

Response: ENA Open Networks Project Workstream 1, Product 10 Treatment of Flexibility

June 2018

RenewableUK is the trade and professional body for the wind, wave and tidal energy industries. It promotes the deployment of clean energy in a smart energy system, by making politicians, the media and the public more aware of the UK's transition from fossil fuels to renewable sources. Formed in 1978, and with more than 400 corporate member companies, RenewableUK is the country's leading trade association working on the future of the electricity system.

Scottish Renewables is the representative body for the renewable energy sector in Scotland, working to grow a sustainable industry which delivers secure supplies of low-carbon, clean energy for heat, power and transport at the lowest possible cost. We represent around 270 organisations ranging from large suppliers, operators and manufacturers to small developers, installers and community groups, and companies right across the supply chain.

We recognise that effective management of connection queues is important in moving towards a smart, flexible, low-carbon energy system and we welcome the work of the ENA and the Open Networks programme to ensure that projects can connect to the network quickly and more efficiently.

Energy storage assets and other providers of network services have significant potential in alleviating network issues and enabling further low-carbon generation to connect to the network, and we support efforts to consider how best to integrate these assets into our energy system.

In our view, however, there are significant challenges surrounding ensuring equality among parties; measuring the benefit of an asset to the network; and monitoring the use of an asset over time. As we set out below, it is for these reasons that we caution against advancing storage/flexibility service providers ahead of other resources in a connection queue.

Q1. Under what circumstances do you think customers/flexibility/storage service providers should be connected ahead of other resources to enable better use of existing network capacity?

RenewableUK and Scottish Renewables support the integration of electricity storage services within the existing energy system which would encourage greater use of flexibility coupled with the growing share of renewables. There is a wider system benefit to both transmission and distribution when storage services are able to connect to the grid more easily. At the same time, these system improvements can deliver significant savings to consumers.

However, we believe there should be no advancement of storage ahead of generation (outside of the existing queue management principles) if they are competing for the same network access

as other network users. As is already the case, firm and flexible operation principles can be applied to export and import independently of each other. Separating firm and flexible import and export already provides the basis for local innovative use of flexibility or constraint and encourages resolving constraints and delivery of value locally.

It is important to remember that it is not just electricity storage projects which may be able to offer flexibility/ancillary services to the network. A range of resources have the potential to offer a range of system benefits. No one service provider should receive preferential treatment to another.

As our energy landscape changes, network users are all seeking to connect and utilise the network in different, often more flexible, ways. Many project developers are responding to policy uncertainty by developing flexible business models focused on their ability to adapt to changing market signals. As business models change over time, the benefit a particular asset has to the system will also change. We do not believe therefore that it is practical to advance a project based on a benefit that might change (or indeed that it is practical to monitor and evaluate the 'benefit' to the network)¹.

Connection applicants are in direct competition when applying for connections. While flexible connections have become increasingly important (particularly for projects seeking to connect amid network constraints) there remains a limited appetite from commercial developers for connection offers that will directly restrict output.

Additionally, while several projects could progress to benefit the network, both a lack of market signals to drive investment in these projects and poor definitions regarding network access arrangements are preventing these projects from progressing. We welcome the efforts by the Charging Futures Forum to address these issues as we believe a robust and enduring industry wide solution to storage/flexibility connection offers should be in place, particularly given projections that the UK could see up to 6.1GW of additional battery energy storage capability installed by the end of 2023².

Q2. Where do you believe the opportunities lie in the existing connections process for storage and other DER to be connected ahead of other resources so that they can enable better use of the existing network capacity that is available?

Renewable UK and Scottish Renewables support the view that integrating storage could improve the use and flexibility of existing assets, and facilitate the integration of new low cost generation across the network.

In particular, there are clear advantages from the increase in demand-side response with more efficient management of distribution-connected energy storage capacity. There are also opportunities in easing constraints on the transmission network through distribution connected resources, improving overall system responsiveness to fluctuations in electricity demand and generation. However, if the interaction between transmission and distribution constraints is not effectively coordinated it may contribute to inefficient outcomes through restricting network access or other potential impacts of local actions in actively managed schemes. DNOs must effectively address the challenges involved in providing common level of constraints across their network, to ensure customers can build a clear understanding of how capacity is being managed,

¹ Significant analysis would be required to determine the benefit that flexibility services would provide to the network and any potential effect on generation waiting to connect. If this was pursued, we would like further clarity and discussion on how this would be undertaken and how its costs would be recovered.

