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Sent by email to: Flexibility@ofgem.gov.uk

Dear Alex

Consultation on key enablers for DSO programme of work and the Long Term Development Statement

Thank you for the opportunity to share our views these proposals. Ofgem's Decarbonisation Action Plan recognises the requirement for much more flexibility in the energy system, including new decentralised technologies like energy storage and demand-side response (DSR). We welcome Ofgem's commitment to support the efficient rollout of smart technologies and to ensure that flexibility market participants are provided with the correct signals to make efficient decisions. This direction of travel has long been discussed but little has changed, and further leadership is required to ensure that consumers engage with this transition and are able to benefit from the use of technology at all levels in the system.

The actions proposed in this consultation will help give flexibility providers the information they need to inform decisions on where to connect to the network and the locations where new assets can provide the greatest contribution to the GB energy system. We understand Ofgem plans to update the LTDS in the current RIIO-1 regulatory period. The other DSO key enablers discussed in the consultation also need to be implemented well before 2023 to keep flexibility's contribution to decarbonisation on track.

On their own, these proposals are not enough to enable fully functioning flexibility markets by the next regulatory period, RIIO-ED2. Further action will be needed for local flexibility to deliver to the levels required to ensure lowest cost outcomes for customers and businesses. We look forward to engaging with Ofgem and BEIS as they review the Smart Systems and Flexibility Plan and press for network companies to deliver concrete improvements through the Open Networks Project and implement the Energy Data Taskforce recommendations in a timely manner.

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We have responded below to the consultation questions.

Part 1 - The Long Term Development Statement

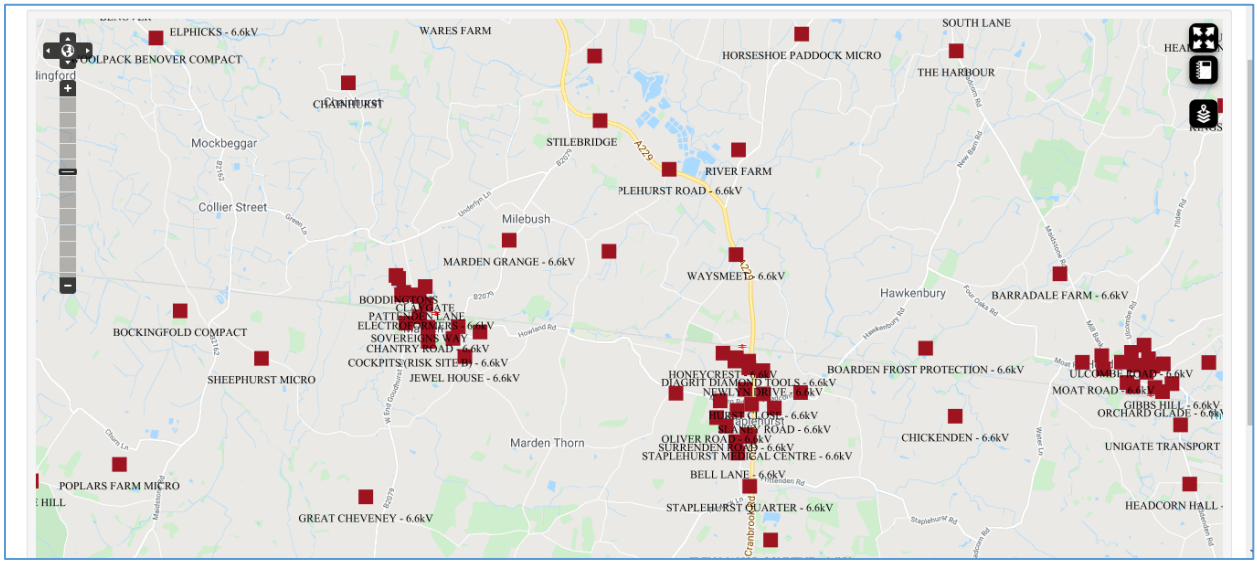
Question 1: We consider that improvement is required in the visibility of DG and LCTs connected to the distribution network. In addition to DG and LCT connections, can you identify areas for improvement in the current data that is shared in the LTDS?

We want more consistency of information from DNOs. Currently information is not consistent due to DNOs using different technologies and applying different approaches. Network users also need to be confident that the information they access is accurate. Some data has no indictor of age, so you are forced into having a dialogue with the DNO to verify its accuracy.

