

Energy Saving Trust's response to the Department for Energy Security and Net Zero's call for evidence: Towards a more innovative energy retail market

Context:

The Department for Energy Security and Net Zero's Call for evidence asked respondents for their views on barriers to innovation in the energy retail market. There is broad consensus that the current retail market is unlikely to deliver the innovation required for a net zero energy system, however there is no consensus on the extent to which government intervention is needed or which interventions are required. The call for evidence specifically seeks views on aspects of retail market policy and the regulatory framework. The department is committing to a follow up consultation with policy proposals later in 2023.

1. **Are there elements of the retail market regulatory framework that currently restrict existing or potential retailers' ability to offer new products or services, or operate new business models?**

The evolving purpose of GB energy retail market

The GB energy retail market was designed more than 20 years ago to enable competition on price and customer service, with customers switching between energy suppliers to get the best deal. This purpose is reflected in the legislative and regulatory framework of the Utilities Act 2000¹ and subsequent legislation. Ofgem, the energy regulator for GB, has a statutory duty to protect customers, wherever possible by promoting competition².

Since the creation of the energy retail market, the UK has increased its efforts to reduce carbon emissions. The UK government has set a legal obligation to achieve net zero

¹ <https://www.legislation.gov.uk/ukpga/2000/27/contents>

² <https://www.ofgem.gov.uk/publications/our-powers-and-duties>

across the economy by 2050³ and the current UK government is aiming to decarbonise electricity generation by 2035 (subject to security of supply)⁴. The UK government has proposed targets to decarbonise home heating, with an objective of achieving 600,000 heat pump installations per year by 2028⁵. This target for home heating sits alongside GB-wide energy efficiency schemes such as the Energy Company Obligation and the Great British Insulation Scheme, as well as schemes such as the Home Upgrade Grant in England and the Social Housing Net Zero Heat Fund in Scotland. These schemes aim to target the worst of Great Britain's 15 million homes which are energy inefficient.⁶

The UK government is simultaneously seeking to decarbonise transport by switching to low emissions vehicles and phasing out new petrol and diesel cars by 2030⁷. The UK government and Ofgem also aim to enhance the flexibility available to the electricity system, including demand-side response from people and businesses with electric vehicles and heat pumps. This flexibility could provide up to £10 billion of value a year by 2050⁸. If energy retailers are to support the delivery of net zero over the next 27 years, then changes are required to the energy retail market.

Alongside achieving net zero, the constitutional framework in the UK has evolved. The current regulatory framework for the GB energy retail market was designed at a time of limited devolution across the nations of GB. There is now significantly more divergence in approach to energy and climate policy across the different parts of GB. While the UK government has set a net zero target for 2050, the Scottish government has set a net zero target for 2045⁹ and is increasingly using devolved powers in areas such as energy efficiency. The future GB energy retail market will need to accommodate different approaches in England, Scotland and Wales, while continuing to offer a framework across GB. Ensuring the energy retail market is competitive and innovative is even more important given the consolidation of the energy retail market over the last two years. Competition involves energy retailers competing on both price and the quality of

³ <https://www.legislation.gov.uk/ukdsi/2019/9780111187654>

⁴ <https://www.gov.uk/government/publications/british-energy-security-strategy/british-energy-security-strategy>

⁵ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1044598/6.7408_BEIS_Clean_Heat_Buildings_Strategy_Stage_2_v5_WEB.pdf

⁶ https://www.citizensadvice.org.uk/Global/CitizensAdvice/Energy/Home%20advantage_%20Unlocking%20the%20benefits%20of%20energy%20efficiency.pdf

⁷ <https://www.gov.uk/government/news/government-takes-historic-step-towards-net-zero-with-end-of-sale-of-new-petrol-and-diesel-cars-by-2030>

⁸ <https://www.gov.uk/government/publications/transitioning-to-a-net-zero-energy-system-smart-systems-and-flexibility-plan-2021>

⁹ <https://www.gov.scot/policies/climate-change/>

customer service, while innovation will provide products and services to drive the transition. Ofgem has recently set out that “the combined market share of the 6 largest suppliers had dropped to below 70% at the end of 2019, as the new entrants won market share, but has now returned to almost 90%”¹⁰. This is due to mergers and acquisitions over recent years. Enabling innovation in the energy retail market is particularly important as Ofgem has made it harder for new companies to enter the market with reforms such as increasing focus on financial resilience¹¹ and capital adequacy¹².

Potential barriers within the energy retail market

The GB energy retail market was not designed to deliver the changes that are required to achieve net zero by 2050, such as whole house retrofits, installation of new heating systems or time-of-use tariffs. These activities are essential to reducing carbon emissions but are somewhat peripheral in the current energy retail market design. To allow energy retailers to build the products necessary to achieve net zero, there are legislative and regulatory issues for the UK government to consider.

For instance, EU Directives required that a licensed energy supplier must offer terms to all domestic customers. This is reflected in Supply Licence Condition SLC 22.2, which states:

“Within a reasonable period of time after receiving a request from a Domestic Customer for a supply of electricity to Domestic Premises, the licensee must offer to enter into a Domestic Supply Contract with that customer.”¹³

This is a potential barrier to specialised energy retailers focusing on solely supplying electricity for electric vehicles or low carbon electric heating. These energy retailers need to offer terms to all domestic customers and cannot limit their products to those who buy their car or buy their heating system. We appreciate that removing this obligation entirely has drawbacks that would need to be addressed, as few energy suppliers may wish to supply customers with, for instance, bad credit history and for this reason we suggest that rather than being removed, that consideration is given to whether the obligation needs to apply in all circumstances (ice, specialist supply).

¹⁰ <https://www.ofgem.gov.uk/publications/development-competition-framework-domestic-retail-market>

¹¹ <https://www.ofgem.gov.uk/publications/decision-strengthening-financial-resilience>

¹² <https://www.ofgem.gov.uk/publications/decision-introducing-minimum-capital-requirement-and-ringfencing-customer-credit-balances-direction>

¹³ <https://www.ofgem.gov.uk/sites/default/files/2023-03/Electricity%20Supply%20Standard%20Consolidated%20Licence%20Conditions%20-%20Current.pdf>

Similarly, heat as a service is more difficult to deliver because energy suppliers are required to bill for electricity and gas in kWh (rather than, for instance, committing to deliver a certain degree of comfort which is what heat as a service proposes to deliver).

Under the current regulatory and legislative framework, it is difficult for energy suppliers and flexibility providers such as aggregators to demonstrate the carbon savings from people or businesses who use electricity flexibly. One of the potential issues is that energy suppliers can claim that they provide 100% renewable electricity by purchasing Renewable Energy Guarantees of Origin (REGO) certificates. This is permitted by a combination of the Electricity (Fuel Mix Disclosure) Regulations 2005¹⁴ and Ofgem's regulation of Supply Licence Condition 21D around "additionality" of "tariffs with environmental claims"¹⁵. This means that consumers may not get a clear reflection of the carbon intensity of the electricity they use. There's currently no requirement for energy retailers to provide consumers with the actual carbon intensity of electricity used (as measured by the Electricity System Operator).

The legislative framework of the Electricity Act 1989 and Gas Act 1986 requires that electricity supply is a licensable activity by Ofgem (with minor exceptions for exempt supply and reselling)¹⁶. This framework reduces the ability for energy retailers to offer consumers peer-to-peer services, e.g., where someone sells their solar power to a neighbour. It is also not possible today for people or businesses to have multiple suppliers, meaning that it is not possible to have separate energy suppliers for their energy smart appliances (such as their Electric Vehicle (EV), heat pump or heat battery). Ofgem established 8 years ago¹⁷ that the legislative and regulatory framework created barriers for non-traditional business models to enter the GB retail market. The supplier hub principle (which is set out in primary legislation, the supply licence and industry codes), means that energy suppliers are responsible for collecting payment for the whole industry, including network charges, policy costs and wholesale costs. This involves complying with around 500 pages of licence conditions and more than 10,000 pages of industry codes (such as the Smart Energy Code, the Balancing and Settlement Code and The Distribution Connection and Use of System Agreement (DCUSA)). This combination of the supplier hub principle and the complexity and volume of rules

¹⁴ <https://www.legislation.gov.uk/ukxi/2005/391/contents/made>

¹⁵ <https://www.ofgem.gov.uk/industry-licensing/licences-and-licence-conditions>

¹⁶ https://www.ofgem.gov.uk/sites/default/files/docs/2019/02/introduction_to_the_supply_licences_0.pdf

¹⁷ <https://www.ofgem.gov.uk/publications/non-traditional-business-models-supporting-transformative-change-energy-market>

makes it more difficult for small companies with a very local focus to enter the energy market. Community energy schemes may successfully raise and deploy capital to build generation assets for self-consumption, e.g., solar panels could be installed on the roof of a school for use by the school. But it is not possible for the community energy scheme to sell any surplus electricity to neighbouring properties without becoming a licensed supplier. Similarly, a company such as Ripple Energy¹⁸ builds wind turbines but must work with one or more licensed energy suppliers to sell that electricity to people. It is not possible for companies like Ripple Energy to sell that electricity directly to people without becoming a licensed supplier.

