

**CrowdFlex Consumer Segment**

# Financially Insecure Families

Centre for Sustainable Energy

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# About CrowdFlex

CrowdFlex is a two-year 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:** customers were paid to turn up or turn down their electricity usage during notified events.
- **Availability service:** customers were paid to make their electric vehicles available to the grid by plugging in whenever they were at home.

107,000 OVO customers took part in the utilisation trial. CSE carried out customer feedback research throughout the project, surveying over 28,000 people in the utilisation trial to explore the experiences of different consumer groups who took part.

Based on these real experiences within the trial, this series of case studies aims to showcase how different types of households – including those that may face barriers to participating in the energy transition – can benefit from demand shifting services.



# Introduction

Financially insecure households, including those on low or unstable income, are particularly vulnerable to high energy bills and are more likely to suffer detriment as a result. They are also at greater risk of exclusion from the energy transition. For example, they are less able to afford upfront costs of equipment and retrofit, even for relatively small measures in some cases, and their financial instability may mean that they feel less confident to make use of longer-term offers.

These pressures are often intensified in households with dependent children and family members, because caregiving responsibilities can increase energy needs and limit flexibility. However, this group can still participate and benefit from demand shifting services. This is particularly the case if these services include turn up events where participants are rewarded for shifting their energy consumption to times when cleaner energy is more abundant on the grid.

Source: CSE (2020) Smart and Fair? Exploring social justice in the future energy system. Available at: [smart-and-fair-phase-1-report-september-2020.pdf](#)

We used a self-reported measure of financial insecurity to account for the huge range of factors besides income which determine a household's financial situation. Financially insecure families are defined here as a financially insecure household with at least one person under 18.

**1.5%**

of the CrowdFlex research sample was made up of financially insecure families.

**72%**

of financially insecure families felt positive overall about taking part.

**£16.76**

Annual amount earned during the trial by financially insecure families.\*

\*Based on number of CrowdFlex events during winter 24/25 and summer 25 trials (140) and average reward per notified event during winter trial.

# Participation

Financially insecure families participated most or all the time more often than other households (47% compared to 40%).

This group had a positive outlook towards automation:

- They were more likely to feel positive about automation in the future than other households (77% compared to 63%).
- They reported being more likely to use timers, apps, or smart technologies than others as a result of the trial (28% compared to 21%).

They were also more interested in improving home energy efficiency than others (32% compared to 19% respectively).

This highlights a strong opportunity to help financially insecure families to become effective shifters, which could result in more electricity shifted and higher rewards gained.

Throughout the trial, many participants with children also reported enjoying taking part as a family through the challenge of hitting targets, learning about energy, and getting the whole family involved.



# Customer experiences

Interviews and focus groups provided greater detail of how financially insecure families have benefited from CrowdFlex.

## Graham's story

**Graham** has been struggling to manage financially. He is working part-time and caring for his two children, and his wife has a medical condition that impacts her day-to-day life.

They've been participating in CrowdFlex for over a year and shared how this has been a worthwhile practice, sometimes saving £3 or £4 on their monthly electricity bill. Graham noted how this is important given that he isn't currently working full-time, which also makes participating easier.

*"If I can try and save money where I can, that's what I'm trying to do. And I have more time to try and focus on saving energy."*

## Being proactive

Living with family, including young children, can also bring challenges around flexing due to conflicting behaviours and attitudes. Graham has successfully managed this using Alexa and a shared calendar, which allows his family to know when an event is happening. Being proactive in this way enables the whole family to be aligned and engaged without it feeling disruptive.

*"I put it in my calendar straight away, and then that comes up on the Alexa. So we've got an Alexa in the kitchen, like a diary and we all check."*

Their smart meter's in-home display also helps the family to keep track of their consumption during the events. Graham explains the events to his son in simple terms and encourages him to do electricity-heavy activities, such as using the PlayStation, around turn up events.

Some survey respondents reported that they appreciated the opportunity to save money when family finances were stretched. These included participants on maternity leave, or who were raising children as a single parent.

*"As a single mother of four children, every bit of support makes a difference."*

## Openness to future schemes

Demand shifting schemes allow people who cannot afford larger scale investments to participate and benefit from the transition in alternative, cheaper ways.

When asked about their openness to future schemes in the survey, several of the open-ended responses from participants welcomed this opportunity to contribute to impactful schemes, rather than being excluded on the grounds of financial difficulty and other personal challenges.

*"I am comfortable using this scheme or something similar. My low income and ongoing mental health issues prevent me from undertaking expensive or complex solutions to change my energy usage."*



# Conclusions and recommendations

Our analysis has shown that despite the vulnerabilities and obstacles faced by financially insecure families, demand shifting schemes offer an opportunity to make incremental savings as well as boost feelings of engagement in the energy transition.

**Recommendation:** As a demographic generally displaying openness towards automation, increasing awareness of these techniques and the benefits they offer can help those households consider incorporating them to boost the financial rewards and ease of participation.

**Recommendation:** Providers could target products and services at families, for instance via interactive tools aimed at getting the whole family engaged in flexibility.

**Recommendation:** Service providers can also support effective participation through providing information on the energy consumption of different appliances. Tools like CSE's [How much electricity am I using?](#) and [Cheaper bills with energy flexibility](#) show what type of equipment and appliances use the most electricity and may be safe to shift.

More information on CrowdFlex can be found at [www.neso.energy/about/our-projects/crowdflex](http://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/>