² <http://fes.nationalgrid.com/media/1253/final-fes-2017-updated-interactive-pdf-44-amended.pdf>

where spare capacity is available and where more can be done to manage constraints. We welcome the work being carried out in the Open Networks project to address the issue of managing capacity across transmission and distribution.

However, DNOs should not have a special treatment of storage since all distribution connected assets and DNO connections can have both import and export with storage and flexible response capabilities (e.g. hybrid commercial renewable and storage site, community with mixed assets, industrial customer with on-site generation). If a storage site has been identified to provide a critical value to the system then that should be resolved and remunerated through other channels rather than solve the wider, whole system value of storage through tilting the connection process.

Q3. Do you think that the work proposed under the Facilitating Connections (WS1 P11), Good Practice ahead of Connection Applications (WS2 P1) and Good Practice Following Connection Applications (WS2 P5) products go far enough in addressing gaps in the existing queue management process? If there are gaps, what are they?"

RenewableUK and Scottish Renewables are pleased to see an improvement in the existing queue management regime with some DNOs introducing a series of milestones on planning and construction for new connections. However, the amount of pressure put on developers to proceed with their project once they have received a connection date varies across DNO companies, depending on grid requirements. As such, there is a need for a consistent process which will help DNOs to identify non-progression earlier than is currently the case. This would provide a stronger incentive for stalled projects with connection agreements to give up their slot and allow projects that are able to use their capacity in a more timely manner to connect earlier. We want to see the existing queue management process at distribution go beyond the bare minimum with firm requirements for developers to meet progression milestones across all DNO areas.

Q4. With promotion of flexibility in mind, does the definition of the problem outlined in this Call for Evidence report align with your thinking? What additional elements would you suggest be incorporated to add value to future work?

RenewableUK and Scottish Renewables agree there is a lack of understanding of how storage/flexibility providers connections should be treated (by both network operators and connecting customers) and this will undoubtedly have an effect on the cost and time of connecting. However, wider issues regarding market signals for storage and poorly defined distribution network access arrangements introduce further uncertainty into how connection agreements for storage will be designed.

Q5. The conclusion (from the key findings through this product) suggests that the issue is less with the existing queue management processes and more to do with market certainty, tender requirements, service availability and T&D network constraints. Do the findings of DNO practices align with your experiences to date? Please provide details of your experiences. Issues with DNO investment and the business case for storage and market opportunities for storage by DSO-model.

By our experience the level of DNO investment into encouraging flexible connections for storage varies with some DNOs being much more proactive and engaged in the DSO transition than others. However, with the right market signals, the market for flexibility services could develop at pace, with products emerging which encourage the wider adoption of flexibility and energy storage in conjunction with renewables. As things stand there is no clear incentive nor framework for DNOs to progress with the development of such products.

While promoting 'more flexible' connectees is an attractive idea in principle, there are a number of practical difficulties resulting in effort and cost for DNOs and asset developers. One of those is the lack of consistency across DNOs on defining the qualification criteria for a flexible connection. This includes the level of availability of flexibility as well as which flexibility services need to be provided and what do they need to resolve – own business constraints, local network constrains or commercial service issues. Offers for flexible connection also affect existing queue members as they reduce the sense of security around their position in the queue and the time and cost of connection throughout the development, connection and operation process.

Q6. The next stages include a detailed gap analysis, roadmap, good practice guide and action plan. What information could we include as part of these outputs to provide customers with the tools to help progress through the connections queue?

While a variety of assets are able to benefit the system, there is currently no process to determine the usefulness of an asset, nor a mechanism to determine whether – if the use of the storage asset changes – the same benefit is there.

As such, the next stages of the process need to make sure that the new process does not provide opportunity for developers to game the system (e.g. initially putting in a storage facility, then changing to a hybrid site). We would also welcome more clarity on how existing connections will be impacted and what types of access offers will be available to flexibility services in the future.

Any process must be transparent, robust and must ensure that no connection applicant is unfairly disadvantaged.

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