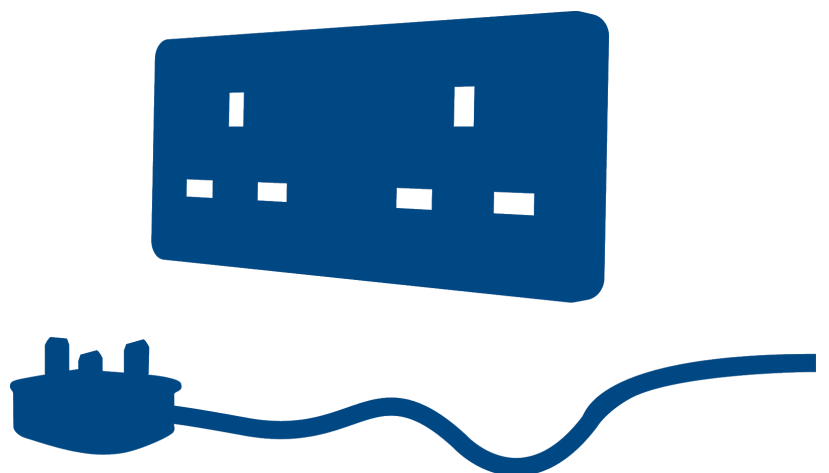


Facilitating energy efficiency in the electricity system

Citizens Advice submission
to BEIS Call for Evidence
September 2019



Citizens Advice welcomes the opportunity to respond to this consultation as part of its statutory role to represent domestic and small business energy consumers in Great Britain (GB). Our response is not confidential and may be freely published.

Response to consultation questions

Question 1: Do you agree with the market barriers to energy efficiency investment described? Do you think there are additional barriers?

No answer

Question 2: What are the ways we can overcome the market barriers to energy efficiency investment?

No answer

Question 3: How can we leverage current markets to facilitate energy efficiency? For example, markets flexibility technologies can access such as the Capacity Market, National Grid Energy System Operator's (ESO) balancing services markets or Distribution Network Operators (DNO) tenders for alternatives to network reinforcement.

As the consultation document notes, new technology is creating opportunities for improved and increased energy efficiency in consumers' homes. The introduction of smart meters means a step change in the level of detail of data available about when and how consumers are using energy. This data also has clear applications in helping them become more energy efficient. Energy suppliers are currently obliged to offer energy efficiency advice when installing smart meters in consumers homes. But there is significant potential for far more detailed advice to be provided based on the consumer's detailed usage data.

This detailed advice has often been suggested as an additional service that suppliers or other companies may begin to offer - potentially in exchange for

access to more detailed consumer data. However Ofgem have recently issued a 'minded to' position eliminating consumer opt-outs beyond daily meter reads which may reduce incentives for suppliers to offer such services.

Smart meters also enable far more precise time-of-use tariffs to come onto the market. This provides consumers an opportunity to benefit financially from shifting their demand away from peak usage times. However, it will be crucial that proper distributional impact assessments are undertaken to better establish which consumer groups are likely to benefit, and which may be less able to move their usage. Determining who the 'winners and losers' of such policies are likely to be will be crucial in ensuring equitable outcomes, particularly for consumers who are vulnerable or in fuel poverty.

Energy Efficiency is currently not part of either of:

- the new flexibility market for DNO to undertake alternatives to network reinforcement
- the ESO's balancing services market

It is currently difficult to envisage how to incorporate energy efficiency as part of the present market. We discuss this issue and how to energy efficiency can be facilitated within these decisions, in our answer to Question 6.

Question 4: How we can create new markets for energy efficiency? Please provide suggestions on how to design the different mechanisms.

From a consumer point of view, the Green Deal was the most significant attempt to create a consumer-led market for energy efficiency measures. It failed because it focused solely on facilitating access to financing, and did not address the challenge of motivating householders to take action. The design of the Green Deal and ECO failed to adequately reflect consumer decision-making. Rather than assuming that householders will take economically rational decisions in terms of return on investment, schemes must try to understand non-financial motivations, and take into account consumers preference for short term gain and avoidance of loss¹.

