

Mr Angus MacNeil MP
Chairman
Energy & Climate Change Select Committee
House of Commons
London
SW1A 0AA

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Dear Mr MacNeil

Thank you for giving me the opportunity to give evidence on energy storage to the Energy & Climate Change Committee on 11 October which I hope you found useful.

You had asked about the second round of capacity auctions and I wanted to send you some more information. Although your question about the amount of storage that we would expect to see is very hard to answer, in their Future Energy Scenarios paper National Grid have suggested that scenarios show a maximum of 18 GW of electricity storage by 2040¹.

We covered a great deal at the meeting so I also wanted to provide you with further details that will hopefully be useful for your forthcoming report.

UK Power Networks has a strong track record in delivering for our customers. We have reduced the frequency of power cuts by 42% and the duration of power cuts by 53% since 2010; our customer satisfaction is at 86%; we have an industry-leading safety record and we are the lowest cost DNO – our customers pay around £75 a year. Being allowed to own and operate storage has the potential to further help us keep costs down for customers and play an important role in enabling the low carbon transition.

Storage is both a key solution to help networks match renewable energy resources to demand and a key technology that should provide the highest value to customers. It can offer an innovative solution to network challenges by providing multiple services to the system, and for network operators it can provide a lower cost alternative to conventional network reinforcement.

Our Smarter Network Storage (SNS) trial in Leighton Buzzard has demonstrated the services that battery storage is able to provide, namely:

- Peak shaving: which allows DNOs to reduce peak times of electricity consumption to defer network reinforcement
- Frequency response: which enables National Grid to stabilise the frequency of the system
- Electricity reserve: which helps to overcome the intermittency of renewable generation
- Tolling: storage can offer wholesale market trading opportunities for other market participants

¹ [Future Energy Scenarios, National Grid, July 2016](#)

The SNS project has also successfully demonstrated the current value streams for energy storage. The project has been the first in UK to demonstrate in detail the multi-purpose application of energy storage and document the processes required to realise the available revenue streams. Our learnings have been shared with the industry and the public and we are pleased that they have helped the development of new services and business models.

As we discussed at the evidence session, along with categorising storage independently, having a competitive storage market is vital and Government and Ofgem have an important job in setting the terms that allows this market to flourish. For that reason, a DNOs' ability to procure storage could stimulate the market. In addition, if a market provision was not available or forthcoming from a contestable process, then the DNO should be allowed to own and develop a storage asset as an alternative to conventional network asset solutions.

We have already seen a phenomenal amount of interest from storage developers looking to connect to our network. Customers are at the heart of our businesses so we recognise the importance of enabling this new technology and have responded by:

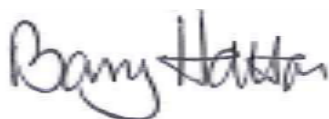
- Producing a storage heat map that shows where the best locations in terms of cost/speed for connection of storage
- Being the first DNO to publish a policy on how we will enable storage connections
- Running storage specific customer surgeries to ensure that the customers can find the best locations for their projects
- Developing our flexibility programme which will look to procure flexibility as an alternative to network upgrades

We also recognise that energy storage also has a vital role to play in our transition from Distribution Network Operator to Distribution System Operator. Storing surplus energy can help alleviate export constraints while releasing stored energy can provide an alternative to network in providing security of supply. It can provide technical services such as reactive power to control voltage as well as a very fast response which can help overall system stability.

Energy storage will become an important part of our energy system in the future. As battery costs continue to fall, storage will become a revolutionary tool enabling networks to run more efficiently while keeping customers' electricity costs down.

I hope you find this additional information useful. We have welcomed engaging with the Energy & Climate Change Committee over the years and are grateful for your valuable contribution to the energy policy debate. We look forward to working with your successor Committee.

Yours sincerely



Barry Hatton
Director of Asset Management