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BEIS consultation on a Smart Export Guarantee (SEG)

We welcome the opportunity to comment on the questions posed in the above consultation document on the Smart Export Guarantee (SEG).

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; and
- 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.

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 settled under the BSC. We have been working with Ofgem and BEIS to understand the most appropriate resolution to this issue of which the SEG proposals forms a significant part. 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 do not hesitate to contact me at kevin.spencer@elxon.co.uk, or on 0207 380 4115.

Yours sincerely,

Kevin Spencer
Design Authority

Question 1. Will the SEG as described provide a suitable and practical route to market for exported electricity?

We believe the SEG will go some way to addressing future export spill for eligible consumers. However, it will not address the spill onto the networks, caused by the current population of unsettled Feed in Tariff Scheme (FiTs) consumers.

We have been monitoring and estimating the volume of [export spill](#) on the networks and have previously responded to the earlier DECC consultation on the FiTs. The response stated ELEXON believes that, not only all micro-generation export should be metered, but that it should also be required to be registered for electricity Balancing and Settlement purposes. At the time (2015), 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 export 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.

We believe careful consideration should be given to the appropriate Metering and Settlement arrangements for the Scheme. Half-Hourly (HH) Settlement of export is far more accurate than the current Non-Half Hourly (NHH) arrangements, as it uses actual HH Meter readings rather than profiled Meter advances. The NHH export arrangements will allocate energy to days/times where little or no export has taken place since the export Meter NHH meter readings do not indicate the times at which export occurred.

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 of import and export, should be based on smart Meter 'profile log' data (e.g. for half-hourly time periods 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 settlement of import would be more accurate using the half-hourly meter data from the smart meter. Currently the non-half hourly Settlement of import (using Settlement profiling process) is not adjusted for generation used on-site, which causes further misallocation of micro-generation energy to Suppliers.

Consideration also needs to be given to opportunities for gaming (e.g. burning carbon based fuel to create generation at a lower cost than the export tariff) or exporting merely to receive payment where such export brings no system benefits.

Question 2 . Will the SEG support innovation towards the 'smart' energy transition and if so how?

We believe that the SEG and Settlement of export will facilitate innovation (for example, in storage and electric vehicle charging/discharging), dynamic time of use tariff development and help with demand side response initiatives. 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 export data in an innovative way (for example for Peer to Peer (P2P) trading). There is also a [BSC Modification P379](#), which is looking to implement changes to allow for Multiple providers. We would welcome a discussion with you on how this proposal enables innovation.

Community and local authorities are already looking to provide schemes to customers with small scale generation. Some benefits could accrue from the ability to net off generation and consumption, provided there is some measurement to allow such netting calculations to occur. As 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 process links into Ofgem's Innovation link initiative.

Question 3 . Given the options set out above in table 1, what type of SEG tariff would be appropriate at this point?

We believe there are a number of issues and pros and cons of the proposed tariffs.

Tariff A) may be appropriate in the short term for larger Suppliers that have large and complex systems and process to adapt to use HH export data. The NHH arrangements will not accurately settle the data and the existing smart Meter only have a single export register. This tariff would be easiest to implement but not appropriate in the long term when Market-wide Half-Hourly Settlement (MHHS) is implemented.

Tariff B) would require collection of the HH export data to derive the billing data for the proposed tariff as already stated the smart Meter only has a single export register. If you are collecting the HH export data, Settlement should be on a HH basis.

Tariff C) would be complicated to implement due to changes required for the variable export tariff. The HH data should be settled as in Tariff B.

Tariffs D) and E) further complicates the implementation by Suppliers. These options could be expensive to implement in the short term.

Question 8. How long will it take for suppliers to put systems in place in order to administer the SEG, and what would the associated administrative costs of the SEG be?