We carried out research in 2016 to provide a deeper understanding of the factors and processes that influence consumer decision-making on energy efficiency. The research found that the challenges in motivating householders to invest in energy efficiency measures are significant².

Awareness and understanding of available measures is low. Savings on energy bills are not a sufficient motivation for able-to-pay consumers, who either feel their bills are manageable, or have adapted to any discomfort they may feel

¹ Consumer Focus (2012) [What's in it for me?](#)

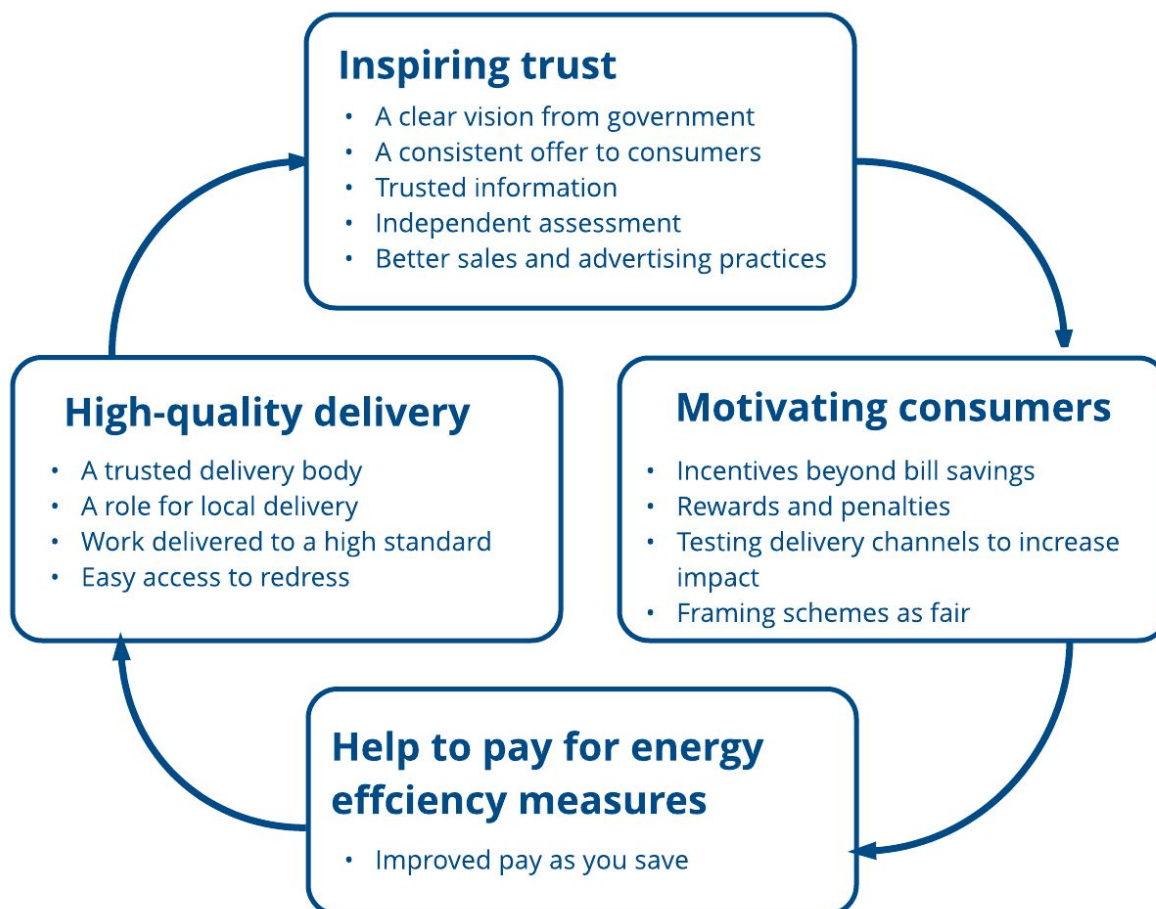
² Citizens Advice, [Energising homeowners: Research into consumer decision-making on energy efficiency improvements](#), 2016

from living in a cold home. When making home improvements, they tend to be motivated by comfort and aesthetics rather than cost savings. While they can be motivated by the opportunity to increase the value of their home, they do not tend to think better energy efficiency would do this. Finally, they see little link to wider environmental issues, notably climate change.

