



Smart Systems and Flexibility Plan:

Commentary by the Electricity Storage Network

Summary

The Secretary of State for Business, Energy and Industrial Strategy, The Rt Hon Greg Clark MP announced a package of investment in energy storage as well as the joint publication by BEIS and Ofgem of the Smart Systems and Flexibility Plan.¹ The Smart Systems and Flexibility Plan is the follow up to the BEIS and Ofgem Call for Evidence published in November 2016². The implementation of the Plan will have major impacts on all those working in the areas of electricity storage and demand side response as well as influencing the operation and planning of our national electricity and energy systems.

The Call for Evidence asked for industry comments, views and opinions on the regulatory framework for networks, markets and the creation of a more flexible energy system. A major part of the Call for Evidence concerned barriers to the adoption and use of energy storage, smart appliances and electric vehicles, but the Call for Evidence also included cyber security, network operators and innovation.

The Electricity Storage Network responded to the Call for Evidence with a detailed response³ which included addressing the following priority issues:

- Defining electricity storage and using the definition in licence provisions to ensure there is appropriate and consistent governance of storage technologies on the system.
- Removal of the double Consumption Levies, so that distribution connected storage facilities are not unfairly disadvantaged in relation either to storage at other connection levels or to other flexibility tools.
- Development of a strategy of continuity on network charging, to avoid stop- start step changes such as any removal of embedded benefits before removal of unfair double network charges.
- Development of a policy and regulatory framework that allows appropriate contract lengths and specifications for service providers, to ensure they can provide value for money for the consumer.

On longer-term strategy, the ESN wished to see:

- Continued work to define the functions of the new distribution system operators (DSO).

¹ See <http://bit.ly/2tE4R1H> accessed 24 July 2017

² <https://www.gov.uk/government/consultations/call-for-evidence-a-smart-flexible-energy-system#documents-title>

³ <http://www.electricitystorage.co.uk/policy-and-issues/esn-consultation-responses/>

- Clarity on network innovation priorities
- A review and consultation on the interaction between heat and electricity in the context of whole-system operation

The Smart Systems and Flexibility Plan lists actions under three separate areas:

- Removing Barriers
- Smart Homes and Businesses
- Markets that work for flexibility

The section on removing barriers focuses significantly on removing policy and regulatory barriers to deployment of energy storage technologies.

The key headlines are:

- **Storage to be defined in policy terms** - The Electricity Act 1989 will be amended, when parliamentary time allows, to explicitly define storage as a sub-set of generation. The plan confirms that **the wording used will be based on the definition proposed by the Electricity Storage Network.**
- **'Double Charging' of network costs to be addressed** – Ofgem's proposed Targeted Charges Review will go ahead with a minded to position that storage should not be charged residual charges at transmission and distribution level. Ofgem is also to provide more detailed guidance on the treatment of storage in the distribution charging methodologies
- **Licensing to be introduced** – Ofgem will consult on the structure of a modified generation licence for storage. The new licence will be introduced by Summer 2018
- **Final Consumption environmental levies to be abolished** – holders of the new storage licence (or an existing generation licence) will not be liable to pay environmental levies on power consumed, including the costs of Contracts for Difference, Renewables Obligation, Feed-in Tariffs, Capacity Market or Climate Change Levy.
- **Planning regime to be reviewed** – the planning threshold for storage and associated guidance will be reviewed with a view to assist deployment of larger scale storage projects
- **Work to understand network impacts of electric vehicles** - government will work with both the energy and automotive sectors to assess the regulatory, network and tariff implications of increased use of electric vehicles and to support trials of vehicle-to-grid charging.

BEIS / Ofgem also propose work to review the potential for 'time of export' tariffs, improve the network connections process, develop and refresh health and safety standards for storage and to encourage greater involvement by large industrial and commercial end-users in demand side response, particularly amongst the public sector.

Funding for innovation in smart technologies has also been increased from £50m to £70 million. This is in addition to the £246 million available from the Industrial Strategy Challenge Fund.

