

By e-mail to: callforevidence-EE@beis.gov.uk

25 September 2019

Dear BEIS,

ELEXON's response to your call for evidence on facilitating energy efficiency in the electricity system.

ELEXON is the Code Manager for the Balancing and Settlement Code (BSC). We are responsible for managing and delivering the end-to-end services set out in the BSC and accompanying systems that support the BSC. This includes responsibility for the delivery of balancing and imbalance settlement and the provision of assurance services to the BSC Panel and BSC Parties. We manage not just the assessment, but also the development, implementation and operation of changes to our central systems and processes. In addition, through our subsidiary, EMR Settlements Ltd, we are the Electricity Market Reform (EMR) settlement services provider, acting as settlement agent to the Low Carbon Contracts Company (LCCC), for the Contract for Difference (CfD) and Capacity Market (CM). EMR services are provided to the LCCC through a contract and on a non-for-profit basis.

We welcome the opportunity to contribute to this call for evidence. We strongly support the adoption of energy efficiency measures, and believe that barriers to their uptake should be removed where possible, in particular as energy efficiency could be a substantial contributor to the Government's net zero target.

Our responses to the questions in the consultation are detailed below. We have only answered those questions where we believed we could add value.

We were unsure whether the scope of Energy Efficiency (EE) measures includes anything other than permanent demand reduction, as in the Electricity Demand Reduction (EDR) pilot. Permanent demand reduction is unresponsive by nature, which makes it incompatible with flexibility, and inappropriate for use in the Capacity Market (as currently designed) or the Balancing Mechanism. In responding to this consultation we have noted where the current arrangements facilitate or exclude measures that result in permanent demand reduction.

For the avoidance of doubt these views are those of ELEXON Ltd alone, and do not seek to represent those of the BSC Panel or Parties to the BSC.

If you would like to discuss our response in detail, please contact Callum Chalmers, callum.chalmers@elxon.co.uk.

Yours sincerely,

Angela Love
Director of Strategy and Communications

ENERGY EFFICIENCY CALL FOR EVIDENCE: ELEXON'S RESPONSE

Q1: Do you agree with the market barriers to energy efficiency investment described? Do you think there are additional barriers?

In our answer to this question, we are only addressing the aspects we consider relevant to the Capacity Market.

ELEXON agree that there are currently regulatory barriers to energy efficiency measures in the Capacity Market. However, we recognise that the Capacity Market is designed to meet a specific need of the system, and is dependent on an active signal that the electricity system needs more generation/less demand. Passive demand reduction is therefore incompatible with the Capacity Market. The Capacity Market should continue to deliver the needs of the system and permanent demand reduction would be better facilitated in ways other than Capacity Markets, for example through measures such as the Energy Company Obligation.

Q2: What are the ways we can overcome the market barriers to energy efficiency investment?

An alternative capacity market could hold auctions for seasonal capacity, or capacity at peak times, such as that in the PJM forward capacity market in the USA. This would apply to inflexible demand reduction measures that only take effect periodically, e.g. the benefits of boiler insulation are largely seen in winter. In these cases, energy efficiency measures could provide a useful service.

Q3: 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.

Efficiency measures that result in passive, continuous demand reduction should be encouraged by market signals such as end consumer Time of Use Tariffs. We expect these to become increasingly prevalent with the rollout of smart metering and the introduction of Market-wide Half-Hourly Settlement, which will see Suppliers able to gain benefits from customers shifting their demand to non-peak periods. Moreover, by moving demand to non-peak times and smoothing out the demand curve, losses from the electricity networks should reduce, meaning that less energy generation is required to meet customer demand.

New network charging methodologies, such as capacity based charging, where consumers are charged based on the maximum consumption they will draw from the grid, may also combine with energy Time of Use tariffs. This would provide customers with the opportunity to derive greater benefit from passive measures.

Q7: Are there potential benefits from combining EE and flexibility? How can we maximise these benefits?

There needs to be a clear separation of active (responsive) and passive technologies, because they provide different benefits to the system.

As a passive technology is always working to reduce demand, or will always reduce demand in the same way, customers should derive benefits from it in a consistent way. The most common way of encouraging this is via Time of Use tariffs, which should reflect the cost to the system (both energy and network costs) of the customer. The effect of this cost reflection is that the energy efficiency measures also result in a cost reflective saving. This is in contrast to prevalent 'flat rate' charging, where the cost the customer places on the system is assumed based on a sample of all customers

(and scaled to their cumulative consumption). Fitting customers into groups with associated demand profiles limits the benefits they could accrue from reducing demand.

Active technologies can react to specific network or energy conditions, and are most valuable in scenarios where there is a need for a specific type of response, such as a decrease in demand or an increase in generation.

Permanent demand reduction (for example the introduction of insulation) is not responsive, therefore it can't be combined with flexibility as it can't respond to active signals, such as those used in the Capacity Market. Passive measures such as demand reduction require passive markets; time of use tariffs represent a better reflection of value for measures of this kind. Including a passive measure in a capacity market may result in a double payment for the same saving (CM and reduced payments under tariffs), and could therefore lead to market distortions.

Active measures are able to derive benefit from both active and passive incentives, as they can be used to create an optimal profile when not being used for an active response. When an active measure is instructed for use, typically an adjustment is made to ensure it does not receive a windfall gain or loss from any passive incentives applying at the time. For example, an instruction from NGESO in the Balancing Mechanism results in an adjustment to a Supplier's imbalance position by BSCCo, so they do not pay or receive imbalance charges on the energy relating to the service they delivered for National Grid ESO by following the instruction.