



Key enablers for DSO programme of work and the Long Term Development Statement

RenewableUK response

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RenewableUK's members are building our future energy system, powered by clean electricity. We bring them together to deliver that future faster; a future which is better for industry, billpayers, and the environment. We support over 400 member companies to ensure increasing amounts of renewable electricity are deployed across the UK and to access export markets all over the world. Our members are business leaders, technology innovators, and expert thinkers from right across industry.

We welcome the opportunity to respond to the consultation on key enablers for DSO programme of work and the approach to reform the Long Term Development Statement (LTDS).

RenewableUK is supportive of Ofgem's approach to reform the LTDS and the current practices for sharing network information data which is used to make future investment decisions.

As the energy system becomes more decentralised, there will be more active participants in the market. Many of these players will be smaller, with less resources to manage complex contracts and rules. Simplicity will therefore be an essential principle to enable the widest, and most liquid market for the benefit of consumers. Openness of data will also play a vital role in enabling a more decentralised market, where innovative solutions can come forward.

This response has been compiled by RenewableUK with input from our membership.

Part 1: The Long Term Development Statement

- 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?**

and

- 2. Can you identify areas for improvement in the presentation of network information in the current FoS?**

We agree that improvement in visibility of DER connected at the distribution network should be addressed as a matter of priority. In our view, there are significant challenges for industry parties surrounding the current use of the LTDS for the purposes of making informed investment decisions.



With increasing volumes of 'big data' the industry is rapidly moving away from technology stacks designed for 'one size fits all', to a wider set of solutions which can host different types of data.

As acknowledged by the Energy Data Task Force (EDTF), network data is often held in siloed databases, with no consistency in term of access and permissions. For instance, full access to the LTDSs is not readily available and needs to be requested by the user seeking access from the DNO, while registration is required in order to access information displayed in heatmaps.

DNO heatmaps are one of the main tools which are used by most of the industry as they have improved the accessibility of distribution network information. While we welcome their development, we would like to see the information shared through heatmaps being standardised, with a robust common approach adopted across all network areas. In our view, a requirement should be placed on DNOs to enable access to raw data and provide information about flexibility tenders (and ANM zones) in order to improve consistency and transparency in the presentation of network information across all local grid areas.

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?

We support the EDTF finding¹ which states that data availability is biased towards the higher voltages with 11kV and LV distribution network data being very limited.

As stated within the consultation document, previous consultations on the LTDS reform limited the scope of the statement to the extra high voltage networks. We note that this decision has not been reviewed for nearly ten-years, over which the topology of distribution network has changed significantly, with the increasing amount of DER being connected to those networks. We welcome the ambition to open up 11kV and LV network data progressively, as DNOs identify areas where they expect needs to emerge, and lower voltage telemetry expands in RIIO-ED2.

We note that Ofgem's report² on the 9 August 2019 power outage called for improvement to the real-time visibility of DER to the DNOs and the ESO, including a review of the technical industry codes to achieve this. In light of this recommendation, we believe there is a strong case to develop a sharing mechanism for 11kV and LV distribution network data ahead of the wider roll out of network monitoring capabilities to ensure there are consistent approaches to the type and quality of data to be collected, processed and shared under the LTDS. This would allow for a smooth transition to more granular and comparable network monitoring later on during the price control.

¹ Energy Data Taskforce, 'Data for Multi-Party System Operation', June 2019
<https://es.catapult.org.uk/wp-content/uploads/2019/06/EDTF-Report-Appendix-5-Data-for-Multi-SO.pdf>

² Ofgem, '9 August 2019 power outage report', January 2020
https://www.ofgem.gov.uk/system/files/docs/2020/01/9_august_2019_power_outage_report.pdf



We would welcome clarification from Ofgem that the identified “legacy of poor data quality and high variability in the structure of the disparate DNO data sources” will be addressed and ongoing performance monitored.

- 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?**

We agree that future user needs are likely to be centred around the provision of dynamic, real-time local grid data. We have already seen private platforms being rolled out to support DNOs to increase visibility of network requirements. However, mandating a requirement for a common network model for power simulation would be onerous and difficult to implement ahead of the next price control. If such mandate is enforced, we would like to see Ofgem work together with network companies, academia and industry experts in developing a common approach. In our view, the model should be focused on developing levers on how data flows through the system automatically, without the need for human intervention e.g. telephony requirements which exist at transmission.

- 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 support the roll out of CIM project across all DNOs.

- 6. Should the FoS also be retained in its current Microsoft Excel form? Is there value in this format?**

No, future provision of information should be made available in machine readable format and such development should be API enabled.

- 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?**

Please refer to our answer to Q1 and Q2.

Heatmaps have been a useful tool illustrating network needs so far. However, we would like to see a common information provision across all network areas which will allow true comparisons can be made. We are also mindful of the roll out of platforms which are able to capture both operational and system data in real-time. We see merit in revising the current scope of the LTDS and FoS to include a requirement for common provision of heatmaps and system information. This should be underpinned by the adoption of a common metadata standard for network data.



There should be consistent information provided across the different DNO areas to ensure users can access the same high standard of information, irrespective of the DNO providing it. Enabling access to consistent data will reduce cost and effort for those seeking to utilise it.