DNOs should not be able to include caveats about accuracy, because these act to devalue the information and make the process little more than a 'tick box' exercise for the DNO. Information quality could be reviewed by an independent body such as the proposed LTDS Working Group.

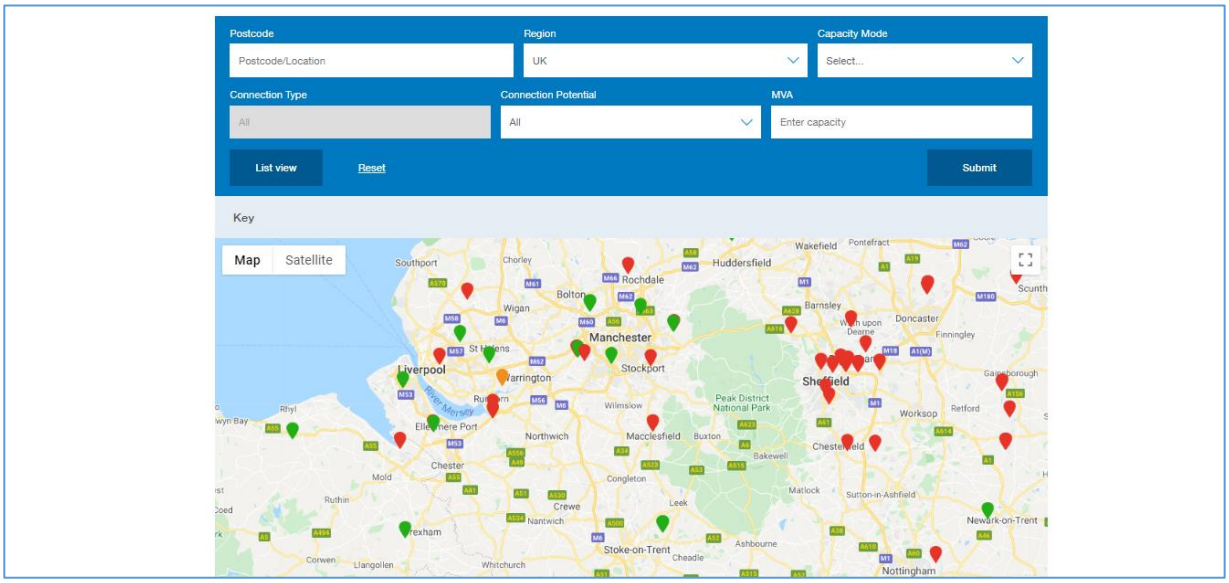
We support incorporating heatmaps in the LTDS – so that they become mandatory and to ensure heatmaps are produced to minimum standards.

Some DNOs, have produced specific heat-maps for EV connections. UKPN's is shown below as an example. These heatmaps contain information on whether work/reinforcement is needed to install charging infrastructure and users can download all the information they need for a selected location. All DNOs should be providing this level of information to help the GB system prepare for the mass-uptake of EVs.



UKPN Heat Map on EV connections

Lessons can be learnt from the ESO: this ESO heatmap is far superior to current DNO maps, as it enables you to enter some high-level numbers in in order to get an indication of cost.



National Grid ESO Heat Map

Question 2: Can you identify areas for improvement in the presentation of network information in the current FoS?

Load data should be provided to accompany the load curves**.** The load data is the data that underpins the curve.

Users should be able to select the data that they want to download, creating a downloadable dataset that is tailored to their needs. The current ONS webpages provide an example of this.

The current FoS should be reviewed against the Modernising Energy Data (MED) draft Energy Data Best Practice Guidance mentioned in paragraph 1.15 of the consultation. As part of this work led by Energy Systems Catapult energy stakeholders discussed how data should be presented and available to download. Ofgem should ensure that the outcome of this consultation is in line with the guidance – which can be accessed here in draft form.

Question 3: The EDTF and others have identified the need to collate and share 11kV and lower voltage network data. Is there value in creating a sharing mechanism for 11kV and LV network data ahead of the expected roll out of network monitoring and telemetry in RIIO-ED2 and the limited data availability in RIIO-ED1?

Yes. 11kV and LV network data should be shared as soon as possible. DNOs need to be progressing the rollout of network monitoring **before** RIIO-ED2 if we are to get fully functioning flexibility markets by 2023.