Potential changes to enhance the energy retail market

As set out above, the future GB energy retail market will need to facilitate the transition to net zero and accommodate varying approaches to achieving net zero across England, Scotland and Wales. This will mean ensuring sufficient agility in the energy retail market to reflect divergence on the delivery of energy efficiency schemes, the design of EPCs and other policy areas. We suggest some areas for potential changes to the legislative and regulatory framework below. However, throughout these changes it is essential that these are designed around people, around the homes and businesses that use the system rather than asking people to fit around an energy system that the industry designs itself.

Community energy

The UK government could look to amend the legislative framework to allow community energy schemes to ringfence local supply from renewable energy projects such as solar or wind. There are different approaches available, each with pros and cons. For instance, this could take the form of a narrow and shallow regional licence or even additional licence exemptions, building on Ofgem's experience of the "licence lite" approach¹⁹. This would involve changes to the universal service obligation. We expect that Ofgem would retain regulatory oversight of at least some aspects of this community energy supply. Similarly, the UK government could make it easier for energy retailers to provide heat as a service, focusing on comfort delivered rather than billing in kWh.

¹⁸ <https://rippleenergy.com/>

¹⁹ https://www.ofgem.gov.uk/sites/default/files/docs/2015/04/482_an_introduction_to_licence_lite_factsheet_w eb_0.pdf

Multiple/specialist supply

The UK government could look to explore whether multiple suppliers could provide electricity to a single property. This could open innovation from manufacturers of electric vehicles or heating systems and those seeking to offer heat or transport as a service. If multiple suppliers were able to provide electricity to a single property, this would require reform of the supplier hub principle. At present if new entrants only provided electricity for an EV or heating system, then they would need to pay for their share of their meter asset, the use of the distribution system, balancing and other industry costs, as well as their share of Renewable Energy Guarantees of Origin (REGOs), Renewables Obligation Certificates (ROCs) and other policy costs, as well as procuring the electricity consumed. To allow multiple suppliers to a single property, the UK government could consider building on the existing approach developed through industry code modifications P375²⁰ and P415²¹. These allow the services that interact directly with consumers (Virtual Lead Parties) to trade flexibility (e.g., whether people have turned up or down), while an electricity supplier remains ultimately responsible for the meter point.

Northern Ireland

While the evidence provided here focuses on the GB energy retail market, many of the principles are relevant to the design and operation of the energy market in Northern Ireland.

2. What, if any, alternative routes to market should we be considering further? Do these differ for domestic and non-domestic supply markets?

The energy retail market was not designed 20 years ago to deliver changes that are required to achieve net zero by 2050, such as whole house retrofits, installation of new heating systems or time-of-use tariffs. These activities are essential to delivering net zero but are somewhat peripheral in the current retail market design. To allow energy retailers to build the products that are necessary to achieve net zero, there are legislative and regulatory issues for the UK government to address. We have provided examples of barriers and opportunities in our evidence to question 1.

²⁰ <https://www.elexon.co.uk/mod-proposal/p375/>

²¹ <https://www.elexon.co.uk/mod-proposal/p415/>

3. What, if any, changes could be made to improve existing routes to market that do not require obtaining a supply licence?

No comment

4. What improvements could be made to the current funding and testbed landscape for innovation? Is this sufficiently targeted at enabling the development of new energy supply propositions?

No comment

5. What role could retailers play in deploying the capital investment needed for net zero? Do retailers have the right incentives to support investment in net zero technologies?

The scale and speed of change required to decarbonise buildings and heating systems over the coming years is significant. For instance, 86% of homes in England use natural gas for space heating and hot water²², with similar levels of fossil fuel heating in Scotland²³ and Wales. Electrifying heat in homes and businesses will have a major impact on the UK electricity grid. To give a sense of the speed of the transition, UK Power Networks, a Distribution Network Operator, forecasts that its network will see a 26-fold increase in heat pumps from 27,000 today to 712,000 by 2028²⁴. The uptake in electric vehicles is expected to occur even more quickly, with the Climate Change Committee (CCC) expecting accelerated uptake of EVs (both battery electric and plug-in hybrids) from 400,000 in 2022 to 23.2 million by 2032²⁵.

Capital required to finance the transition

The capital required to finance this transition is significant. For instance, the Electrification of Heat project suggested that heat pump installations cost £14,800 on average²⁶ (not including the Boiler Upgrade Scheme which would reduce the cost by £5,000). The UK government aims for cost parity between heat pumps and gas boilers by 2030, with significant cost reductions of at least 25-50% by 2025 and ensuring heat

²² <https://www.gov.uk/government/publications/heat-and-buildings-strategy>

²³ <https://www.gov.scot/publications/heat-buildings-strategy-achieving-net-zero-emissions-scotlands-buildings/>

²⁴ https://innovation.ukpowernetworks.co.uk/wp-content/uploads/2022/05/UKPN_029_HeatStrategy_v05.pdf

²⁵ <https://www.theccc.org.uk/wp-content/uploads/2020/12/The-UKs-transition-to-electric-vehicles.pdf>

²⁶ <https://es.catapult.org.uk/report/electrification-of-heat-home-surveys-and-install-report/>

pumps are no more expensive to buy and run than boilers by 2030²⁷. Costs are falling through innovation, scaling up of manufacturing and increased competition, with the average cost of an air source heat pump reported by the MCS as of September 2023 down to £12,438²⁸. It is also worth noting that only a proportion of the cost relates to the installation of the heat pump, with other one-off costs arising because of the change to low temperature heating (below 55C). Those one-off costs would not need to be repeated at the end of the life of the heat pump.

However, even if installation and running cost reductions are achieved for electrification of heat by 2030, the capital costs of the transition would remain significant for people and businesses purchasing new heating systems, solar panels, EV chargers and EVs. The up-front cost of these new products for many people is likely to require financing or grant support, even where there are significant savings to be made after installation (particularly for solar panels and batteries). Energy retailers may partner with financial institutions such as banks and building societies. Nesta has explored different financing options²⁹ and the UK government is working with mortgage lenders and banks to take a more prominent role in financing the transition through low-interest loans³⁰. Similarly, the Scottish Government has established a Green Heat Finance Taskforce³¹. There may also be a role for government support. For instance, the Scottish Government offers 0% interest loans alongside grants for technologies such as heat pumps and the combined effect is more impactful than the Boiler Upgrade Scheme³².

If energy retailers are to install products such as heat pumps, EVs and solar panels, they will need to invest in skills and training of their own staff alongside the broader installation base. The CCC projects that an additional 200,000 technicians will be required by the late 2020s to deliver the number of green heating and insulation installations needed to make sufficient progress towards achieving net zero³³.

At the moment, there is no requirement within the regulatory or legislative framework for energy suppliers to invest in solutions to achieve net zero. Instead, the framework

²⁷https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1044598/6.7408_BEIS_Clean_Heat_Buildings_Strategy_Stage_2_v5_WEB.pdf

²⁸ [The MCS Data Dashboard - MCS \(mcs-certified.com\)](https://www.mcs-certified.com/)

²⁹ <https://www.nesta.org.uk/project/green-finance-to-upgrade-homes/>

³⁰ <https://www.gov.uk/government/news/mortgage-rate-cut-for-energy-efficient-homes-under-government-backed-trials>

³¹ <https://www.gov.scot/groups/heat-in-buildings-green-heat-finance-taskforce/>

³² <https://www.homeenergyscotland.org/funding/grants-loans/>

³³ https://assets.publishing.service.gov.uk/media/6475f1685f7bb7000c7fa176/Consumer_protection_in_the_green_heating_and_insulation_sector_-_Final_report.pdf

requires all energy suppliers to charge customers for policy costs that support renewables such as the Renewable Obligation (RO), Feed-In Tariff (FiT) and Contracts for Difference (CfDs). Beyond the targeted Energy Company Obligation and the broader Great British Insulation Scheme, which focus on the most energy inefficient properties occupied by the fuel poor, the regulatory framework does not require energy suppliers to decarbonise homes. There is also no requirement on suppliers to offer flexible tariffs to reduce carbon intensity.

Providing high quality advice on decarbonisation

If energy retailers are to help decarbonise homes through energy efficiency and heating system upgrades, then they must provide high quality advice. Energy retailers will increasingly need to provide or signpost to impartial advice services to help people choose which products to purchase for their homes. This may include packages of energy efficiency and heating system upgrades, as well as solutions such as solar, batteries and EV chargers. Energy retailers will need to consider what is best for the building, what works best for the building's occupant or occupants and what tariff works best with the product or products purchased.