We welcome the plan: especially as it specifically addresses the legal and regulatory issues that are seen to be holding back the development of electricity storage. This will have a major impact on the economics of many storage projects. The removal of uncertainty over regulatory treatment, the removal of double charging and other inappropriate levies will improve the business case. We think this will be most noticeable

for those with an existing project, either in generation (whether renewable energy or otherwise) as well as demand users with storage behind the meter. There is still much work to be done on the detail of implementing these changes and the ESN will be working with its members to ensure an equitable outcome.

Clearly, the adoption of our proposed definition for electricity storage is a major achievement – we made a call for government to amend the Electricity Act 1989⁴ to include a new licence condition for electricity storage, and not only has this request been accepted, but also BEIS and Ofgem have agreed to use our definition of electricity storage.

Our definition is:

- "Electricity Storage" in the electricity system is the conversion of electrical energy into a form of energy which can be stored, the storing of that energy, and the subsequent reconversion of that energy back into electrical energy.
- "Electricity Storage Facility" in the electricity system means a facility where Electricity Storage occurs.

The plan does point out that the amendment to the Electricity Act will be subject to the availability of parliamentary time. In the meantime, Ofgem will consult on a modified generation licence so that this can happen independently of the parliamentary timetable.

Other comments on storage

The plan rectifies discrepancies between the treatment of electricity storage against other technologies, addresses the application of double consumption levies, addresses the treatment of storage on sites with renewable generation which receives ROCs, CFDs and FITs. These are all seen as being good for the whole industry.

Network operators are to be encouraged to improve the process for making network connections available to users of storage. We see this as not only the responsibility of network operators in having a clear process for storage connections, but also for potential storage operators to be realistic in their applications and to work with the network operators for mutual benefit.

Ofgem is to clarify the regulatory position on the ownership and operation of storage by network operators. We believe that this is a complex issue, and that any networks should continue to be able to own and operate storage subject to market safeguards. The new role of the DSO demands that flexibility is included across the network and it is not realistic to assume that all storage can be installed and operated by market participants.

The government also wishes to ensure that health and safety legislation keeps pace with changes in technology. The widespread adoption of new battery technologies has moved faster than guidelines for good practice and standards. We believe that government should actively support the standards making process and fund important work in this area.

⁴ <http://www.electricitystorage.co.uk/links-and-reports/publications-electricity-storage-network/>

More funding is to be available for innovation. We would stress that it is not just lithium batteries that can provide electricity storage, and money needs to be directed to other types of storage, mechanical, electrical as well as other battery types.

Comments on smart homes and businesses

The action plan includes several points calling for action to improve smart response. The commitment to smart meters has been reduced to offering every home and business a smart meter by the end of 2020. The aim is to introduce new business models. Half hour pricing will be optional, and more smart tariffs will be offered to consumers. Government will consult on introducing standards for smart appliances, especially with the greater introduction of electric vehicles. The need for cyber security has been included.

There are several points about reforming the electricity markets, with the possibility of aggregators accessing the balancing mechanism, simplifying the procedure for participation in the Capacity Market, and a new regulatory structure for the System Operator.

What is missing from the plan?

The plan is welcome and detailed in its actions towards storage, but it still has a long way to go. It lacks detail about how smart tariffs should be addressed, does not satisfactorily address the emerging role of the distribution system operators and is weak in addressing the out of date electricity market that is currently operating in the UK. The opportunity for radically new business models is understated and the opportunity to take advantage of time of use tariffs will be missed without reforming half hourly settlement.

Simplification of the Capacity Market and the Balancing Mechanism is long overdue. The rules applying to applicable balancing services and derating factors for storage need revision before the next auction rounds.

As far as storage is concerned, the plan is very supportive of the approach of lithium batteries, and seems to ignore other battery types and indeed other types of storage. The role of longer duration energy storage, such as provided by other systems including flow batteries, high temperature batteries, liquid air and pumped hydro is not sufficiently covered.

We are concerned that the opportunity for British companies to succeed in overseas markets has not been fully recognised, and that demonstrating and trialling projects in home markets is a very necessary precursor to international success.