

James Veaney
Ofgem
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Dear James

Consultation on getting an electricity connection when the network is constrained

Scottish Renewables is the representative body for the renewable energy industry in Scotland, working to deliver a low-carbon, secure energy system, integrating renewable electricity, heat and transport at the lowest possible cost.

Grid connection has become a significant barrier to the deployment of renewable energy generation. In Scotland this is a particular issue where there are high levels of generation connected to the distribution network and significant upgrades required on the transmission network (which begins at 132kV).

In order to meet our carbon budgets The Committee on Climate Change states that renewable energy capacity will need to double and that moving towards a flexible energy system presents an opportunity to save £3.5 billion per year by 2030¹. It is therefore essential that Distribution Network Operators are able to contribute to providing this flexibility and enable sufficient renewable generation to connect to meet those objectives.

¹ CCC Power Sector for the fifth carbon budget 2015 <https://documents.theccc.org.uk/wp-content/uploads/2015/10/Power-sector-scenarios-for-the-fifth-carbon-budget.pdf>

With this in mind, we support Ofgem's decision to seek views on how effective each Distribution Network Operator (DNO) has been at engaging with customers and in developing plans to deal with constraints on the network.

Overall, it is our view that the DNOs operating in Scotland are working to continually better meet the needs of their connection customers improve connection timescales, provide useful information and improve their customer experience. However, there is recognition across industry that more can be done particularly to enable connections in constrained areas.

With this in mind Scottish Renewables recommend the following action;

- Offer flexible and alternative connections by default early in the application process
- Develop a strategy for the delivery of actively managed networks and connections across Scotland and the rest of the UK
- Provide more frequent updates to existing heat maps and include details of planned connections
- Develop a tool which clearly demonstrates all scheduled reinforcement works (including timeliness), to be updated as frequently as can be practically achieved.
- Create a central depository, hosted by the regulator, for ICE related documents from all operators

We have provided more detail in response to the consultations below and we would be happy to contribute to any additional work that arises from this consultation.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Hannah Smith', written in a cursive style.

Hannah Smith
Policy Officer – Markets and Systems

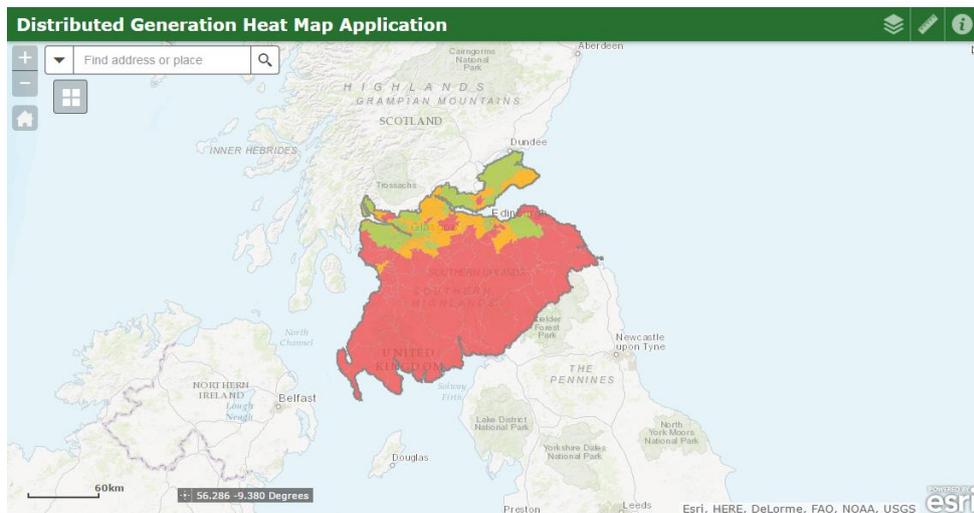
Q1: Do you consider there are constraints on the network in this DNOs region?

Network constraints affect projects across the whole of the GB system at a distribution and transmission scale.

DNOs report an increase in the number of distributed generation connection applications coinciding with circuits that are, or are reaching, the limits of their available capacity².

This is a particular issue in Scotland, where lacking grid infrastructure (including at transmission level) and constraints on existing network are a severe hindrance to allowing new renewable generation to connect.

With this in mind, we welcome the production of ‘heat maps’ from ScottishPower Energy Networks and Scottish and Southern Energy, detailing limits on their respective networks. It is our view that these maps clearly show the significant level of network constraints across Scotland^{3, 4}.



