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30 August 2018

BEIS consultation on the Future of Small-Scale Low-Carbon Generation

We welcome the opportunity to comment on the questions posed in the above consultation document relating to the Future of Small-Scale Low-Carbon Generation.

As you are aware, ELEXON (as 'BSCCo') is the Code Administrator for the Balancing and Settlement Code (BSC). We are responsible for managing and delivering the end-to-end services set out in the BSC, for which we provide Code Manager, Delivery Body and Policy Delivery support. In addition, through our subsidiary, EMR Settlements Ltd, we are the EMR Settlement Services Provider, acting as Settlement Agent for the Contract for Difference and Capacity Market.

ELEXON is currently leading the work for Ofgem (as part of the electricity settlement reform) on the design of the end-to-end settlement process, known as the Target Operating Model (TOM), for Market-wide Half-Hourly Settlement (MHHS). The Design Principles for development of the TOM indicate that design work should consider the potential benefits of including the settlement of export onto the grid in Market-wide HHS. Specifically:

- At a minimum, there should be improvements to the process for settlement of export which enables more elective take-up of energy suppliers settling export;
- Any settlement arrangements should facilitate accurate measurement and allocation of electricity volumes, both export and import onto the grid;
- The solutions to the settlement of import and export should align in the long term to realise the full benefits of settlement reform. This will improve the accuracy of balancing at distribution network level into the mid-2020s to support increased uptake of micro-generation; and

ELEXON are also mindful that the enduring settlement arrangements for export facilitate the implementation of future policy on small-scale low-carbon generation.

However, as you are aware there is currently no licence requirement for export from small scale generation to be metered or settled. We are currently working with Ofgem and BEIS to understand the most appropriate resolution to this issue. We have answered a number of consultation questions below where we believe ELEXON can provide useful input.

The views expressed in this response 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 any aspects of our response, please don't hesitate to contact me at kevin.spencer@elxon.co.uk.

Yours sincerely,

Kevin Spencer

Design Authority

Question 1. Have we accurately captured all the opportunities and benefits that small-scale low carbon generation can provide to the UK energy system over the short, medium and longer-term? Are there any that we have missed? Please provide evidence

We believe you have captured the key opportunities and potential benefits from low carbon generation. However, as you point out there is a lack of visibility of both generation and export from small scale units. As you say, the lack of visibility can cause system inefficiencies and issues for system balancing. With the advent of the Distribution System Operator (DSO) role the visibility issue could exacerbate these issues.

We agree that developments in storage technology will go some way to addressing these issues by storing and discharging generation from such technologies in an efficient way. Demand side response and export tariffs are also likely to require energy exported from small scale generation to be both measured and accounted for in the future.

We have been monitoring and estimating the volume of [export spill](#) on the networks and have previously responded to the previous DECC consultation on the Feed in Tariff Scheme (FITs) stating that ELEXON believes that, not only all micro-generation export should be metered, that it should also be required to be registered for electricity balancing and Settlement purposes. At the time, we estimated, based on the meters that are defined as 'deemed' export on the FITs register, that between 0.8-1.0 TWh of energy is being spilt onto the distribution networks annually.

The settlement processes currently allocate this spill to Suppliers, according to the proportion of energy consumed by each Supplier within each distribution region. This allocation is undertaken through a process known as Grid Supply Point (GSP) Group Correction. This could be considered a cross-subsidy since it does not allocate energy to the FITs Supplier in proportion to the energy paid for under the subsidy.

The GSP Group Correction issue also causes impacts on Suppliers in forecasting their energy purchasing, since they have to estimate the degree of change, to their allocation, driven by the export spill. In order to accurately account for the energy, we believe that settlement, both import and export, should be based on smart meter profile data (half-hourly or more granular, if required under European legislation). This approach would allow for accurate accounting of both the export and import energy in Low Voltage (LV) networks. The import profile would be accurate using the half-hourly profile data from the smart meter. Currently the non-half hourly profiles are not adjusted for generation used on-site which causes further mis-allocation of micro-generation.

We also believe that measurement and settlement of export will facilitate innovation, dynamic time of use tariff development and help with demand side response initiatives.

Question 2. How can government help consumers benefit from small-scale low-carbon generation such as local communities, local authorities, and those in fuel poverty?

Community and local authorities are already looking to provide schemes to customers with small scale generation. Some benefits could accrue from having processes in place to allow energy supplied by a community energy scheme (typically under a class A supply exemption) to be measured separately from

that sold by licensed Suppliers (to facilitate appropriate charging and settlement), see our whitepaper on [multiple energy providers](#). In the longer term our white paper covers this. In the shorter term, you may be aware, we have implemented an [ELEXON Sandbox](#) for the electricity market to test innovative schemes that could include local authority or community offerings. This is linked to Ofgem's regulatory sandbox process.

Question 3. The introduction of enabling technology and systems such as the roll out of smart meters, and half-hourly settlement, will provide commercial incentives on energy suppliers to develop and offer tariffs. Will smart tariffs provide a viable route to market for small-scale low-carbon generation? If so over what time frame, and what are the possible barriers to these smart tariffs?

Enabling technologies such as smart meters and storage can provide incentives to offer smart tariffs, especially where the two technologies are twinned, such that the generation can be used at optimum times. However, although the smart meters will be able to store three months of half-hourly export meter data, there is no requirement for such data to be collected for Settlement or otherwise. The small scale third party generation plant limit (currently set to an installed capacity of 30kW) allows customers, who are willing to be registered for Settlement, to be settled on register reads, non-half hourly basis (NHH).

In theory, a Time of Use (ToU) tariff could benefit customers with small scale generation, but only if the Supplier is incentivised to value the customers' export, it is measured and settled.

Question 6. What are possible ways to track and monitor behind the meter installations (we would appreciate specific suggestions in relation to how information can be sourced (e.g. direct from businesses and households) and the method for sourcing it (e.g. an annual survey))?

ELEXON has been also considering behind the meter issues, but mainly in relation to larger [commercial sites](#). Furthermore, we have also published a [white paper](#) which offers an ELEXON view of how BSC central services could be adapted to offer Settlement solutions in support of individual customers buying electricity from more than one Supplier. The approach put forward in the white paper could potentially allow a service provider to use the generation data in an innovative way (for example for Peer to Peer (P2P) trading). It is likely that behind the meter offering will need to be tracked not just for small scale generation but also of electric vehicles are to offer 'vehicle to grid' discharge from their batteries. The latter is also being considered under our work on MHHS since appropriate data will be required to settle such customers accurately. If you would like to discuss with us further, the proposals in this whitepaper, please contact us.