Under the current regulatory framework, energy suppliers have very limited obligations around the provision of energy efficiency advice. One supply licence condition (SLC 31G.2) states that the energy supplier:

“...must ensure that each Domestic Customer is provided, as appropriate in the circumstances, with information in a Form and at a frequency that is sufficient to enable that Domestic Customer to quickly and easily understand... (b) how to access appropriate assistance and advice. This includes information about: (i) debt prevention and management; (ii) improving energy efficiency, including management of electricity consumption and associated costs; and (iii) social, financial and energy efficiency programmes.”

Many energy suppliers comply with this obligation by publishing general information or guidance for consumers and then publish blogs with recommendations such as closing curtains early in winter. There is no requirement on energy suppliers to provide advice about the most impactful long-term solutions such as installing insulation or upgrading heating systems. Similarly, there is currently no requirement on energy suppliers to provide advice to business customers on decarbonisation and energy efficiency. The regulatory framework could require energy retailers to signpost to organisations who have the skills to provide high quality advice. Energy efficiency advice is not an area for

competition between energy retailers. To make these changes confidently, people need consistent, comprehensive, independent and tailored advice that offers them clear direction and support to help them better insulate their homes to reduce the energy they need to use. Whichever organisation or organisations provide this advice, we encourage consistency. For instance, the UK government could look to the French model of syndicated energy efficiency advice. For more detail on the importance of UK government funded impartial advice and the advice services already offered in Scotland, please see our answer to question 9.

The licence obligations on energy suppliers are currently split between focusing on management of electricity consumption and management of gas consumption. This means that an energy supplier can comply with the gas licence by recommending a condensing boiler or lowering the flow temperature of a boiler and can comply with the electricity licence by recommending solutions such as installing LED lighting. There is no incentive to encourage people to switch from gas boilers to electric heating, despite the three-fold reduction in energy consumption across the whole system when switching to a well-installed heat pump³⁴. A similar benefit in reduced overall energy consumption through enhanced efficiency is seen in transport when shifting from petrol or diesel to electric vehicles³⁵. The regulatory framework requires a whole system approach.

Reducing energy consumption

The UK government could explore changing the incentives on existing energy retailers in relation to reducing energy consumption. Under the current regulatory framework, energy suppliers increase profits with every unit of electricity or gas sold. While the profit motive drives innovation and is a fundamental part of competition, there is no countervailing incentive within the regulatory framework to reduce gas and electricity consumption. The UK government could consider how the legislative and regulatory framework could be amended so that energy retailers facilitate reducing energy demand. This could consider both the energy efficiency of buildings and products such as electric vehicles and heat pumps that are more efficient than fossil fuel systems. There are different ways that the legislative and regulatory framework could incentivise energy retailers to achieve this outcome.

³⁴ <https://es.catapult.org.uk/report/comparison-of-heat-pump-and-gas-boiler-running-costs/>

³⁵ <https://www.theccc.org.uk/wp-content/uploads/2021/07/Zero-Emissions-Vehicles-Briefing-CCC.pdf>

There is already a precedent in other markets of a ratcheting mechanism for electric vehicles³⁶ and for heat pumps³⁷, where standards become tighter over time. The UK government explored a similar mechanism when designing the Energy Company Obligation in 2012³⁸. More recently, the team working on the Review of Electricity Market Arrangements (REMA) has considered a Supplier Obligation that would require energy retailers to purchase an increasing proportion of renewable electricity³⁹. These approaches could be revisited as part of redesigning the energy retail market, and the UK government could consider whether such mechanisms would support the UK government's target of reducing total UK energy demand by 15% by 2030⁴⁰.

Completing supporting industry reforms

To deliver on these ambitions and ensure a smart and flexible energy market in the future, the UK government and Ofgem should introduce market-wide half-hourly settlement (see evidence provided in response to questions 10 and 11) and complete the smart meter roll-out. Completing these industry programmes would facilitate energy retailers in providing accurate information about the actual carbon intensity of electricity consumed. Delivery of these reforms will enable energy retailers to offer more dynamic tariffs that support heat pumps, electric vehicles and other energy smart appliances.

Transparency of carbon impact

Finally, under the current regulatory and legislative framework, it is difficult for energy retailers and flexibility providers to demonstrate the carbon savings from using electricity flexibly. There is no agreed or consistent mechanism for quantifying the carbon emissions saving from a user reducing consumption for a particular half hour period at a particular location. Without this, the carbon savings from flexibility services, technologies and behavioural change cannot be quantified. Using conventional carbon

³⁶ <https://www.gov.uk/government/consultations/policy-design-features-for-the-car-and-van-zero-emission-vehicle-zev-mandate/outcome/government-response-and-outcome-to-technical-consultation-on-zero-emission-vehicle-mandate-policy-design>

³⁷ <https://www.gov.uk/government/consultations/clean-heat-market-mechanism>

³⁸ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/66561/7075-electricity-demand-reduction-consultation-on-optio.pdf

³⁹ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1098100/review-electricity-market-arrangements.pdf

⁴⁰ <https://www.gov.uk/government/news/government-announces-team-of-leading-experts-to-boost-energy-efficiency>

accounting, with a single fixed carbon factor for electricity supply, will suggest an emissions increase despite the known overall carbon savings for the whole system.

The picture is further muddled by the fact that energy suppliers can claim that they provide 100% renewable electricity, with the implication that their customers are using electricity with no associated carbon emissions. This is permitted by a combination of the Electricity (Fuel Mix Disclosure) Regulations 2005 and Ofgem's regulation of Supply Licence Condition 21D around "additionality" of "tariffs with environmental claims". 100% renewable supply claims are particularly questionable when supported partly or totally by the purchase of Renewable Energy Guarantees of Origin (REGO) certificates. Recent research by Cornwall Insight for OVO Energy has determined that the use of REGOs is very unlikely to have led to any increase in renewable electricity generation in the UK.⁴¹

The framework could evolve by tightening rules around additionality, for example by specifying that only energy suppliers making significant investments in renewables can claim a tariff is 100% renewable. However, this would not address the issue that any renewables tariff implies zero carbon electricity supply, which is in direct conflict with any attempt to determine the carbon impact of actions either to reduce electricity consumption or to change the timings of consumption to times of lower grid carbon intensity.

The market for green and 100% renewable tariffs needs increased transparency so consumers can understand what they are buying, but it also needs to be separated from carbon accounting and footprinting. This could be addressed partly by the publication of good practice guidance on emissions reporting stating that geographical carbon factors should be used, rather than market-based factors, with the option to report the use of green tariffs separately, so as not to undermine their attractiveness and market value.

Alongside this, the introduction of a GB wide (and potentially an Ireland wide) mechanism for determining the half hourly incremental carbon impact for an increase or decrease in demand would provide suppliers and aggregators with opportunities for developing and marketing new green tariffs and products that genuinely support both flexible demand side response and overall demand reduction, while contributing to improved carbon reporting rather than undermining it.

⁴¹ https://www.cornwall-insight.com/wp-content/uploads/2023/04/OVO-Energy-Ltd-REGOs-and-Decarbonisation.pdf?utm_source=website&utm_medium=website

6. Are existing retailers considering partnering with other organisations to deliver low carbon technologies to consumers? Are there any regulatory barriers to retailers partnering with non-licensed entities?

No comment

7. How can the retail market play an active role in unlocking flexibility in the energy system?

Reaching net zero by 2050 will require a significant expansion of GB's electricity system, including the cables and wires and the assets attached to them. Flexibility in electricity consumption is crucial to help meet this demand cost-effectively and realise numerous other benefits⁴². Electrifying heat and transport without flexibility could see peak demand in winter increase four times by 2050. With energy efficiency upgrades and flexibility, National Grid ESO's Future Energy Scenarios (FES) sees winter peak demand doubling from around 57.7GW today to somewhere between 97.5GW and 114.2GW in 2050⁴³. Much of the additional peak demand will come from electrified heating⁴⁴. National Grid ESO estimates in this year's FES that "between 10–12 GW of heat demand could be flexibly managed in 2050 from the residential sector alone"⁴⁵.

Ofgem and the UK government have estimated that flexibility could provide up to £10 billion of value a year by 2050⁴⁶. Energy retailers have an important role to play in:

- participating in and promoting National Grid ESO's turndown Demand Flexibility Service⁴⁷
- developing time-of-use tariffs that make the most of low carbon flexibility products
- advising people to find the best flexible tariff for their electricity consumption
- installing low carbon flexibility products

Energy advice for flexibility requires providing advice on how to combine flexible technologies with tariffs that reward that flexibility. This includes advising people on the best time-of-use tariff for a collection of products such as heat pumps, solar and EVs.

