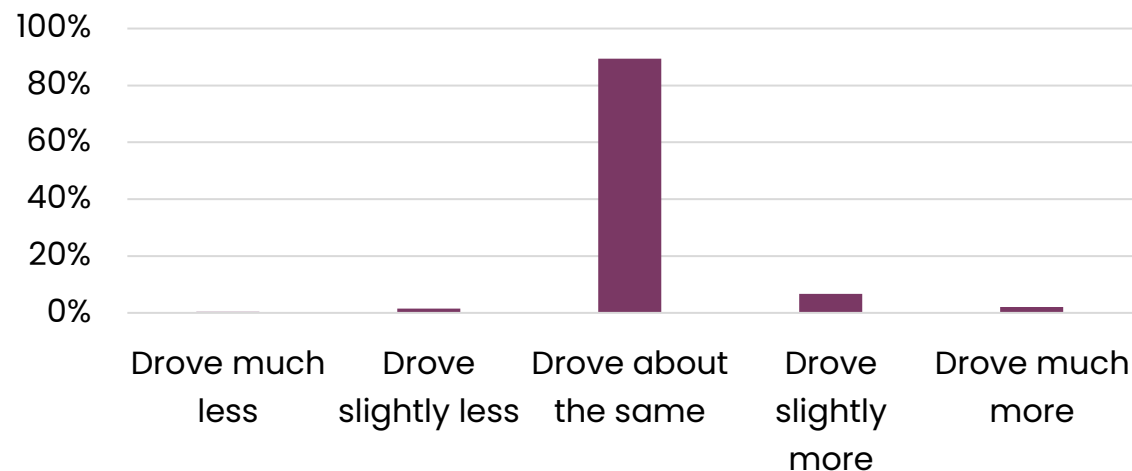


Figure 11. End-of-trial responses to the question, ‘Did you find yourself driving more or less?’ (n=11,756)

Recommendation: Further research is needed on rebound effects from EV flex incentive schemes, using direct car mileage data.

Did the trial successfully engage harder-to-reach groups?

Women and non-white customers were under-represented in both surveys. Further work is needed to explore their needs for service design, to avoid exacerbating existing inequalities in the energy transition.

Those with lower propensity to trust technology in general had less positive trial experiences across several survey measures.

Recommendation: Future schemes need to ensure additional support is given to those with lower propensity to trust in technology, such as reassurance from peer testimonials and trusted third parties, confirmation cues, and learning support to ease apprehension.

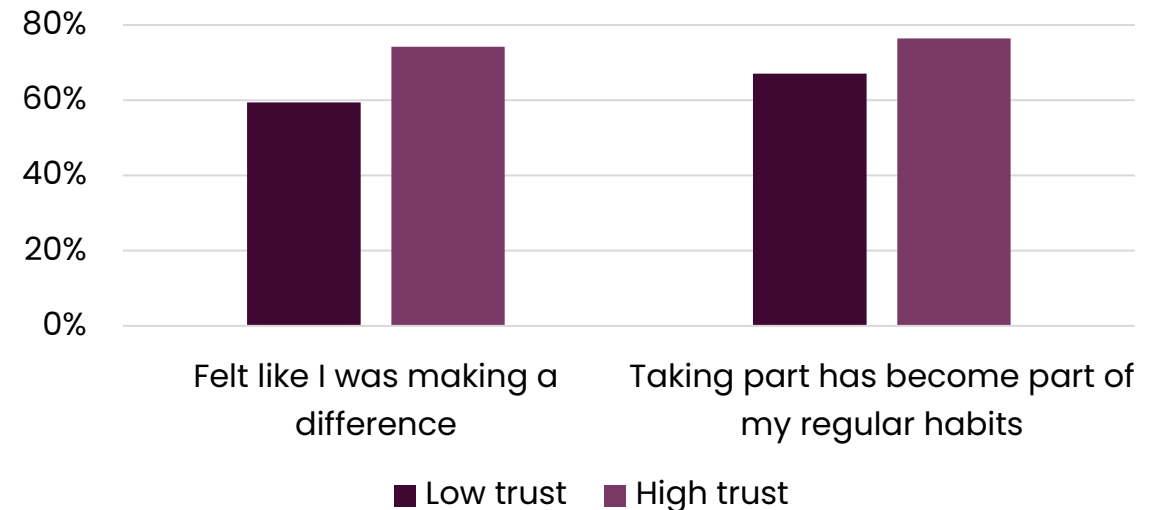


Figure 12. End-of-trial responses on trial experiences and propensity to trust technology (n=11,819)

Recommendation: Further research is needed on participation of women and non-white customers in demand flexibility to ensure equitable service design.

More information on CrowdFlex can be found at www.neso.energy/about/our-projects/crowdflex

Customer feedback and trial analysis reports can be found on the ENA portal at <https://smarter.energynetworks.org/projects/10070764/>

