Power Responsive Steering Group
Note of Twentieth Meeting

1st October 2020, 13:00-15:30 hrs

This note was prepared by National Grid Electricity System Operator (ESO)
This meeting was hosted virtually.

This steering group meeting focused on ***Unlocking Small Customer Flexibility***

The pre-read document for this meeting can be viewed here.

1. Welcome and introductions

Colm Murphy (chair) opened the discussion, held under the Chatham House rule.

A summary of the previous steering group on 10th June 2020 was provided, having focused on ***the operability of the GB Electricity Grid during a period of low demand and the effects of COVID-19 on DSR Providers.*** The discussion focused on what flexibility providers and industry could do to support DSR in this environment for the short term, the material impacts of the current economic and lockdown situation on business and the potential opportunities for flexibility providers in the current climate.

2. DSF Horizon Scan

BEIS covered the following current and upcoming policy activities:

- Work has been ongoing with the Smart Systems and Flexibility plan. Of the 38 actions proposed, 25 of those actions have now been implemented.
- The Office for Low Emission Vehicles have published a summary of responses to their smart charging consultation.
- BEIS are seeking to remove most types of storage from the Strategic Planning Regime and moving it into the Local Planning Regime. This should make planning permission for large scale storage much simpler.
- The Winner of Storage at Scale innovation fund has been announced.
- BEIS & Ofgem have been working together to seek lessons learnt from the effects of COVID-19 on energy demand over the summer period.
- Since the last Steering Group meeting, BEIS has held stakeholder events on Markets for flexibility, Market Monitoring, Data & Digitalisation and Storage.
- Upcoming stakeholder events are on Consumer Protection and participation, Smart building and Carbon Signals.
- BEIS hosted their Smart Systems Forum to talk t on what has been learnt throughout the summer via the stakeholder events.
- The Energy White Paper remains a priority and its publication is expected in Autumn.

Ofgem covered the following current and upcoming activities:

- On 30th October Ofgem published RIIO licence drafting consultation (This primarily includes ESO role guidance consultation).
- RIIO CMA ruling is being considered
- Consultation responses for ED2 are being reviewed (more engagement to come).
- TCR Modifications for Distribution charges were published.
- Amendments to the generation licence to ensure storage is included will be published imminently.

3. Unlocking Small Customer Flexibility

Whilst industrial and commercial providers offer system flexibility at the high end of energy consumption, domestic DSR is yet to become fully integrated into households. There is large potential to engage domestic customers with a number of domestic DSR business models.

3.a ESO Future Energy Scenarios Domestic DSF Overview

The ESO's Future Energy Scenarios (FES) team attended to provide an overview of their report that explores the assumptions and conclusions from the extensive modelling, research, and stakeholder engagement they have undertaken. The headline messages from FES 2020 are:

1. Reaching net zero carbon emissions by 2050 is achievable. However, this requires immediate action across all key technologies and policy areas, and full engagement across society and end consumers.
2. Hydrogen and carbon capture and storage must be deployed for net zero. Industrial scale demonstration projects need to be operational this decade.
3. The economics of energy supply and demand fundamentally shift in a net zero world. Markets must evolve to provide incentives for investment in flexibility and zero carbon generation.
4. Open data and digitalisation underpin the whole system thinking required to achieve net zero. This is key to navigating increasing complexity at lowest cost for consumers.

FES then discussed the specifics behind the key enabling types of technology for domestic flexibility up to 2050 such as:

- Once consumers have Time of use Tariffs other forms of flexibility will become more appealing, with increased take-up of smart appliances.
- Load shifting from appliances is low in the 2020s when this would need to be scheduled manually. However, we expect white goods like dishwashers, washing machines and refrigerators which can respond automatically to price signals to add greater demand side response potential as smart appliances become more widely available in the 2030s.
- In the scenarios with high levels of societal change, net EV charging demand at peak times could become negative by the 2030s thanks to V2G and smart charging offsetting EV peak demands
- High heat pump scenarios have much higher unconstrained peak electric heat demand. This can be mitigated by consumers shifting heat loads away from the winter evening peak. This can involve hybrid heat pump systems that shift from electricity to hydrogen at peak times.

You can view the FES 2020 document here.

3.b The Association for Decentralised Energy - 'Unlocking Domestic Energy Flexibility'

The Association for Decentralised Energy (ADE) present the key points from the their 'Unlocking Domestic Energy Flexibility' report. The role of the report was to outline the current and future business models for domestic flexibility and also to highlight what support is required from Government. Some specific areas discussed were:

- The business case for more domestic flexibility revolves around cost savings for the consumer, a net zero future and the ability to manage the networks through this technology.
- As business models emerge it is important that standards do not prematurely limit them and that a direct relationship between the flexibility provider and end consumer is possible. This will increase efficiency for the consumer.
- The need for smarter markets which provide clear signals for the types of flexibility needed and where it's required.

- The need to create markets that are competitive and open to all, and to ensure that there is greater standardisation across markets.
- More detailed areas were discussed such as the need for stackability to ensure providers aren't reliant on one revenue stream, type testing for smaller assets to reduce costs and increase efficiency and to have clear objective pass or fail criteria. All of these points help businesses provide the best services possible to the end consumer.

3.c Kaluza presented their view on domestic flexibility & how their business model reflects this:

Firstly, Kaluza covered key aspects to their business model and plan such as:

- Integrating smart technology into electronic products from factory
- Developing a robust capability in one strategic area- EVs, and build out core flexibility capability across Networks, Devices and Suppliers.
- Empowering partners to deliver exceptional customer experiences
- Maintaining small investment in Heat technology until the market emerges.
- Developing partnerships with device manufacturers to position flexibility for when the market is at scale

Kaluza then covered some of the key areas that need to be developed in relation to domestic flexibility. This included:

- Making devices 'flex-enabled' through building value propositions.
- DNO's need to utilise domestic flexibility better.
- Networks need to increase levels of trust in residential flexibility
- Energy retailers are generally not interested at the moment due to the lack of value propositions.

Group Discussion

The discussion took into consideration the above presentations and asked group members:

- *What do you see as the key enablers for domestic DSF and what potential impacts will proposed policy and regulatory changes have on different types of consumer?*

1. Discussions revolved around the need for a standardised metering requirement (selecting the appropriate level of metering for all parties) to make it easier for aggregators to create standardised end products for consumers and support system operator needs.
    - **Proposed Question:** - Would it be beneficial for BEIS & Ofgem to speak to flex providers as well as DNO's to ensure that they can see the key issues that both parties suffer from in regard to metering issues and work to find a middle ground and an action plan to address common problems.
        - **Action:** BEIS & Ofgem will take away the comments and review their engagements.
2. Could we create a measure of progress within the Power Responsive program to ensure that the markets have progressed? Are there specific areas that PR could benchmark against going forward? The NIC have published their 'Smart Power' document which provides future projections and could be utilised to provide a benchmark for progress.

Power Responsive Update:

- Since the last Steering Group, the program produced a Summer Insight Series of podcasts which was in place of the usual Summer Reception event. This was a success with high levels of engagement

- Plans for the next Power Responsive Annual Report are currently being developed. The Power Responsive team have invited to Steering Group members to provide comment and feedback on where value can be added.
- The new Guidance for DER document will be updated and published in October this year and will be formally launched at the MEUC virtual event.

4. Next Steering Group Date:

- 21st January 2021