Even if they were well-informed and motivated, householders feel a number of barriers would prevent them taking up measures, including:

- Upfront cost
- Uncertainty about return on investment
- Their own long-term plans and uncertainty about the future
- Disruption to the home, particularly with loft insulation
- A preference for the *status quo*
- Difficulty finding reliable and trustworthy tradespeople
- Mistrust of energy efficiency providers and their sales practices
- Complexity of measures and their opacity
- An unwillingness to consider paying for measures that have been subsidised in the past, for example loft insulation

Despite these significant challenges, the research helped design recommendations that together could help to encourage consumers to install energy efficiency measures. These recommendations will only work in combination; first inspire trust, then motivate consumers, help those who are interested to easily access energy efficiency measures, and finally ensure high quality delivery of these measures, which in turn should further increase trust.



These recommendations are set out in more detail in the full report³.

Question 5: What can we learn from other countries' electricity systems from an energy efficiency perspective?

No answer

Question 6: How could networks ensure that energy efficiency can compete fairly with other solutions as a potential alternative to network reinforcement?

The transmission network operators (TOs) and distribution network operators (DNOs) are responsible for network reinforcement requirements for their respective network levels and regions. The network companies are incentivised, via Ofgem price control mechanisms, to identify cost effective solutions to manage their networks, including looking to alternatives to network reinforcement, such as flexibility solutions among others. Energy efficiency measures may be an appropriate method for reducing peak and overall demand

³ Citizens Advice, [Energising homeowners: Research into consumer decision-making on energy efficiency improvements](#), 2016

in the electricity network as demonstrated in trial projects such as the Scottish and Southern Electricity Networks' SAVE project⁴. Energy efficiency may therefore offer reductions in the need for network reinforcement. However, the current incentive mechanisms via the price control systems are directed at TO and DNO decision-making that is within their control, such as proceeding with network reinforcement or contracting flexibility services. While energy efficiency measures may be a good alternative to network reinforcement or flexibility contracts, most energy efficiency decisions are taken at the household or business level, and therefore not taken into account within network companies' cost and benefit analyses when deciding on network reinforcement or alternative options.

To ensure that TOs and DNOs fairly and appropriately consider energy efficiency within their cost and benefit analyses with respect to network reinforcement options, it may be necessary to amend the price control mechanisms to take energy efficiency into account. This presents difficulties in practice as energy efficiency mechanisms are largely decided by individuals or businesses, and therefore, any network incentive mechanism may need to be able to support such third party decisions and incentive these third party decision-makers to undertake energy efficiency measures in their premises. This is a role not normally undertaken by network companies. In future, could however become part of their areas of responsibility depending on how Ofgem reforms the role of Distribution System Operators (DSOs). In addition, there may be timing differences between the identification of a potential network reinforcement need and the, perhaps slower, decisions and actions taken by third parties to undertake energy efficiency measures. In some cases, third parties may even fail to make required and agreed energy efficiency changes due to low or lower than expected take-up of energy efficiency upgrades. The use of energy efficiency measures via third parties may increase risks to networks with consequent potential consumer detriment whereas the current system, where network companies can decide and implement options, offers an apparently more rapid and certain method. There may also be risks in introducing energy efficiency as a further consideration within network reinforcement options' decision-making, as the use of flexibility is still at a very early stage of implementation.

