

Flexible energy use service could save billions in investment

A new service that pays customers not to use electricity during certain hours is the first step towards a system that could save billions of pounds in investment.

[Experts](#) believe that policies like the Demand Flexibility Service (DFS), launched this autumn, could pave the way to overhauling the relationship between a household and its energy supplier.

In exchange for a cheaper electricity tariff, people could give their energy supplier the option to decide at what time their electric car should charge or the heating turn on.

You will have to have consumers at the centre of the energy system because without them a net-zero energy system is not achievable at the speed that we want it and – most importantly – at the cost that we want it

“You would say ‘I want my house to be between X and Y temperature,” said Jo-Jo Hubbard, co-founder of energy technology company Electron.

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“But maybe you could take a cheaper tariff and accept that it can be varied by up to two degrees, or maybe you take a just slightly cheaper tariff and that can be varied up to one degree.”

Today, if you plug your electric car in after getting home from work it will charge straight away, at the same time as every other driver.

As more people get electric cars and electric heating in their homes, peak electricity use could be several times higher than it is today.

Experts say this will create two problems. Firstly, the cables that run down the middle of the street are not big enough to carry charge to all the neighbourhood’s cars at the same time. Secondly, the wind does not always blow, so wind turbines might not be producing at full capacity during peak hour.

Today this is solved by using gas power plants, which can fire up quickly if millions of people plug in their cars, or if wind speeds drop.

“What’s really special about the flexibility market is, the more people who opt in, it drives down the cost of the energy system for everyone

But by encouraging people to use electricity at different times, experts say you can solve, or at least heavily mitigate these problems.

“You will have to have consumers at the centre of the energy system because without them a net-zero energy system is not achievable at the speed that we want it and – most importantly – at the cost that we want it,” Alex Schoch, head of

flexibility at [Octopus](#) Energy, said.

Octopus has been the most active energy supplier in the new [DFS](#) that National Grid launched in November.

The DFS pays customers not to use electricity at peak hours on certain days. It rewards them for using their ovens a little later, or not turning their washing machines on until the morning.

But Mr Schoch said he anticipated greater scope for such initiatives in the future. Octopus already offers customers a special electricity tariff designed for users with electric cars.

In future, when you get home and plug in your electric car, it will talk directly to your supplier and ask when it would be best – and cheapest – to charge.

“There’s a huge amount of optionality when that car charges. And I’m sure that you wouldn’t care when your car charges – as long as it’s ready, when you need it,” Mr Schoch said.

[Heating](#) would also be on a similar system, as could other appliances in the house. But Mr Schoch said heating and cars were the two biggest considerations.

The other thing is (the flexibility market’s) not just a ‘nice to have’. The system does not work without it. Because otherwise there’s no way to leave gas. And that means net zero doesn’t happen. That means everyone pays more for energy

Experts stressed that any individual user would be able to override the systems if they wanted and set the parameters of how it worked.

By managing demand and incentivising customers to be flexible about when they heated their homes and charged their cars, the country would use its wind turbines and solar panels in a smarter way.

This could mean fewer turbines would be needed, potentially saving billions of pounds that customers would all otherwise pay through their energy bills.

The same went for the cables themselves. By using the grid in a smarter way it could avoid the massive cost of laying new cables across half the country.

“There’s a lot of smart stuff that we can do to stagger and schedule these things. So that everyone is comfortable and all the cars are charged on time, without us having to dig up every single road in [Britain](#),” Mr Schoch said.

Ms Hubbard said: “What’s really special about the flexibility market is, the more people who opt in, it drives down the cost of the energy system for everyone.

“So this isn’t a repeat of the solar price incentives, where wealthy people who could afford solar panels had cheaper energy, and everyone else picked up the bill of the subsidies.”

She added: “The other thing is it’s not just a ‘nice to have’. The system does not work without it. Because otherwise there’s no way to leave gas. And that means net zero doesn’t happen. That means everyone pays more for energy.”