² SP Energy Networks, Distributed Generation, Looking Back Report, 2014

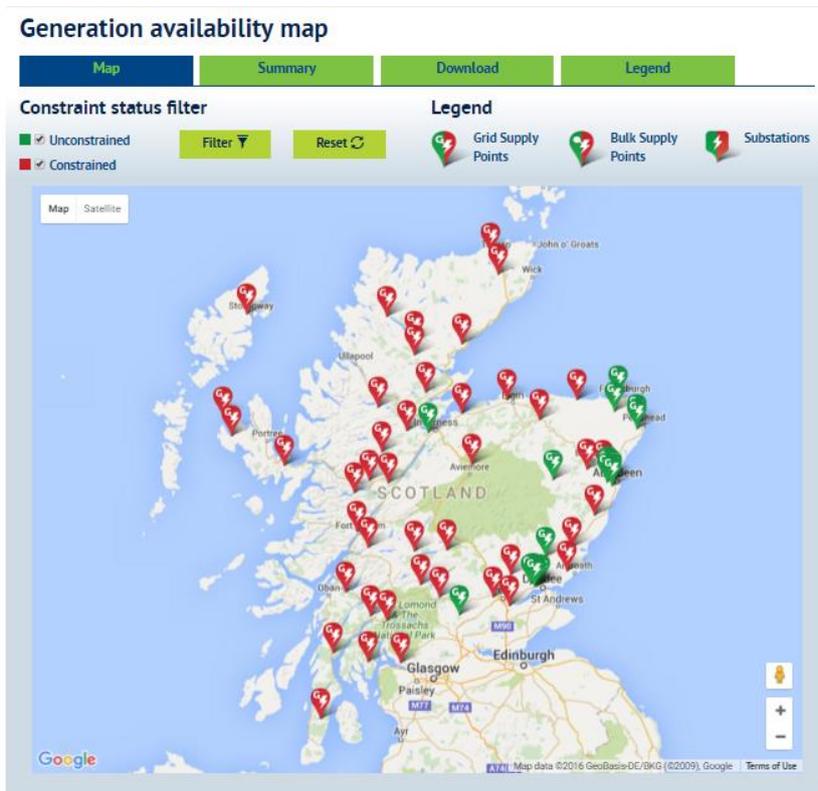
http://www.spenergynetworks.co.uk/userfiles/file/SPEN_ICE_LookingBackReport%20June%202014.pdf

³ SP Energy Networks, Distributed Generation Heat Maps,

http://www.spenergynetworks.co.uk/pages/connection_opportunities.asp

⁴ Scottish and Southern Energy, Power Distribution, Generation Availability Map,

<https://www.ssepd.co.uk/generationavailability/>



Q2: What impact have these constraints had on your ability to get connected to the network?

We understand that the network is undergoing a period of significant transition, and the distribution network in particular – and its interface with the transmission system – is facing greater challenges. We are aware that this places significant pressure on DNOs, however note that changes in our energy landscape are often outpacing DNOs ability to react to them.

Network constraints, and the volume of connection applicants, result in significant cost increases for customers and delay for project connection. It is now widely recognised that connection dates will frequently be post-2020 – this is particularly concerning given broader industry pressures, where deadlines exist as a result of changes to energy policy.

In addition, it is important to note that more can be done to relieve these issues beyond managing constraints. Connection queues equally cause frustration for customers looking to connect to the network and while we welcome consultation on fair and effective queue management⁵ currently, the queues add another time delay and uncertainty to projects.

Q3: To what extent has the DNO tried to find ways to help you get connected in constrained areas? For example:

We understand the DNOs operating in Scotland to be working to continually better meet the needs of their connection customers. Within the framework of the Incentive on Connections Engagement (ICE) Guidance, DNOs are working to improve connection timescales, provide useful information and improve their customer experience.

Through a variety of documents, DNOs are presenting their work-plans of activity, connection strategy, and progress reports. We find the suite of documents to be useful, thorough and easy to understand – if difficult to locate online. Creating a central depository, hosted by the regulator, for ICE related documents from all operators would be a welcome step in ensuring the documents are easy to locate.

a) To what extent has the DNO offered you more flexible and alternative connection arrangements alongside conventional firm connections? If not, then have they explained why not?

It is our understanding that flexible and alternative connection arrangements are currently not offered as standard within the current connection process. Offering flexible and alternative connections by default early in the application process would be welcome, and would reduce costly time delays.