⁴² <https://publications.carbontrust.com/flex-gb/>

⁴³ <https://www.nationalgrideso.com/future-energy/future-energy-scenarios>

⁴⁴ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1096248/electricity-networks-strategic-framework-appendix-1-electricity-networks-modelling.pdf

⁴⁵ <https://www.nationalgrideso.com/future-energy/future-energy-scenarios>

⁴⁶ <https://www.gov.uk/government/publications/transitioning-to-a-net-zero-energy-system-smart-systems-and-flexibility-plan-2021>

⁴⁷ <https://www.nationalgrideso.com/industry-information/balancing-services/demand-flexibility-service-dfs>

For more detail on the importance of UK government funded impartial advice and the advice services already offered in Scotland, please see our answer to question 9.

Unlocking flexibility requires market-wide half-hourly settlement (see our answers to questions 10 and 11 for more information) and completing the smart meter roll-out. Energy retailers are key to delivering these flexibility-enabling programmes. There may be a role for energy retailers in encouraging people to turn up or turn down their electricity consumption. This could build on trials such as those by UK Power Networks⁴⁸ rewarding people for turning up consumption at times of high renewables generation and by National Grid ESO⁴⁹ rewarding people for turning down electricity consumption at peak times.

There is also an opportunity to improve the design and information provided by Energy Performance Certificates (EPCs) to better recognise the flexibility potential of each property. For instance, EPCs do not currently recognise the value of flexible assets such as batteries, solar, EVs, heat pumps and heat batteries. EPCs could consider the ability of homes to provide flexibility⁵⁰. The UK government could incorporate flexibility within EPCs when moving to SAP11 and through the adoption of the Future Homes Standard. We encourage the UK and Scottish governments to improve the information provided within EPCs, reforming SAP and rdSAP where required.

To unlock flexibility, energy retailers – both energy suppliers and aggregators – will also need to work with the UK government, Ofgem and others to build a common digital infrastructure⁵¹. This, in combination with the flexible carbon factor methodology mentioned in our answer to question 5, will enable demand flexibility to participate in the electricity market in the same way as generation.

Finally, there is a role for energy retailers to engage with businesses to unlock flexibility. This may include:

- promoting National Grid ESO's Demand Flexibility Service to small businesses
- increasing tariff transparency
- offering time-of-use tariffs to small businesses

⁴⁸ <https://octopus.energy/press/free-whizz-octopus-launches-power-ups-free-energy-when-the-sun-shines-and-the-wind-blows/>

⁴⁹ <https://www.nationalgrideso.com/industry-information/balancing-services/local-constraint-market>

⁵⁰ <https://www.elementaldigital.co.uk/epcs-must-consider-the-flexibility-of-a-building/>

⁵¹ <https://www.ofgem.gov.uk/energy-policy-and-regulation/policy-and-regulatory-programmes/energy-data-and-digitalisation>

- helping small businesses to purchase low carbon flexible assets

There are currently few time-of-use tariffs available to small businesses and there was limited business participation in last year's Demand Flexibility Service (see evidence in question 9 for more information).

8. How can retailers actively encourage and support consumers to engage in flexible consumption behaviour (including through automation and remote control of smart devices)? What barriers currently prevent retailers from doing so?

Energy retailers can provide advice to people and businesses about flexible electricity tariffs and products to purchase for their buildings. This may include packages of energy efficiency and heating system upgrades, as well as solutions such as solar, batteries and EV chargers. Energy retailers will need to consider both what is best for the building, what is best for the occupants and what tariff works best with the product or products purchased. Alternatively, the regulatory framework could require energy retailers to signpost to organisations who have the skills to provide high quality advice. For more detail on the importance of UK government funded impartial advice and the advice services already offered in Scotland, please see our answer to question 9.

Whoever provides the advice on which products to purchase, energy retailers will need to develop simple frontend software to help people use products such as heat pumps, batteries and EVs. We cannot expect people and businesses to manually intervene to reduce or increase their energy use. Products such as batteries, EVs, heat pumps and heat batteries can already be set to operate at scheduled times. These charge and discharge times must work in tandem with smart time-of-use tariffs offered by enter retailers. There is likely to be role for automation of these processes.

Some people will require more support than others through the transition. Citizens Advice has identified that people may struggle to engage with flexibility because of factors such as digital exclusion, low literacy, low English language skills and cognitive impairments⁵². Citizens Advice interviewed stakeholders offering smart products, who were keen to make their products easy to use and welcomed guidance on tackling accessibility barriers. There is also a need to expand participation in flexibility. Citizens

⁵² <https://www.citizensadvice.org.uk/about-us/our-work/policy/policy-research-topics/energy-policy-research-and-consultation-responses/energy-policy-research/powering-up-participation-a-guide-to-making-smart-energy-technology-more-inclusive/>

Advice has identified that those participating in the Demand Flexibility Service were typically older, White British, on a higher income or homeowners⁵³.

9. What lessons can be learnt from the success of the ESO's Demand Flexibility Service with respect to encouraging consumers to engage in flexible behaviour?

During winter 2022-23, the National Grid Electricity System Operator (ESO) set up and ran the Demand Flexibility Service (DFS). While the DFS was established very quickly and with limited promotion by most energy suppliers, over 1.6 million people signed up to provide flexibility to help manage the electricity system. DFS delivered 3,300MWh in electricity reductions at peak times across the 22 events, which is equivalent to the amount of electricity that 9.9 million households would use at peak times across a single hour.⁵⁴ The initiative showed the willingness of consumers to take an active role in using energy more flexibly which reduces wholesale electricity costs for everyone, even for those who don't or aren't able to participate.

With Cornwall Insights⁵⁵ estimating that household flexibility could deliver an annual saving of £14.1 billion/year in 2040 for consumers and the energy system, we welcome the decision for the DFS to run again during winter 2023/24. This values the flexibility that people can provide to the electricity grid, rewarding them for adjusting their behaviour. As we electrify heat and transport, demand side flexibility will become an increasingly important part of the electricity system and it is therefore important that National Grid ESO works to evolve the DFS into an enduring flexibility service, considering transmission and distribution constraints.

More work is needed to understand how best to reward and protect people offering flexibility. During winter 2023/24, National Grid ESO should repeat the consumer research undertaken for participants in the DFS during winter 2022/23, as this data will be able to provide key insights, such as how people adjusted their demand. We also support the recommendation from the Centre for Net Zero to require supplier participation in the DFS. The consumer research should also explore any regional variations in participation

⁵³ <https://www.citizensadvice.org.uk/about-us/our-work/policy/policy-research-topics/energy-policy-research-and-consultation-responses/energy-policy-research/a-flexible-future-extending-the-benefits-of-energy-flexibility-to-more-people/>

⁵⁴ https://www.cornwall-insight.com/wp-content/uploads/2023/08/The-power-of-flex-Rewarding-smarter-energy-usage-1.pdf?utm_source=website&utm_medium=website

⁵⁵ [The-power-of-flex-Rewarding-smarter-energy-usage-1.pdf \(cornwall-insight.com\)](https://www.cornwall-insight.com/wp-content/uploads/2023/08/The-power-of-flex-Rewarding-smarter-energy-usage-1.pdf)

in the DFS as this would help Distribution System Operators and energy suppliers to understand where demand may be more responsive to price signals.

As the energy crisis has hit small businesses the hardest, National Grid ESO should consider how to maximise the potential flexibility they are able to provide. This may include promoting the scheme with business groups, as well as non-domestic suppliers. There are currently few time-of-use tariffs available to small businesses). Ofgem should explore whether energy suppliers are offering tariffs that reward small businesses for providing flexibility.

Two further policies should also be implemented that proven successful in other countries at getting consumers to engage with flexibility:

- **Communication campaign**

In response to the energy price crisis, most European countries – particularly through the winter of 2022 – launched government communications to inform citizens about the energy saving actions they could take, framed as an urgent national priority. Many were highly effective.⁵⁶ Whilst the UK Government ran the “It All Adds Up” campaign⁵⁷ to encourage households to carry out actions and behaviours that would help cut their energy costs, there are significant lessons to be learned from international responses. Most notably, reducing energy demand should be at the centre of any communications. Following the French example, a behaviour change campaign focused on engaging households and businesses with a national energy demand reduction target could offer significant benefits. France has already achieved the 12% reduction it set out in Phase 1 of its “energy sufficiency” campaign. The UK Government has a national energy saving target of 15% by 2030, but there is low public awareness of this. Instead, that target could be at the centre of a wide public behaviour change campaign with progress towards the target monitored and reported on.