We cannot answer on behalf of Suppliers but believe there are a number of issues at present. We note that the large volume of change in the current market is stretching Supplier resource. Faster Switching and the smart Meter roll out are all being undertaken concurrently. Larger Suppliers have not taken up the current elective HH Settlement process to any great extent due to the level of system changes required for processing and billing arrangements.

Smaller Suppliers may be more agile in delivering the SEG, however would not be captured by the proposed >250,000 customer requirements. The timing and extent to which they would implement on a voluntary basis depends on their plans for the smart Meter roll out which would be required to access the Meter data under the SEG.

MWHHS should, when implemented, provide a platform for accessing the HH Meter data by Suppliers interacting with the SEG.

Question 14. Do you agree with the proposed metering requirements for the SEG?

We agree with the requirements identified. Given that the SEG covers up to 5MW capacity a range of Metering types may be required. Smart Meters are ideal for smaller installation as they have import/export capability and will have a single communication infrastructure under the Data and Communications Company (DCC). Advanced Meters may be required for larger installations. Separate Advanced Meters may be required if customer has different import and export Suppliers, as it is likely the Suppliers will have different Agents/communication with the Meter.

Question 18. Where storage is co-located with an eligible generation technology, should SEG payments be made on 'brown' electricity exported from storage or limited to exported 'green' electricity?

The benefits of co-location of storage with eligible generation are clear as this allows export to occur at times beneficial to the Networks. As such, it may be appropriate to allow the SEG to cover brown energy provided the ability to charge the battery using green energy is established. However, benefits will only be realised if appropriate tariffs and signals can be provided to the customer. This applies to both import and export tariffs. The import tariff should be designed to dis-incentivise charging of storage devices at peak and incentivise dis-charging of export.

Question 19. Do you agree with the metering arrangements when co-locating storage with generation technologies eligible for the SEG?

ELEXON agrees with the metering requirements set out in 2.44. We do not believe additional wiring requirements should be implemented to ensure the storage device only stores green energy. Brown energy stored off-peak and exported at peak would still provide system benefits. A requirement for storage export to be twinned with an import tariff with an off-peak element would be helpful in ensuring that brown energy stored is imported at off-peak times.

Question 20. If SEG payments were to be made on 'brown' electricity exported from a co-located storage device, are there any potential opportunities for gaming?

We believe there is an issue with exporting energy simply to receive export payment when the export is not beneficial to the system. This also applies to regions that may be affected by backflow in some areas of the network. We believe that provided export tariffs are set at equal to or below the import tariff the gaming opportunities will be limited. Co-location with storage also allows exported energy to be awarded greater value when discharged at peak times.

Question 26. Do you agree that the threshold for mandatory SEG suppliers should be set at 250,000 or more domestic electricity customers? If not, what alternative threshold would you suggest?

We understand why the 250,000 threshold was chosen to align with current FITs requirements. However, larger Suppliers have larger and more complex systems and processes to adapt in order to provide the tariffs proposed. Smaller Suppliers would have the option, but not the requirement, to provide the SEG. Mid-range Suppliers in terms of customers may be better placed to provide SEG offerings to customers.

Question 27. Do we need to set out arrangements for the event in which a supplier either loses its supplier licence or goes into administration?

ELEXON and Ofgem have had a number of discussions on the difficulties in splitting Supplier portfolios when Suppliers lose their Licence or go into administration. The SEG will aggravate the situation as any failing 'SEG' Supplier would need its customers transitioned to another Supplier with SEG capabilities.

Question 32. Are our proposals for the treatment of settlement practical for suppliers to implement, and compatible with the Balancing and Settlement Code?

Noting our response to question 26 we believe some Suppliers will have difficulties implementing the SEG. We believe the proposals are compatible with the BSC and will partly address the issues with Export Spill that is causing forecasting difficulties for Suppliers under the current arrangements. It also means that the benefits of providing export tariffs accrue to Suppliers taking part in the SEG rather than benefits being applied to all Suppliers within a distribution region through the Grid Supply Point (GSP) Group correction process.