Question 4: Given the complexity of future distribution networks, static data alone may not satisfy user needs. Should the FoS be enhanced to mandate the development of a common network model to allow power system simulation that each licensee must make available for exchange to users and interested parties? If so, what do you consider to be an appropriate standard?

Yes. We support the use of CIM.

Question 5: From a review of industry publications we consider that interoperable standards will underpin future DSO activities. Should the FoS mandate the adoption of a IEC 61970 CIM and IEC 61968 CIM for Distribution Management, such that data is collated and constructed in a manner similar to WPDs CIM innovation project model? Are these standards mature and what are the likely benefits and costs?

We agree interoperable standards are essential to supporting DSO functions. We agree with the use of CIM for the LTDS, but WPD's approach needs to be reviewed to ensure it reflects the most up-to-date approach before using it as the basis.

However, the use of a CIM model is not optimal if the underlying data is of poor quality. As stated before, the DNO's need to provide stakeholders with more confidence in the accuracy of the data they publish.

Question 6: Should the FoS also be retained in its current Microsoft Excel form? Is there value in this format?

The FoS should be exportable into both Excel and CIM. Not all users will have access to the software tools required by the CIM.

Question 7: Ensuring network information remains accessible is a priority. At present there is no formal requirement for the production of heatmaps. In order to ensure future customer can access the required data, should the scope of the LTDS and FoS be extended to mandate the production of heatmaps?

Yes. The scope of the LTDS and FoS must be extended to mandate heatmaps, dataset content and set minimum standards for these.

Question 8: Would there be benefit to adopting common guidance or formats on information presentation within heatmaps, including the presentation of technical information and cost information? What are the barriers to its adoption?

Yes, common formats for information presentation would make it easier for network users to understand and work with the information provided.

The priority should be setting minimum output standards for heatmaps so that users are guaranteed the right level and quality of information. This should have low barriers to adoption and be delivered rapidly.

Further harmonisation of heatmaps, such as formats, would then be needed. DNOs should provide evidence on any barriers to the adoption of common formats to industry and Ofgem. Ofgem should then set a deadline for DNOs to standardise information presentation.

Question 9: The core focus of the LTDS is to assist users to enter into arrangements with the licensee and evaluate the opportunities for doing so. Should the scope of the heatmaps include other network needs, such as flexibility requirements? What is the best mechanism to notify network users of opportunities to enter arrangements with the licensees?

The priority is ensuring that heatmaps contain the improved information that users need to identify where to connect to the network. This should include showing where connecting DG has an impact on the transmission network, not just the distribution network constraints.

DNO flexibility requirements could be shown on heatmaps, but this information should also be available elsewhere. This is to ensure the maximum number of users are informed of the opportunity to provide flexibility - not just those seeking new connections.

We want DNOs to be using independent platforms to procure flexibility. Independent flexibility platforms are ideally suited to providing information to market participants on opportunities to provide flexibility. DNOs internalising procurement processes reduces transparency and therefore may act as a barrier to wider flexibility take-up.

Question 10: On what frequency should these maps be updated? Should they be updated as there are changes to the underlying data or periodically?

Several DNOs already update heatmaps on a monthly basis. This should be the minimum requirement. DNOs should also update heatmaps immediately if there is any significant change to the underlying data.

Question 11: Is there a need for a common methodology or principles for estimating load growth? What potential role could the D-FES play in informing the load growth forecasts on the LTDS?

Yes. We do not believe it should take long (i.e. less than a year) for DNOs to agree a common approach to estimating load growth.

The D-FES could play a role in load growth forecasts only if the information is accurate. The NG FES contains a range of scenarios. The role of the D-FES will depend on whether the D-FES contains actual forecasts as well as scenarios.

Question 12: Are there any lessons that can be learned from other industry documents such as the ETYS and the NG FES?

Yes:

- The NG FES process is transparent and well-respected with a good amount of stakeholder involvement.
- However, it is not always clear how the NG FES scenarios feed in to the ESO's short-term procurement decisions. The connection between D-FES and DNO procurement decisions will need to be clearly considered and demonstrated from the outset at distribution level.

Where the NG ESO has demonstrated good practice and improved stakeholder involvement overtime then the DNOs should learn from this.

Question 13: Do you agree that the LTDS should be enhanced to present the key assumptions for network requirements forecasting and the uptake in LCTs, or is this a role better served by the D-FES or other documents?