- **Personalised advice**

Whilst the energy crisis increased homeowners’ awareness of the benefits of energy efficiency, many would have encountered significant barriers if looking to make changes to their homes. The current retrofit process is complex and confusing, leaving

⁵⁶ <https://www.theccc.org.uk/publication/climate-policy-that-cuts-costs-international-policy-comparison-energy-saving-trust-green-alliance/>

⁵⁷ <https://www.gov.uk/government/news/small-changes-mean-energy-advice-campaign-adds-up-to-big-savings>

people unsure where to start or where to go for trusted information for which measures might be suitable for their property. To make these changes confidently households need consistent, comprehensive, independent and tailored advice that offers them clear direction and support to help them better insulate their homes to reduce the energy they need to use.

This is particularly the case for households in England where advice provision is currently patchy and depends on the existence of local support services. It is not surprising that the delivery of energy efficiency policy is variable and patchy across the UK. We know from our work delivering advice programmes in Scotland, including the Home Energy Scotland (HES)⁵⁸, that free, impartial and tailored advice can have a positive impact on the rollout of retrofit and low carbon technologies by offering a consistent, reliable approach and a simple consumer journey. It is available to householders (owner occupiers, tenants) and smaller private landlords.

Each year the network helps more than 130,000 customers in Scotland. The lifetime carbon saved by customers using the network in 2021/22 is estimated to be more than 496,000 tonnes CO₂, and total lifetime energy bill savings from the network since its inception are estimated to be well over a billion pounds. The advice is delivered online, by phone and in person, helping to overcome the behavioural and financial barriers to the installation of energy efficiency improvements and renewable home heating. It works alongside existing advice providers with strong referral paths into and out of the service, offering a simple customer journey. After receiving advice from a HES adviser, 47% of customers had installed at least one energy efficiency, low carbon heat or renewable energy improvement and 38% of customers were planning to install at least one improvement in the next 12 months. Of the measures installed, among the top five that were attributed to HES advice in 2021/2 were air source heat pumps, solar PV and loft insulation.⁵⁹

In response to the energy crisis, other countries around the world introduced policies that aimed to cut both costs and carbon emissions.⁶⁰ When looking at the international advice landscape a key feature of successful schemes is offering all households tailored and impartial advice. For example, France's large-scale, wrap-around retrofit scheme was set up in 2022 (building on existing initiatives) and offers comprehensive

⁵⁸ <https://www.homeenergyscotland.org/funding/grants-loans/>

⁵⁹ [EST-Supporting-Scotlands-Green-Ambitions.pdf \(energysavingtrust.org.uk\)](https://www.energysavingtrust.org.uk/EST-Supporting-Scotlands-Green-Ambitions.pdf)

⁶⁰ <https://www.theccc.org.uk/publication/climate-policy-that-cuts-costs-international-policy-comparison-energy-saving-trust-green-alliance/>

support and financial assistance programme for homeowners. In 2022 alone, 670,000 renovated homes were delivered, including the installation of 156,000 heat pumps. The service also offers joined up support for owner occupiers to act on a range of energy saving measures with online tools, assessments, retrofit management support and lists of accredited installers. France's advice service has considered the customer journey and sought to make this simple wherever possible. The provision of personalised expert advice ensures that households install the right measures for them and can be confident in the benefit these will deliver.

10. Do developments since the original MHHS decisions bring with them any new expectations for the benefits and/or risks of the transition to this new settlement process?

Ofgem decided in April 2021 to introduce market-wide half-hourly settlement (MHHS) for import and export MPANs (Meter Point Administration Numbers), with the programme completing in October 2025⁶¹. Ofgem forecast that MHHS will deliver net benefits to GB consumers of up to £4.5 billion from 2021-45 through introduction of new tariffs and innovations that encourage and enable more flexible use of energy. In June 2023, Ofgem delayed the migration date by one year, pushing back implementation of MHHS to October 2026⁶².

The case for MHHS has not changed in the last two years. Without MHHS, there is less incentive for energy suppliers to provide time-of-use tariffs that reflect the real cost of the electricity system and/or for people to purchase flexible assets.

Consolidation of the energy retail market in the last two years makes it easier to deliver implementation of MHHS because there are fewer small suppliers and there is less risk of disruption through market exit. Ofgem has recently stated that "the combined market share of the 6 largest suppliers had dropped to below 70% at the end of 2019, as the new entrants won market share, but has now returned to almost 90%"⁶³. This means there are fewer small suppliers, making coordinating delivery of industry system improvements more straightforward. The suppliers left in the market are also more financially resilient (and less likely to leave the market) due to Ofgem's increased focus on financial

⁶¹ <https://www.ofgem.gov.uk/publications/electricity-retail-market-wide-half-hourly-settlement-decision-and-full-business-case>

⁶² <https://www.ofgem.gov.uk/publications/decision-market-wide-half-hourly-settlement-change-request-cr022-mhhs-programme-replan>

⁶³ <https://www.ofgem.gov.uk/publications/development-competition-framework-domestic-retail-market>

resilience⁶⁴ and capital adequacy⁶⁵. These twin developments make coordinating the transition of 33 million MPANs to MHHS easier and less risky.

11. Do you expect MHHS to impact on the tariffs retailers offer in the market? Why? When do you expect to see these changes (ie pre-2025, during the transition to MHHS, or after the full migration of customers)? Can you provide examples?

Yes, we expect that MHHS will impact on the tariffs that energy retailers offer in the market. MHHS incentivises suppliers to offer time-of-use tariffs. This is because the implementation of MHHS more directly links electricity consumption to the costs faced by energy retailers. MHHS creates greater incentives for energy suppliers to understand their individual customers' consumption patterns and to develop tariffs that reward people consuming electricity at cheaper (and greener) times of the day. These time of use tariffs should also encourage people to purchase flexible assets as they receive financial rewards for flexing when they consume electricity.

We expect that time-of-use tariffs will become more prevalent after the migration of customers to MHHS is completed. Energy suppliers are beginning to offer time-of-use tariffs to people with energy smart appliances such as electric vehicles, low carbon heating or batteries. Many of these tariffs are described as trials or beta products. The tariffs are likely designed based on elective half-hourly settlement and to increase energy suppliers' understanding of flexibility ahead of the move to MHHS.

We encourage Ofgem to prioritise and deliver MHHS as soon as possible.

12. Do retailers have access to the datasets and digital tools necessary to develop and offer innovative tariffs, once MHHS is in place? What are the barriers?

No comment

13. Across this innovation-focused section as a whole, have we captured the main barriers and opportunities for the energy retail market to play a greater role in the wider transformation of the energy system? Which of these barriers to innovation is the most important?

The call for evidence captures many of the barriers and opportunities for the energy retail market. The most fundamental opportunity is to redefine the GB energy retail

⁶⁴ <https://www.ofgem.gov.uk/publications/decision-strengthening-financial-resilience>

⁶⁵ <https://www.ofgem.gov.uk/publications/decision-introducing-minimum-capital-requirement-and-ringfencing-customer-credit-balances-direction>

market away from a narrow focus on competition over price and customer service and towards supporting the transition to net zero across England, Scotland and Wales. We note additional opportunities and barriers below.

Opportunities

Additional opportunities highlighted in this evidence include:

- Energy retailers – both energy suppliers and aggregators – will need to work with the UK government, Ofgem and others to build a common digital infrastructure⁶⁶. This will enable demand flexibility to participate in the electricity market in the same way as generation.
- Some people will require more support than others to provide flexibility. Citizens Advice has identified that people may struggle to engage with flexibility because of factors such as digital exclusion, low literacy, low English language skills and cognitive impairments⁶⁷. Citizens Advice interviewed stakeholders offering smart products, who were keen to make their products easy to use.
- Changing what is required of existing energy retailers to improve their focus on energy efficiency and building decarbonisation. (See our response to question 3.)

Barriers

Additional barriers highlighted in this evidence include:

- It is difficult for energy retailers and flexibility providers to demonstrate the carbon savings from using electricity flexibly. There is a need for a common accounting methodology for carbon emissions from the use of grid electricity that takes account of where and when the electricity is being used, and what impact an increase or decrease in that would have on total carbon emissions from grid supply.
- It is difficult for energy retailers to offer products targeted at specific types of electricity consumption, eg, electricity used for transport or heating, or specific locations, eg, for community energy projects (see our answer to question 1).

⁶⁶ <https://www.ofgem.gov.uk/energy-policy-and-regulation/policy-and-regulatory-programmes/energy-data-and-digitalisation>

⁶⁷ <https://www.citizensadvice.org.uk/about-us/our-work/policy/policy-research-topics/energy-policy-research-and-consultation-responses/energy-policy-research/powering-up-participation-a-guide-to-making-smart-energy-technology-more-inclusive/>

- Barriers to retailers encouraging flexible consumption include the Energy Performance Certificate (EPC). (See our answer to question 9.)