⁵ Energy Networks Association, Consultation on Fair and Effective Management of DNO Connection Queues: Progression Milestones <http://www.energynetworks.org/assets/files/news/consultation-responses/Consultation%20responses%202016/Queue%20Management%20Milestones%20consultation%20April%202016%20-%20FINAL.pdf>

Both SP Energy Networks and SSE Power Distribution have trailed flagship active network management programmes, *Accelerating Renewables Connections (ARC)*⁶ (SPEN) and the *Orkney Smart Grid and Northern Isles New Energy Solutions (NINES)*⁷ (SSEPD). SSEPD's *Connect+* programme also facilitates getting ANM functionality for a single generator connection, however this remains a limited option as only one connection in any specific area is able to be provided.

We understand that all of these projects have yielded positive results demonstrating the benefits of actively managed networks, with demonstrable cost savings of up to 90 per cent⁸. However it is clear that more support from the regulator is required to roll out the programmes further across the networks.⁹

We would therefore encourage the DNO's, as a matter of priority, to clearly set out the barriers and work with Ofgem to develop a strategy to enable the roll out of actively managed networks and connections across Scotland and the UK.

b) If the DNO does offer alternative arrangements, is the information provided sufficient to decide whether or not to go forward with the connection?

It has been brought to our attention that discussion on and securing alternative connection arrangements can often become a customer-led process, with DNO response times being criticised. This can hinder decision-making.

Similarly, it is our understanding that the distribution/transmission interface is often difficult for customers to navigate – leading to communication difficulties and timescale slippage. We believe the DNOs should take a stronger position in

⁶ ARC Six Monthly Report, December 2014 https://www.ofgem.gov.uk/sites/default/files/docs/2015/02/arc_-_ofgem_progress_report_-_december_2014_final.docx_0.pdf

⁷ NINES project website <http://www.ninessmartgrid.co.uk/>

⁸ Interruptible Connections for DG Customers

[http://www.smarternetworks.org/Files/Low_Carbon_Network_\(LCN\)_Fund_131203120438.pdf](http://www.smarternetworks.org/Files/Low_Carbon_Network_(LCN)_Fund_131203120438.pdf) and UK Power Networks: Flexible Plug and Play, 2014 [http://innovation.ukpowernetworks.co.uk/innovation/en/Projects/tier-2-projects/Flexible-Plug-and-Play-\(FPP\)/](http://innovation.ukpowernetworks.co.uk/innovation/en/Projects/tier-2-projects/Flexible-Plug-and-Play-(FPP)/)

⁹ Ofgem, Electricity Network Innovation Competition: 2015 funding decision

https://www.ofgem.gov.uk/sites/default/files/docs/elec_nic_decision_2015.pdf

delivering for their customers both in seeking timely information provision on, and delivering written detail of, their constraint management systems – particularly in relations to potential transmission constraints.

We would welcome consideration of how ‘case officers’ could support customers through all stages of the process and provide better communication with customers.

c) If the DNO does offer alternative arrangements, do you find the associated term (e.g. level of potential curtailment and certainty around maximum curtailment levels) acceptable?

Q4: What information has the DNO shared with you on its work plan of activities designed to help enable connections in these areas?

In accordance with ICE plans, DNOs publish various documents. ‘Looking Back’ reports^{10, 11} measure progress to date. Forward work plans on ‘Looking Forward’^{12, 13} and plans and commitments for connections customers^{14, 15}.

We also welcome the publication of ‘heat maps’ showing levels of network pressures^{16, 17}, though we would welcome more frequent updates and planned connections being included.

¹⁰ SP Energy Networks Distributed Generation Looking Back Report
http://www.spenergynetworks.co.uk/userfiles/file/SPEN_ICE_LookingBackReport%20June%2014.pdf

¹¹ SSEPD Ice Webpage, Plans and Reports, <https://www.ssepd.co.uk/ICE/>

¹² SSEPD Ice Webpage, Plans and Reports, <https://www.ssepd.co.uk/ICE/>

¹³ SP Energy Networks, Our ‘Looking Forward’ Work Plan Strategy, May 2015,
http://www.spenergynetworks.co.uk/userfiles/file/ICE_StrategyV2.pdf

¹⁴ SSEPD Ice Webpage, Plans and Reports, <https://www.ssepd.co.uk/ICE/>

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¹⁶ SP Energy Networks, Distributed Generation Heat Maps,
http://www.spenergynetworks.co.uk/pages/connection_opportunities.asp

¹⁷ Scottish and Southern Energy, Power Distribution, Generation Availability Map,
<https://www.ssepd.co.uk/generationavailability/>

We are aware of, and are actively supporting, the parallel work done by DNOs on queue management, and the related work on assessment and design fees, which should result in improved allocation of capacity.

a) How comprehensive has this information been?

