Consultation response

GB Connections Reform (ESO)

Response from Regen and the Electricity Storage Network

July 2023

About Regen and the Electricity Storage Network

Regen is an independent centre of energy expertise with a mission to accelerate the transition to a zero carbon energy system. We have 20 years' experience in transforming the energy system for net zero and delivering expert advice and market insight on the systemic challenges of decarbonising power, heat and transport.

Regen is also a membership organisation and manages the Electricity Storage Network (ESN) – the voice of the UK storage industry. We have over 150 members who share our mission, including clean energy developers, businesses, local authorities, community energy groups, academic institutions, and research organisations across the energy sector.

Importance of connections issue

Delays facing clean energy projects seeking to connect to the electricity network are now recognised across industry as one of the biggest barriers on the path to net zero. Our members inform us that their clean energy projects are facing connection delays of up to fifteen years or more. Regen raised these issues in a letter to Ofgem in August 2022 and a letter to the energy secretary in December 2022.

Our response to this consultation is based on our extensive engagement with clean energy developers and investors on the connections challenges facing low carbon energy projects, including our Grid Connections Working Group. Our Chief Executive also chairs the Steering Group for National Grid ESO's 'GB Connections Reform'.

Regen published a paper in May 2023 which sets out the scale of the challenge to prepare our electricity network for net zero from the low voltage distribution to transmission network and our view of the key challenges and areas for action from Ofgem, National Grid ESO, the network companies and DESNZ.

Our response

Regen welcomes the ESO's GB Connections Reform and proposals for a reformed connection process.

We agree with ESO that the current process is clearly not fit for purpose. In particular, the process lacks milestones to ensure projects in the queue are progressing and creates potential for trading of connection capacity. We now have a very long queue to connect that does not align with the projects that are ready to progress or that are key to delivering net zero.

We do not propose to comment on the details of the models for a new connection process as investors and developers are better placed to respond on the specific proposals. We have, however, commented on two questions below and then set out our recommendations on issues we think are key to ensure the connections review delivers faster connections for much-needed net zero projects.

Regen will be pleased to continue working closely with ESO, TOs, and DNOs as the reform proposals are developed.

Response to questions

Q3: Do you agree with our initial view that the reformed connections process should facilitate and enable efficient connection under either a market-based (i.e. locational signals) or 'centralised' deployment approach (or an approach somewhere between the two), but not mandate which approach to follow?

We agree that the reformed connections process should enable efficient connection under either a market-based approach to project development and locations, or a more spatially planned deployment approach.

In the current market, offshore wind and nuclear are essentially centrally planned whilst technologies like solar PV and energy storage are more market-led, responding to a range of locational signals (as set out in Regen's recent paper). The connections process must work for what will inevitably be different approaches for different technologies and different scales of projects.

Q15: Do you agree that TMO4 should be the preferred TMO?

We agree that TMO4 is the best basis for a reformed connection process.

We agree that TMO4 is the best model put forward. It will, however, be important in this process that milestones are defined clearly and that there is a transparent process for dealing with delays beyond the control of project developments – such as in planning.

We do have a concern that the process will be less suitable for distribution level connections due to the gated process introducing potentially long delays for smaller projects. We have responded on that specifically below.

Regen recommendations

T&D Boundary

Recommendation 1: DNO/DSOs should manage the connections process below GSPs, being responsive to the needs of their customers and using flexibility tools, such as Active Network Management, to stay within parameters agreed with the ESO.

As the energy system becomes more decentralised, the process for connecting generation, storage, and new types of demand such as EV charging at the distribution level is becoming ever more important.

The current connection process has caused particular problems for projects connecting to the distribution network that are stuck in very long queues at transmission level. We engaged recently, for example, with a local authority developing a MW scale solar farm as an important part of their net zero and economic plans that had contractors on-site before realising there was a long delay to the grid connection for the project due to transmission connection constraints.

Designing one process that works effectively for GW scale offshore wind farms down to 1 MW scale 'solar allotments' led by a Parish Council is unlikely, in our view, to be possible. DNOs deal with a large volume of smaller applications and need to be able to apply processes suitable for these customer types.

We do not consider that a different process for distribution level connections would be unfair to projects connecting at transmission. It could be argued that distribution level connections are at a disadvantage under the current arrangements. These are very different projects with different time scales and different levels of grid expertise that require a different approach to meet customer needs.

The consultation proposes in the preferred TMO4 model that DNOs apply for capacity for distribution connected projects in the application windows. To avoid long timelines for small projects the consultation proposes a concept of Reserved Developer Capacity that DNOs can allocate in between annual windows. To work, this process needs to be:

1) Flexible – capacity should not be allocated to particular technology types.
2) Fair – ensuring that this capacity is not immediately secured by one or two developers, excluding important projects such as local authority or community developed schemes that are slower in their decision making.
3) Transparent – provide a clear and transparent process for identifying what level the Reserved Developer Capacity should be set at.

Network Operator 'Milestones'

Recommendation 2: Ensure network operators meet agreed connection timescales.

The reformed process, rightly, puts an onus on project developers to progress their projects and meet agreed milestones. If developers fail to meet their milestones, this could lead to a project's grid connection date being delayed with significant commercial implications.

However, there appears to be no similar onus on the network operators to meet their milestones and responsibilities to build the assets required. The contractual position between the network operators and developers should be more even, with penalties for either party that does not comply with its obligations. This is the case in commercial ICP/EPC contracts but not for network operators. Reforming the connection agreement terms and conditions would help improve confidence for developers operating in GB.

Implementation

The current connection queue is over 300 GWs and going up by 1 GW a day. The implementation plan proposes a go live date half way through 2025 by which time the connection queue could be over 500 GWs.

A new process for new applicants will have little impact whilst there is such a substantial existing queue to connect. Further measures to address the existing queue are, therefore, a vital part of reform.

Recommendation 3: ESO, Ofgem and DESNZ need to work together to implement any licence or code changes required as quickly as possible. Any quick win measures should be implemented straight away.

Recommendation 4: Ofgem should approve ESO applying milestones to the existing transmission and distribution queue – ensuring a transparent process, right of appeal and fair approach.

The ESO and ENA are currently progressing measures aiming to progress projects stuck in the existing queue. These measures are a critical step to unblock capacity and allow 'shovel-ready' projects to connect earlier.

Ofgem should approve code modification CMP376 and any further measures required to allow the ESO to move forward with queue management, but also ensure milestones are implemented transparently and fairly, with a right of appeal.

Recommendation 5: ESO should deconstruct the queue by technology type and location and take a more targeted approach to construction planning assumptions.

The current approach to managing the connection queue is based on broad modelling assumptions as to what projects will actually be progressed. We welcome the fact that the National Grid ESO is now taking a targeted approach to storage connections and improving the assumptions used to model system impact.

We think that a technology specific approach could be applied more broadly to address the existing queue, taking a specific approach to addressing each technology and tailoring modelling assumptions.

A technology-specific approach to address the queue might include:

- Removing fossil fuel projects without planning permission, or assuming they will not be built as they are not required for a net zero power system.
- Running a separate process for nuclear and interconnectors.
- Implementing the ESO's Five Point Plan approach to a new, smarter approach for dealing with storage connections.
- Removing offshore wind projects without a lease from the queue and progressing a more strategic approach for offshore wind development through the Holistic Network Design process.

Regen uses technology specific logic chains for assessing which projects are moving forward in the Distribution Future Energy Scenarios (DFES) process we deliver for NGED and SSEN. We would be happy to share this methodology with Ofgem and the ESO to support more sophisticated modelling assumption.

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