We recommend that the UK government addresses these barriers and opportunities as it reforms the energy retail market.

14. Are there further ways through which a more innovative market could improve outcomes for consumers? Please provide examples of specific retail propositions or new technologies.

There are ancillary benefits to the transition to net zero that energy retailers can support. For instance, moving from gas to electric heating solutions, particularly heat pumps, will reduce total energy demand. This is because heat pumps are around three to four times more efficient than condensing gas boilers. A gas boiler may require around 10,000 kWh of energy per year for space heating and hot water, while the equivalent of heat pump would require around 3,000 kWh. A similar benefit in reduced overall energy consumption through enhanced efficiency is seen in transport when shifting from petrol or diesel to electric vehicles⁶⁸.

In addition, moving to low carbon heating solutions such as heat pumps may reduce energy bills in aggregate by reducing natural gas demand. Nesta estimates that heat pumps save more than 70% on gas use compared to a gas boiler, including accounting for the gas used to produce the electricity⁶⁹ and that this equates to a significant saving on gas imports. This saving likely remains even when accounting for the £100 billion of distribution network upgrades required for electrification of heat and transport⁷⁰.

Shifting from fossil fuel boilers to low carbon electric heating also improves air quality in and near homes and businesses⁷¹.

15. What more can retailers do to build greater trust with their customers? What can government do to support this?

⁶⁸ <https://www.theccc.org.uk/wp-content/uploads/2021/07/Zero-Emissions-Vehicles-Briefing-CCC.pdf>

⁶⁹ <https://www.nesta.org.uk/report/how-the-energy-crisis-affects-the-case-for-heat-pumps/how-heat-pumps-can-help-tackle-the-energy-crisis/>

⁷⁰ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1096248/electricity-networks-strategic-framework-appendix-1-electricity-networks-modelling.pdf

⁷¹ https://uk-air.defra.gov.uk/assets/documents/reports/cat09/2211011000_15062022_Indoor_Air_Quality_Report_Final.pdf

It will be easier to upgrade millions of buildings if people and businesses have confidence in the organisations undertaking the installations and offering tariffs and products to reward this work. Unfortunately, satisfaction with energy companies has fallen in recent years. Two-thirds of energy consumers were satisfied with their energy supplier in Q4 2022 overall. Prior to 2022, satisfaction typically ranged between 70–80%⁷². Improving trust in the market will be important if people and businesses are to make significant capital investment in low carbon technologies and sign up for more flexible time-of-use tariffs.

Advice

If energy retailers are to help decarbonise homes through energy efficiency and heating system upgrades, then they must provide high quality advice. (Please see our answer to question 9.)

Quality and standards

Where energy retailers install products such as heat pumps or EV chargers, they need to ensure high-quality product installations. This means the product working as expected, for instance a heat pump system providing warmth, and doing so with running costs as expected. It also means fixing any issues and even providing value-for-money aftercare such as servicing. Energy retailers installing such products should have signed up to an appropriate standards body, such as the MCS, and an appropriate Alternative Dispute Resolution scheme (as recommended by the CMA⁷³).

Transparency and accurate information about new tariffs and technologies will be key to ensuring consumers are aware of the realities of more complex retail offerings and how they may impact their bills. Getting this wrong will undermine confidence in the transition. Energy retailers will need to move away from describing electricity tariffs as “100% renewable” based in part on the use of Renewable Energy Guarantee of Origin (REGOs). The majority of respondents to the UK government’s “Designing a framework for transparency of carbon content in energy products call for evidence”⁷⁴ argued that the current approach does not provide a sufficient level of transparency.

⁷² <https://www.ofgem.gov.uk/publications/consumer-perceptions-energy-market-q4-2022>

⁷³ https://assets.publishing.service.gov.uk/media/6475f1685f7bb7000c7fa176/Consumer_protection_in_the_green_heating_and_insulation_sector_-_Final_report.pdf

⁷⁴ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1172020/carbon-content-cfe-summary-of-responses.pdf

Consumer duty

16. The UK government could consider whether a version of the Consumer Duty used by the Financial Conduct Authority (FCA) could improve trust and consumer protection in the energy retail sector. Citizens Advice recommended this approach in their “Raising the Bar” report in 2022⁷⁵. The Consumer Duty in financial services ensures that people using more complex products and services have appropriate protections. **What mechanisms might be needed for consumers to exit contracts or switch providers if they have a material change in circumstances? What arrangements will be needed to ensure that retailers can recover the costs of assets provided to consumers who want to switch to a different provider?**

No comment

17. **Can you provide examples of other opportunities from, barriers to, or risks associated with, longer-term contracting?**

No comment

18. **What opportunities and benefits might better use of consumer data by retailers provide consumers in the future? We would welcome specific evidence on:**

18.1 **What data sets, when shared with authorised third parties or suppliers, are necessary to support consumers with more tailored interventions?**

18.2 **What information, currently held by suppliers about the goods and services that they provide, should be more accessible to customers to improve their engagement with the market?**

18.3 **How retailers might do more to promote the benefits of greater access to consumer data and ensure that consumers are aware of data privacy protections.**

No comment

19. **Where are the biggest risks to consumer perception around the smart products and services that might emerge in the future retail market? How likely are these risks? Are there mitigations?**

Please see evidence provided in response to question 15.

⁷⁵ <https://www.citizensadvice.org.uk/about-us/our-work/policy/policy-research-topics/energy-policy-research-and-consultation-responses/energy-policy-research/raising-the-bar/>

20. Can you provide any evidence of the extent to which consumers understand current non-standard tariff offerings, such as EV or Time of Use tariffs? How does this vary for different consumer groups? What can be done to increase this understanding?

Interest in time of use tariffs

People's understanding of, and interest in, time of use tariffs varies for a range of reasons. These reasons include the type of time of use tariff (for instance whether the tariff is static, off-peak, dynamic), whether someone has a flexible product such as an EV or heat pump and how motivated someone is to achieve cost savings and/or reduce carbon emissions.

Research by Citizens Advice shows that people are interested in time of use tariffs and can see the benefit of reducing peak demand for electric heating and transport, with at least 20% of people choosing a time of use tariff over a flat rate one⁷⁶. Since this research was conducted in 2017, thousands of people have signed up to a range of time of use tariffs offered by energy retailers, often led by EV drivers seeking to reduce the cost of charging their vehicle⁷⁷. 1.6 million people have participated in the National Grid ESO DFS⁷⁸.

There is widespread awareness of time of use tariffs, with UK government research showing that 75% of people had heard of time of use electricity tariffs in summer 2022⁷⁹. However, that government research also suggested that around 75% of people said they knew hardly anything about, or had never heard of, time-of-use tariffs⁸⁰.

The experience of those signing up to time-of-use tariffs seems to be positive. Ofgem research suggests high satisfaction for EV owners with their time of use tariff⁸¹, with people confident in securing saving from their time-of-use tariff. Securing those savings might require setting schedules for charging off-peak at times of low prices. The Ofgem

⁷⁶ <https://www.citizensadvice.org.uk/cymraeg/amdanom-ni/our-work/policy/policy-research-topics/energy-policy-research-and-consultation-responses/energy-policy-research/the-value-of-time-of-use-tariffs-in-great-britain/>

⁷⁷ <https://www.citizensadvice.org.uk/about-us/our-work/policy/policy-research-topics/energy-policy-research-and-consultation-responses/energy-policy-research/take-charge/>

⁷⁸ <https://www.nationalgrideso.com/news/demand-flexibility-service-consumers-have-their-say>

⁷⁹ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1105386/BEIS_PAT_Summer_2022_Energy_Bills_Tariffs.pdf

⁸⁰ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1105386/BEIS_PAT_Summer_2022_Energy_Bills_Tariffs.pdf

⁸¹ https://www.ofgem.gov.uk/sites/default/files/docs/2020/09/experiences_and_perceptions_of_smart_time_of_use_tariffs_0.pdf

research indicated that these people were already engaged, often finding out about the time of use tariff from an EV forum or from companies such as Zap-Map⁸².

Comparing time-of-use tariffs is more complex than comparing standard tariffs as there are more factors to consider, such as the difference between peak and off-peak rates and the hours when these rates apply. Ofgem research indicates that few people compare time-of-use tariffs and would find doing so difficult because of low visibility and the variety of tariffs available⁸³. Ofgem also found more concerns with dynamic tariffs, as it is more difficult to predict the impact of energy use on monthly bills⁸⁴.

Price comparison websites

One of the main options for comparing tariffs are price comparison websites. Price comparison websites offer a key route for people to engage with the energy retail market. Before the gas crisis of 2021/22 reduced switching, 44% of consumers who switched reported using a third-party service such as a price comparison website⁸⁵. The CMA found that people were generally satisfied with their experience of using price comparison websites for comparing energy tariffs⁸⁶.