The suite of reports provided is useful in determining DNO priority areas and timetabling of work plans- this information is relatively comprehensive, though sometimes it is awkward to locate the right reports via websites.

We would welcome greater technical detail presented in a similar, digestible format.

b) To what extent has the DNO provided information on associated delivery dates on its work plan of activities

Proposed timescales are laid out in the 'Looking Forward' reports mentioned above.

c) Are you aware if the DNO is forecasting future levels of growth in the type of connections you require?

We believe the DNOs to be active in considering future levels of growth in the network. Both DNOs have undertaken pioneering projects utilising alternative connections (see response to Q3.a), customer engagement and surveys should enable DNOs to better understand likely areas of growth across the network.

Published business plans¹⁸ recognise the need for increased flexibility in this regard and innovation is recognised as central to future network development¹⁹.

d) Are you aware of any plans the DNO has to invest in new network capacity where the network is constrained, to enable further customer

¹⁸ SP Energy Networks 2015-2023 Business Plan, March 2014,
http://www.spenergynetworks.co.uk/userfiles/file/201403_SPENBusinessPlan2015_23UpdatedMar14.pdf

¹⁹ Scottish and Southern Energy Power Distribution, SSE Hydro, Business Plan Fact Sheet
http://www.yourfutureenergynetwork.co.uk/factsheet_SHEPD2014.pdf

connections? Have you been consulted on these plans? Has the DNO explored with you ways in which this could be funded?

Our members have not indicated that they are aware of where the DNO may be investing in new network capacity. We would welcome a tool which clearly demonstrates all scheduled reinforcement works (including timeliness), rather like a distribution-version of the transmission works register, updated as frequently as can be practically achieved. This may help reinforcements to be optimally sized as projects contract to connect in areas where known reinforcement is taking place.

Q5: Please give details of any other activities you would expect the DNO to be undertaking to deal with constraints on their network.

Rhetoric into Practice

It has been brought to our attention that customers feel that literature and ICE plans clearly work to improve customer engagement, but that this does not always materialise in practice. Frustrations exist around communications, slow-response times, and timescale-slips, all of which can result in additional cost to the customer.

Enabling System Flexibility

Scottish Renewables welcomes Ofgem's recognition the commitment to "Encourage Distribution Network Owners (DNO) to take a more active role in network management, moving to future Distribution System Operator roles and engaging effectively with the System Operator²⁰".

Not only will this better enable customer connections, The Committee on Climate Change has estimated that developing a flexible energy system could save consumers up to £3.5bn²¹ and it is important this that move is recognised and enabled at the distribution level.

²⁰ https://www.ofgem.gov.uk/sites/default/files/docs/2015/09/flexibility_position_paper_final_0.pdf

²¹ The Committee on Climate Change, Power Sector Scenarios for the Fifth Carbon Budget, October 2015
<https://documents.theccc.org.uk/wp-content/uploads/2015/10/Power-sector-scenarios-for-the-fifth-carbon-budget.pdf>

One such example is allowing DNOs the required flexibility to help deliver the benefits from emerging technologies, such as energy storage. Current licensing and regulatory barriers prevent DNOs from directly procuring these system-beneficial services, or from providing these services themselves. The development of standard procedures to assess DNOs looking to participate in these areas would be welcome.

Active Network Management and other alternative connections also play a key role in maximising the utility of existing infrastructure while enabling renewables connections.

With this in mind, we strongly encourage Ofgem to work with DNO's to define a strategy to enable the transition to Distribution System Operators.

Queue Management and Hoarded Capacity

As discussed above, connection queues can significantly hinder the progress of projects and we welcome consultation on how these can be better managed.

Capacity hoarding, both in queue structures, and in projects with unused grid capacity is another area where we welcome activity in lessening constraints and enabling additional network connections. We support the related work by the Energy Networks Association on queue management, and we look forward to DNOs applying the recommended conclusions of the work as quickly as is practically possible.

Connect & Manage

We would welcome distributed generation constraints being explicitly taken into account by the DNOs in their network capacity investment plans. We believe that the magnitude (i.e. MWh) of constraint of operational distributed generation would be a useful signal to help identify where best to invest network capacity.