

National Grid ESO and Octopus Energy launch trial to unleash demand flexibility this winter

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- Trial to determine if moving home energy demand out of peak times can support electricity system this winter
- Participating homes could reduce power demand by 150MW during each two-hour trial event
- Findings to help unlock domestic flexibility to better balance the grid and reduce costs to consumers

National Grid Electricity System Operator (ESO) and Octopus Energy are launching a pioneering real-time project to determine if flexibility in household electricity can help better match supply and demand on the electricity grid this winter.

The domestic flexibility trial will assess the role households can play during periods of high demand. It will run for almost 2 months from February 11 to March 31.

The trial will be available to Octopus Energy's 1.4 million smart meter customers. Customers who take part will receive a financial incentive if they reduce their power consumption below their usual levels for pre-defined two-hour windows across several key periods during this winter, allowing them to save money on their electricity bills by utilising smart energy technologies in a flexible manner.

The real-time trial will help to find out if moving home energy demand out of peak times can support balancing the power grid and reduce costs, particularly at a time of the year when heating and lighting causes overall power demand to be higher.

The pilot scheme will help inform the ESO's plans to run a zero-carbon grid for certain periods by 2025 and a fully decarbonised grid by 2035 – and build understanding how households can support this goal. It will also provide insight into how domestic customers could play a role in reducing the costs of balancing supply and demand and ultimately save consumers money on their electricity bills.

The trial builds on learnings from the previous [Crowdflex study](#) and will provide key insights for future innovation projects aiming to fully utilise domestic flexibility. It will also help to provide data that can feed into energy forecasting processes and help ensure the ESO control room is able to continue to keep the UK's electricity supply reliable, affordable, and safe.

Isabelle Haigh, Head of National Control at National Grid ESO, said:

“Encouraging households to engage in exciting climate-friendly energy opportunities like this trial will be crucial in our transition to net zero.

“System flexibility is vital to help manage and reduce peak electricity demand and keep Britain's electricity flowing securely.

“This trial will provide valuable insight into how suppliers may be able to utilise domestic flexibility to help reduce stress on the system during high demand, lower balancing costs and deliver consumer benefits.”

James Eddison, CTO and co-founder of Octopus Energy Group, said:

“Octopus is a strong supporter of decentralising the energy grid and putting energy flexibility in the hands of consumers. The findings of our previous home energy trials and the demand for our smart tariffs show that homes can play a key role in improving grid stability and making sure that we’re making the most of home-grown green energy when it’s abundant.

“By joining forces with ESO, we’re now taking this research to the next level, inviting 1.4 million customers to take part in a trial that will allow them to potentially benefit from cheaper, greener power and help build the energy system of the future. It’s a tremendous opportunity to unlock flexibility at an unprecedented scale, and we can’t wait to get started.”

ENDS

Notes to editors

- The ‘domestic reserve scarcity’ trial will be enacted based on market conditions and explore forecasting and repeatability of consumer behaviour – building on initial learnings from the previous [Crowdflex study](#) that focused on individual standalone events.
 - The trial will be held during the following anticipated pre-defined two-hour windows: 12-2am; 9-11am and 4.30-6.30pm.
 - As part of the previous [Crowdflex study](#), Octopus Energy ran a ‘Big Turn Down’ event on 5th November 2020, which showed the ability of customers to reduce their demand, with a 60 per cent (0.9kWh/customer) reduction over the two-hour event. If scaled up to OE’s full smart meter customer base, they believe this could unlock up to 100-150MW.
 - The experience gained from this trial will provide key inputs into future projects such as Crowdflex: Discovery, for which the ESO is currently seeking funding from [Ofgem’s Strategic Innovation Fund](#).
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