Yes - because the requirement to produce the LTDS is binding on DNOs, given that it forms part of the Distribution Licence. The binding requirement could then be fulfilled by linking to the D-FES, if the D-FES scope includes accurate forecasting as well as scenarios. DNOs already reference other regulatory documents in their LTDS summaries.

Question 14: Forecasting tools have been a focus of a number of innovation projects. Are there any mature tools or techniques that could be adopted to enhance the transparency or robustness of the load growth forecasts?

There is an opportunity to make use of the forecasting tools that the ESO (including in its previous form) has been using for many years. We are not aware of any DNO innovation projects on forecasting tools that have gone into BAU.

Question 15: Do you agree that IDNOs should be issued with a direction to produce a LTDS?

Yes.

Question 16: What summary information should IDNOs publish? This is currently found in section one of the LTDS FoS, such as information relating to the design and operation of all voltage levels of the distribution network. Please explain your reasoning.

The aim should be to match the information provided by DNOs. Consistency will give better outcomes.

Question 17: What information on network data should IDNOs publish? This is currently found in section two of the LTDS FoS. Please explain your reasoning.

The aim should be to match the information provided by DNOs. Consistency will give better outcomes.

Question 18: Do you agree with our proposal on how the LTDS delivery body should be convened and governed?

Yes.

Question 19: Would you like to nominate an individual to take part in the LTDS working group? Please set out reasons for their inclusion and any qualifying experience the nominated person has to function as a strong contributor to the group.

We would like to nominate Stuart Fowler from within our Business Solutions business, Stuart has extensive experience in the energy industry but more recently working at a DNO in innovation and on the Cornwall Local Energy Market IT delivery. Stuart is keen to see the industry lead the way in data provision to engage consumers and developers in the achievement of net zero.

Part 2 - Key enablers for DSO

Question 20: What network monitoring parameters would you like to have access to? At what frequency?

Centrica is not a DNO, so therefore not network engineering experts, but readily sees value in more monitoring. Network monitoring provides greater visibility of the network. We believe that decisions on the detail of this are best placed with the DNOs and Ofgem.

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However, what we absolutely want is to see is a business case published where new investments are proposed that put the consumer at the heart of any proposal and achievement of net zero.

Question 21: What would enhanced 33kV network monitoring enable that cannot be undertaken today?

Increased network visibility, provided via access to all HV and LV network data, coupled with the recommendations from the EDTF would mean that Centrica can make more informed investment decisions for ourselves and propositions to DSR customers. DER resource registers in isolation, without associated network information, will not provide the whole picture.

Currently the lack of LV data prevents this and we remain slightly sceptical about data quality on higher voltages. Some DNOs also operate 132kV and 66kV networks.

Question 22: What would enhanced 11kV network monitoring enable that cannot be undertaken today?

Increased network visibility, provided via access to all HV and LV network data, coupled with the recommendations from the EDTF would mean that Centrica can make more informed investment decisions for ourselves and propositions to DSR customers. DER resource registers in isolation, without associated network information, will not provide the whole picture.

Currently the lack of LV data prevents this and we remain slightly sceptical about data quality on higher voltages. Some DNOs also operate 132kV and 66kV networks.

Question 23: What would enhanced LV network monitoring enable that cannot be undertaken today?

Increased network visibility, provided via access to all HV and LV network data, coupled with the recommendations from the EDTF would mean that Centrica can make more informed investment decisions for ourselves and propositions to DSR customers. DER resource registers in isolation, without associated network information, will not provide the whole picture.

Currently the lack of LV data prevents this and we remain slightly sceptical about data quality on higher voltages. Some DNOs also operate 132kV and 66kV networks.

LV network monitoring will become more important with the mass uptake of EVs and electrification of heat.

Question 24: What constraints in data systems architecture do you perceive are limiting network monitoring and visibility?

Currently DNO system architecture is 'islanded' meaning that there is no integration between different systems such as GIS and asset management. DNOs need to address this. WPD, for example, recently announced that it will CGI's Integrated Network Model (INM) solution to create a data integration platform.

Link to press release for information - https://www.cgi-group.co.uk/en-gb/news/utilities/cgi-helps-western-power-distribution-put-data-heart-its-distribution-strategy

Question 25: What operational data is most important to prioritise opening up first and why?