However, UK government research shows that price comparison websites do not include time-of-use tariffs, limiting opportunities for people to understand the benefits of these tariffs⁸⁷. The UK government recognises the role for price comparison websites in helping people to compare tariffs and commissioned the Smarter Tariffs – Smarter Comparisons (STSC) project, funded through the £505 million Energy Innovation Portfolio.

Many of the same considerations around time-of-use tariffs are relevant to both people and businesses. The UK government has identified low levels of engagement with tariffs in the non-domestic market, with additional barriers for time-of-use tariffs and flexibility. For this reason, it is welcome that the UK government is running a Non-

⁸² <https://www.zap-map.com/live/>

⁸³ https://www.ofgem.gov.uk/sites/default/files/docs/2020/09/experiences_and_perceptions_of_smart_time_of_use_tariffs_0.pdf

⁸⁴ https://www.ofgem.gov.uk/sites/default/files/docs/2020/09/experiences_and_perceptions_of_smart_time_of_use_tariffs_0.pdf

⁸⁵ <https://www.ofgem.gov.uk/publications/consumer-survey-2019>

⁸⁶ <https://www.gov.uk/cma-cases/digital-comparison-tools-market-study>

⁸⁷ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1130644/smarter_tariffs_smarter_comparisons_final_report.pdf

Domestic Smarter Tariff Comparisons SBRI Innovation Programme⁸⁸ and is funding various trial projects⁸⁹. This is through the £65 million Flexibility Innovation Programme, part of the Net Zero Innovation Portfolio (NZIP).

21. What interventions could empower consumers to find deals that are best suited to them? We would also welcome specific evidence on:

21.1 What more retailers could do to help their customers understand whether they are best served by their current deal.

21.2 How retailers and third-party intermediaries could play a greater role in increasing general consumer awareness of smarter products and services.

Energy retailers could do more to help people and businesses understand whether they have secured the best deal for their building and any flexibility products they own. As set out in our response to question 20, the evidence suggests that understanding of these tariffs and products is currently low. Energy retailers could support people and businesses to understand the upfront costs of products, the potential savings from operating those products flexibly, and how to achieve those savings (for instance through a time of use tariff).

To support this, we recommend that Ofgem reviews and considers updating SLC 31F.1 and SLC 31F.2 of the domestic licence conditions⁹⁰ so that tariff recommendations from energy retailers incorporate low carbon products.

The current drafting of SLC 31F.1 requires energy suppliers to:

“...act in a manner which is designed to promote positive engagement by encouraging each Domestic Customer (as appropriate to the circumstance) to: (a) consider switching Tariff or Electricity Supplier; and/or (b) understand and manage the costs associated with that Domestic Customer’s Tariff and the electricity that Domestic Customer consumes”. 31F.2 requires the energy supplier to “take into account: (a) that Domestic Customer’s characteristics and current

⁸⁸ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1154539/non-domestic-smarter-tariff-comparison-competition-guidance.pdf

⁸⁹ <https://www.gov.uk/government/publications/non-domestic-smarter-tariff-comparisons-innovation-programme-successful-projects/non-domestic-smarter-tariff-comparison-programme-phase-1-project-information>

⁹⁰ <https://www.ofgem.gov.uk/industry-licensing/licences-and-licence-conditions>

Tariff's features; and (b) where appropriate, that Domestic Customer's preferences"⁹¹.

These licence conditions do not currently provide any guidance or requirements on how to determine the most appropriate tariff for various flexibility products such as electric vehicles, batteries or heat pumps.

Energy retailers will need to consider how best to run low carbon electric heating. It is unclear whether energy retailers and the energy system would prefer heat pumps to operate consistently (to maximise the seasonal coefficient of performance) or to operate flexibly to reduce peak demand. This may impact the design of the heating system and the recommendation of the best tariff for that heating system.

Energy retailers will need to recommend an electricity tariff that works for multiple energy smart appliances. This could involve making a recommendation for a property with an EV, heat pump, battery and solar. It is likely that a time of use tariff is best for this situation and the energy retailer will need to help the owner to optimise electricity consumption across these products.

In some cases, it may make more sense for energy retailers to signpost to other organisations who have the skills to provide high quality advice. For instance, in Scotland energy retailers could refer people to Home Energy Scotland. For more detail on the importance of UK government funded impartial advice and the advice services already offered in Scotland, please see our answer to question 9.

Finally, energy retailers could also do more to offer flexible tariffs to businesses. These tariffs are rarely available to businesses, particularly the smaller ones that Ofgem's regulatory framework focuses on. This means that businesses are less likely to benefit from the flexibility that low carbon electric heating and transport can provide.

The UK government could consider whether a consumer duty similar to the FCA's could provide more protection for consumers (see question 15).

22. Across both the domestic and non-domestic markets, are there particular groups of consumers who are most at risk of missing out on the benefits of greater innovation in the retail market? We would also welcome specific evidence on:

22.1 The main barriers which prevent these consumers (including those in vulnerable circumstances) from participating in, or benefiting from, innovation.

⁹¹ <https://www.ofgem.gov.uk/industry-licensing/licences-and-licence-conditions>

22.2 The interventions that could support these groups.

The UK government should introduce a social tariff to reduce the cost of energy bills for a subset of vulnerable groups. If the UK government introduced a social tariff, it would be possible to future-proof the design of this tariff in a way that allows people to benefit from flexibility. Such price protection could involve applying any social discounts to the standing charge or on a percentage basis to electricity consumed during off-peak hours. This would avoid distorting signals to the electricity grid about supply and demand, while providing price support to those who need it.

Extra focus will be required on the private rented sector. It is more difficult for those in rented accommodation to benefit from energy efficiency and flexible electric products. This is because the tenants require their landlord to purchase flexible items such as EV chargers, heat pumps or batteries. The tenant's rental agreement with their landlord is unlikely to enable them to purchase and install such products themselves. However, the landlord often does not pay the electricity (or gas) bills and so has limited incentive to purchase these products. There are approximately 8.6 million rented properties in England⁹², with a broadly similar proportion of rentals in Scotland and Wales. The UK government already provides some incentives for landlords to purchase these items, for instance covering some of the cost of EV chargers⁹³ and with some recent adjustments to VAT on some technologies. To provide a further incentive for landlords to install flexible products, the UK government, as well as the devolved administrations in Scotland and Wales, could increase energy efficiency standards for rentals⁹⁴ and reform EPCs to consider flexibility. Both the UK and Scottish governments have set out plans to raise the bar for energy efficiency standards for rentals, though no firm timelines are available, increasing uncertainty for landlords and tenants.

Some people will require additional support to engage with flexible products. For instance, people may struggle to engage with flexibility because of factors such as digital exclusion, low literacy, low English language skills and cognitive impairments⁹⁵. Energy retailers can ensure that their smart products are easy to use and are designed

⁹² <https://www.gov.uk/government/statistics/english-housing-survey-2021-to-2022-headline-report/english-housing-survey-2021-to-2022-headline-report>

⁹³ <https://www.gov.uk/electric-vehicle-chargepoint-grant-landlords>

⁹⁴ <https://www.gov.uk/guidance/domestic-private-rented-property-minimum-energy-efficiency-standard-landlord-guidance>

⁹⁵ <https://www.citizensadvice.org.uk/about-us/our-work/policy/policy-research-topics/energy-policy-research-and-consultation-responses/energy-policy-research/powering-up-participation-a-guide-to-making-smart-energy-technology-more-inclusive/>

to address accessibility barriers. This may include offering step-by-step instructions for the product, designing large displays and providing simple navigation options, while avoiding the use of jargon⁹⁶.

Smaller businesses are less likely than larger businesses to engage with non-domestic tariffs. The UK government has identified low levels of engagement with tariffs in the non-domestic market, with additional barriers for time of use tariffs and flexibility. The call for evidence is right to highlight that some smaller businesses will have limited opportunity to flex their electricity consumption and may struggle to engage with more complex time of use tariffs. For this reason, it is welcome that the UK government is running a Non-Domestic Smarter Tariff Comparisons SBRI Innovation Programme⁹⁷ through the £65 million Flexibility Innovation Programme, part of the Net Zero Innovation Portfolio (NZIP). It is also welcome that the UK government has launched a one-stop-shop, the UK Business Climate Hub, to help businesses reduce energy bills and carbon emissions⁹⁸. The Scottish government has also established Business Energy Scotland⁹⁹.

23. Can you provide examples of specific innovative retail propositions which might be particularly valuable for vulnerable consumers? Are there likely to be sufficient commercial incentives to bring forward these propositions?