At present, therefore, there appears to be uncertainty in understanding how energy efficiency could fit readily into current network option assessment and price control mechanisms. The network companies will need a consistent, observable and measurable way of integrating energy efficiency into their network design and modeling analysis tools. Energy efficiency would need to be given parity with other solutions as well as have an agreed and quantifiable method of calculating benefits. There are also potential risk increases to

⁴ Scottish and Southern Electricity Networks' SAVE project: <https://save-project.co.uk/>

networks from using energy efficiency measures as an alternative to network reinforcement. Finally, network companies would need to be able to prove additionality as a result of their actions.

To resolve these uncertainties, we would recommend further real-world trials, including cost/benefit assessments, to be undertaken to better calculate the rewards of energy efficiency versus network reinforcement or another mechanism such as flexibility. It would also be useful to better understand the potential role of networks in delivering energy efficiency improvements as it may be preferable for an independent third party to be the energy efficiency delivery partner.

We would also recommend stakeholder consultation by Ofgem and the Energy Networks Association to identify incentive mechanisms and cost/benefit analyses that would be appropriate for networks if they appear to be the appropriate conduit for driving energy efficiency by third parties. These mechanisms would need to ensure an even-handed approach when considering energy efficiency versus other options. Consultation with stakeholders would also help to clarify the risks involved with networks' usage of energy efficiency for network reinforcement options' analysis, including timing differences, potential conflict issues, and the need for transparency.

Question 7: Are there potential benefits from combining EE and flexibility? How can we maximise these benefits?

From a consumer engagement point of view there are potential benefits to combining energy efficiency and flexibility. Engaging consumers in energy efficiency tends to be difficult and costly. Where related products and services can be combined in an integrated consumer journey this could have benefits in terms of reducing engagement costs for consumers and providers, and increasing uptake of these products and services. For example energy advice, whether remote or in home, could effectively cover both energy efficiency and flexibility.

However, the design of any consumer engagement initiatives should reflect an evidence based understanding of how consumers understand these products and services, including the extent to which they perceive them as related. Given the complexity of these products, there is a risk that combining them could create confusion and misunderstanding that would undermine consumer trust and limit consumer engagement.

Question 8: What is the role of aggregators?

In principle, aggregators would be a good actor to implement energy efficiency measures in homes and businesses that they already serve. Their customers would have likely agreed to having new technology and metering installed in

their home, and for the aggregator to remotely operate their appliances, so the necessary trust would be there. They will already operate in the markets that value flexibility and energy efficiency. However, aggregators' expertise lies in software and smart tech offers. They would likely need to invest in building expertise and contracts to install energy efficiency measures, which they will only do if there are adequate margins to be made with it.

Question 9: How should we best align with existing policies, particularly those referenced in section 2.4?

From a consumer engagement point of view, the government should seek to avoid a proliferation of schemes, consumer protection regimes and quality marks. The government should look to ensure that energy efficiency measures and related products and services are covered by the Trustmark quality mark. To ensure this delivers, the government should:

- make sure that the Each Home Counts process delivers effective consumer protection at each stage of the customer journey
- design energy efficiency schemes that are clear and consumer-friendly
- work to better understand the scope of the consumer problem with energy efficiency and related products and services

The government should look to provide integrated advice and information on all consumer-facing initiatives in this area. This should recognise the additional advice needs of vulnerable consumers as well as challenges around the complexity of low carbon home improvements, flexibility and the interaction between the two.

Question 10: Should we support behaviour change? If so, should it be supported in the same way as energy efficiency, which requires installation of measures?

To encourage behaviour change, consumers must have access to the right information in order to be willing and able to act. Behaviour change is only effective when the action that is required reflects the ability and motivations of the individual.

In forthcoming research, we test how able consumers are to understand the benefits of smart appliances (in this case smart battery storage) based on a range of content styles. We also test how consumers understand the different trade offs in use.

Early indicative results from limited qualitative interviews with consumers in vulnerable circumstances suggest there are barriers in understanding new technology, which information provision alone does not solve.

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