The operational data mentioned in the consultation includes:

- Network outage plans
- Network configurations

- Working/dynamic network topology
- Resource availability under supervisory control and data acquisition (SCADA)
- Constraints and conflicts

Access to all of this operational data will benefit flexibility service providers and we support Ofgem working on mechanisms to facilitate access and the close coordination with Modernising Energy Data (MED).

Question 26: How does a lack of access to this data impact the delivery of flexibility to the system?

Market participants risk connecting in a location where they cannot provide flexibility, or risk failing to identify where flexibility is most valued by the system. Whilst uncertainty is usually associated with flexibility markets, providing the right data can help minimise this and make projects more investable.

Market participants need to know the probability of interruption for an asset and if it is interrupted the expected duration of interruption. Assets whose connections are interrupted may face penalties for failing to provide a flexibility service and if interrupted on a regular basis, may not pass qualification to provide services in the future.

Question 27: Are there any real or perceived conflicts of interest with DNOs owning and operating ANM platforms at scale? What additional protections could be required for ANM customers?

Yes, there are real conflicts of interest with DNOs operating ANM.

ANM provides DNOs with a free form of flexibility. DNOs using ANM at scale risks undermining commercial flexibility markets by a) displacing commercial flex and b) by making the connection interruptible, blocking projects from accessing ESO markets.

Governance, approved by Ofgem, is needed to ensure DNOs do not misuse or overuse ANM. There are a range of protections that could be used such as:

- ringfencing ANM costs and use
- limiting instances where ANM can be used
- requiring the DNO to test the market for flexibility services first
- limiting the length of time ANM can be used e.g. before reinforcement is carried out or requiring the DNO to re-test the market for competitive flexibility services
- compensating customers with ANM connections
- the DNO publishing regular reports to Ofgem and network users on ANM usage

Question 28: In order to preserve optionality over ANM scheme operations, what technical and commercial protections, such as technical ring-fencing, may be required?

DNOs should be obliged to use commercial flexibility first. Governance arrangements should be established to ensure ANM is only used when technically necessary and require the DNO to prove such technical necessity as part of annual reporting in detail. DNOs must be barred from using ANM schemes to provide flexibility to the ESO or any other network operator.

Question 29: Please provide real world examples where lacking timely access to usable network data, or regulatory barriers, have limited your ability to provide a DSO function or support service. Please submit any relevant evidence and documentation of examples cited.

The following are examples of situations where DNO barriers have frustrated our ability to connect new flexible resources:

- **DNO information and heatmaps showing no constraints, when there are transmission-related constraints restricting the connection of distributed generation (DG)** – We are asking for DNO heatmaps to show transmission-related constraints because we have past experience of deliberately locating new flexible assets in areas where the local distribution network was showing no constraints, only to find late in project development, even construction, that the connection could be subject to Statement of Works. There were probably several factors involved, including T-D communication and the rolling out of alternative approaches to Statement of Works, but distribution heatmaps need to show transmission constraints to ensure DG projects have the full picture.
- **DNO inconsistency in the application of G99 (including ANM requirements)** – Through industry associations we are aware that DG owners share concerns that DNOs are applying G99 in different ways, with some DNOs being overly-strict on points such as deciding when new projects need to pay for and install DNO control and monitoring equipment. We have advised on a project where the DNO was asking the owner to pay for ANM equipment and dedicated communications infrastructure for a zero-export connection, when in practice the equipment could never provide any benefit to the local network. Cases like these could lead to sites simply not installing low carbon technologies.
- **DNOs not seeking to procure flexibility services in constrained areas** – We have been considering a new generation project in a DNO where there are constraints. We looked to see if the DNO was procuring flexibility in the same area to manage these constraints. There was nothing on the Piclo platform. It would seem sensible to us that where problems are identified that DNOs should be proactively investigating flexibility on a rolling basis, rather than just doing it every six months. This is not an effective use of the potential resources available.

Question 30: Are there any other issues related to enabling DSO that have not been considered that you think are important? Please provide details of your considerations.

We need clear overarching principles that DNOs must not be active in commercial markets – such as selling ancillary services to the ESO. We believe Ofgem is in the position to provide broad guidance - building on the work done by CEER.

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I hope you find this response useful. If you would like to discuss anything in further detail, please contact me at helen.stack@centrica.com .

Yours sincerely

Helen Stack
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