Curtailing wind turbines cost the UK more than £800 million during 2020-2021¹⁰⁰ and National Grid ESO forecasts that these constraint costs will rise in the coming years¹⁰¹. Rather than waste this renewable electricity, for instance by turning down wind turbines, there may be ways for energy retailers to encourage people to turn up demand at times of high renewables generation. For instance, turning up demand could involve charging a battery or EV with electricity, producing heat and storing this in a heat battery or running a heat pump to preheat a home.

There are examples of approaches that encourage people to turn up electricity demand in response to high renewable generation. For instance, the Spire 2 project

⁹⁶ <https://www.citizensadvice.org.uk/about-us/our-work/policy/policy-research-topics/energy-policy-research-and-consultation-responses/energy-policy-research/powering-up-participation-a-guide-to-making-smart-energy-technology-more-inclusive/>

⁹⁷ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1154539/non-domestic-smarter-tariff-comparison-competition-guidance.pdf

⁹⁸ <https://www.gov.uk/government/news/one-stop-shop-to-help-businesses-save-money-and-go-green>

⁹⁹ <https://businessenergyscotland.org/>

¹⁰⁰ <https://www.lcp.com/media-centre/2022/06/cost-of-turning-off-uk-wind-farms-reached-record-high-in-2021/>

¹⁰¹ <https://www.nationalgrideso.com/future-energy/pathway-2030-holistic-network-design>

used curtailed energy for storage heaters¹⁰², while National Grid ESO is developing a local constraint market north of the B6 transmission border between Scotland and England¹⁰³. Reducing constraint costs benefits all consumers, including people in vulnerable circumstances, by reducing system costs that are recovered by electricity retailers. Combining such constraint markets with energy efficiency schemes such as the Energy Company Obligation, which targets the fuel poor, and support for installing heat pumps such as the Boiler Upgrade Scheme or grants and loans through Home Energy Scotland could ensure that more people in fuel poverty benefit through lower electricity bills.

It may be possible to target support towards those who are vulnerable outside of the energy retail market. For instance, National Health Service (NHS) providers are trialling providing Warm Home Prescriptions, as recommended by the Energy Systems Catapult¹⁰⁴. This involves health professionals prescribing a low carbon warm home to households, helping people vulnerable to the cold – for example with respiratory or cardiovascular illnesses – who struggle with the costs of heating their home.

There are also multiple ancillary benefits to switching to low carbon solutions. For instance, shifting from fossil fuels boilers to low carbon electric heating improves air quality in and near homes and businesses¹⁰⁵. If energy retailers can support the rollout of low carbon heating solutions, they can improve air quality, with health benefits for everyone.

24. Across this consumer-focused section as a whole, have we captured the main non-price opportunities and risks to consumers presented by a more innovative retail market? To what extent is the current consumer protection framework fit to enable these opportunities and manage and alleviate these risks?

The UK government implicitly acknowledges that the current consumer protection framework requires updating. For instance, the Energy Security Bill introduces regulations around energy smart appliances such as heat pumps, batteries and heat batteries, including in relation to cybersecurity, interoperability and flexibility¹⁰⁶. There

¹⁰² <https://www.ulster.ac.uk/spire2/the-project>

¹⁰³ <https://www.nationalgrideso.com/industry-information/balancing-services/local-constraint-market>

¹⁰⁴ <https://es.catapult.org.uk/project/warm-home-prescription/>

¹⁰⁵ https://uk-air.defra.gov.uk/assets/documents/reports/cat09/2211011000_15062022_Indoor_Air_Quality_Report_Final.pdf

¹⁰⁶ <https://www.gov.uk/government/collections/energy-security-bill>

are a number of consumer protection questions within the work on developing a Smart and Secure and Electricity System¹⁰⁷.

Further reform may be necessary as the transition continues. The recent CMA report on the green heating and insulation sector¹⁰⁸ highlighted areas of concerns, including:

- People finding it difficult to find the right information to inform important decisions and to identify trustworthy businesses.
- Businesses making misleading claims about products or engaging in ‘greenwashing’ (that is making false or overstated claims about the product’s environmental credentials). For example, companies claiming that people can ‘save up to X% on energy bills’ without sufficient evidence to substantiate this.

The CMA report called on the UK government to consider making it mandatory for businesses across the green heating and insulation sector to belong to an approved ADR (Alternative Dispute Resolution) scheme to help ensure people can take an unresolved complaint to a third party to review. The CMA also welcomed efforts by governments across the UK to provide greater centralised information and advice services.

Other areas of the consumer protection framework that could benefit from further action are identified in the joint report between Citizens Advice, Energy UK and the ADE¹⁰⁹. This sets out various areas of limited protection or missing protections. Areas to explore could include updating the Consumer Rights Act 2015¹¹⁰, the Consumer Protection from Unfair Trading Regulations 2008¹¹¹, as well as Ofgem licence conditions such as SLC 0, SLC 25 and SLC 31F. The UK government could consider whether a version of the Consumer Duty used by the Financial Conduct Authority (FCA) could improve trust and consumer protection in the energy retail sector. Citizens Advice recommended this approach in their “Raising the Bar” report in 2022¹¹². The Consumer Duty in financial services ensures that people using more complex products and services have appropriate protections.

¹⁰⁷ <https://www.gov.uk/government/consultations/delivering-a-smart-and-secure-electricity-system-the-interopability-and-cyber-security-of-energy-smart-appliances-and-remote-load-control>

¹⁰⁸ https://assets.publishing.service.gov.uk/media/6475f1685f7bb7000c7fa176/Consumer_protection_in_the_green_heating_and_insulation_sector_-_Final_report.pdf

¹⁰⁹ https://www.citizensadvice.org.uk/Global/CitizensAdvice/Energy/Demanding%20attention_2022.pdf

¹¹⁰ <https://www.legislation.gov.uk/ukpga/2015/15/contents/enacted>

¹¹¹ <https://www.legislation.gov.uk/uksi/2008/1277/contents/made>

¹¹² <https://www.citizensadvice.org.uk/about-us/our-work/policy/policy-research-topics/energy-policy-research-and-consultation-responses/energy-policy-research/raising-the-bar/>

Reform of the consumer protection framework could build on industry initiatives to provide people with more protection when using energy smart appliances for flexibility. For instance, FlexAssure's HomeFlex Code of Conduct¹¹³ sets out how service providers should conduct sales, customer contracts, cybersecurity, inclusive design and complaints. This voluntary code covers the flexibility provided by households and microbusinesses. This builds on the FlexAssure Code of Conduct for flexibility provided by larger businesses and the public sector¹¹⁴.

While the UK government highlights in the call evidence that larger non-domestic customers can participate in areas such as demand side response, the UK government also recognises that more is required to meet decarbonisation targets. For instance, the UK government has published a call for evidence on industrial electrification¹¹⁵ and is running multiple competitions for fuel switching¹¹⁶. The energy retail market may have a role in developing propositions to help businesses of various sizes reduce their energy consumption and maximise their flexibility as they electrify their industrial processes.

As the energy retail market changes and companies upgrade 25 million buildings with energy efficiency and flexibility products, it is inevitable that mistakes will happen. The regulatory framework cannot foresee all these mistakes and will need to monitor and respond to developing issues. It is important that consumer protection is in place to provide redress for people when these mistakes happen. This redress should cover the energy retail market and demand side response and flexibility products.

25. Would existing financial resilience regulations and monitoring remain appropriate in a market with a more diverse range of participants and business models? Please point to specific examples.

No comment

26. Are there any current products, services, or business models for which existing contingency measures are inappropriate or act as a barrier to new products, services, or business models?

No comment

¹¹³ <https://flexassure.org.uk/homeflex>

¹¹⁴ <https://flexassure.org.uk/for-dsr-customers>

¹¹⁵ <https://www.gov.uk/government/consultations/enabling-industrial-electrification-a-call-for-evidence>

¹¹⁶ <https://www.gov.uk/government/publications/industrial-fuel-switching-competition>

27. What changes may need to be made to existing contingency measures for dealing with market exits in a future market with a more diverse range of participants and business models? Please point to specific examples.

No comment

28. Are there additional steps that government should take to minimise as far as possible the costs of a market participant failing, and ensure that these costs are appropriately allocated, in the future retail market?

No comment

29. Exposure to volatile wholesale prices and hedging decisions to manage this wholesale risk have been a major cause of retail market instability. To what extent do you think sources of risk will shift with changes underway in the retail market? What new risks do you envisage?

No comment

30. What risks or opportunities for retailers do you envisage in changes underway elsewhere in the wider energy system?

No comment

31. What role, if any, could the retail market play in supporting investment in new and emerging low carbon generation technologies, such as Small Modular Reactors?

No comment

32. Across this 'resilient and investable' section as a whole, are there any issues related to the extent to which the retail market is resilient and investable that we have not captured?

No comment