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?

No comment.

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?

Flexibility requirements, including active network management and contested areas, should be a standard requirement and a feature of the heatmaps. Such information is highly valuable to DER developers and should be more widely shared within the same portal, rather than dispersed and kept in silos (which increases the risk of poor-quality data being retained).

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

We support development of dynamic process, where data flows in the system are updated as close to real-time possible, so that the information provided is accurate to reflect when there are changes to the underlying data. Local network conditions are one of the variables which inform DER development in specific areas - any changes to the local grid, such as identification of new constraints or planned investment, should be communicated as they occur as these could impact on project deliverability.

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 agree there is a clear need for a common methodology to be used for future estimates of load growth, particularly what assumptions will be used for future LCT.

The D-FES could play a key role in informing the load growth forecasts on the LTDS. However, we are aware that not all DNOs have published D-FES and there is further work required to ensure standardisation and coordination of the D-FES documents and their alignment with National Grid ESO FES. We note the proposed products within Workstream 1B (Whole Electricity System Planning and T-D Data Exchange) within the Open Networks 2020 PID may deliver these requirements.

D-FES documents if aligned in terms of information, assumptions and timescales should provide an important role in informing future load growth forecasts.

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



There could be merit in considering the development of ETYS alongside LTDS— increase in interconnector capacity is likely to impact distribution network requirements for future flexibility services, e.g. reactive power and inertia.

The wide industry engagement with the development of the FES and inputs should be encouraged and replicated within the creation of future D-FES documents, given the need to ensure stakeholder engagement, commitment and acceptance in the production of D-FES.

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?

In the absence of a licence requirement for the production of D-FES we believe enhanced LTDS, with clearly set out assumptions on network requirements and LCT update, could be useful. An enhanced LTDS could underpin the scenarios used in the D-FES, in a similar way ETYS is used by National Grid now.

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?

No comment.

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

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.

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

If there is a risk that such critical information is not adequately captured within the LTDS of the local DNO, we support placing a requirement to iDNOs. We note that iDNOs might lack the resource and expertise to produce LTDSs which could increase administrative burden and result in higher cost to consumer if such requirement is mandated.

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

and

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.

Ofgem should ensure there is proper representation from across the industry and wider stakeholders when establishing the LTDS delivery body and the LTDS working group, so that different user group interests are being captured as part of the development.

Part 2: Key enablers for DSO

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



- 21. What would enhanced 33kV network monitoring enable that cannot be undertaken today?**
- 22. What would enhanced 11kV network monitoring enable that cannot be undertaken today?**
- 23. What would enhanced LV network monitoring enable that cannot be undertaken today?**
- 24. What constraints in data systems architecture do you perceive are limiting network monitoring and visibility?**

Enhanced network monitoring could help unlock the flexibility requirements at lower voltages, including provision of contested services from non-traditional DER such as electric vehicles. As such, we welcome the ambition to improve visibility at 11kV and LV network ahead of the start of RIIO-ED2. This should be addressed as a matter of priority - the CCC progress report³ (2019) confirmed that electric vehicle market share rose in 2018 to 2.5% (an increase of 35% from 2017).

We believe all data held by the DNOs should be treated as “assumed open” as per the principles outlined by the EDTF and as such we would expect all data to be available over a reasonable timescale.

Investment in network monitoring should be underpinned by a robust needs case, so that areas of the network known to be constrained and could host a flexibility market are prioritised. In our view, enhanced monitoring should be prioritised in those areas with existing or expected constraints, rather than on a wholesale basis. The additional technology requirements, such as installation of DNO generator constraint panel limit optionality and development of market alternatives and could also impose unnecessary burden to DER with firm connection contracts.

- 25. What operational data is most important to prioritise opening up first and why?**
- 26. How does a lack of access to this data impact the delivery of flexibility to the system?**

Efficient operation of networks and local system management goes hand in hand with improved data management performance and thus expectation should be appropriately linked to the delivery of efficient whole energy system.

We support the development of requirements for DNOs to publish operational data and a specific licence obligation consistent with that to the ESO. Ofgem should consider ways to apply best practice and lessons learnt across networks, when prioritising opening up operational data.

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

³ The Committee on Climate Change, ‘Reducing UK emissions -2019 Progress report to Parliament’, July 2019 <https://www.theccc.org.uk/publication/reducing-uk-emissions-2019-progress-report-to-parliament/>



There are a number of conflicts of interest which could arise from DNOs current or future ownership and operation of ANM schemes. These could include:

- DNOs and ESO balancing actions, where a DNO could perform an action which results in further balancing activity at national, ESO level
- Conflicts with tendered flexibility markets, where DNO would opt in for participation in an ANM scheme instead of tendering for flexibility from the market, damaging industry confidence and the investment case for flexibility
- Consumer conflict, where ANM scheme is operated which includes the direct management of specific assets including EVs

As DSOs develop their services, and the number of participants in flexibility markets grow, there is a risk of divergence of the type and value of the services and the ways in which these services are procured across the country. This could increase complexity and reduce the ability for companies to engage in the full range of markets that are open to them. We would therefore encourage, as far as practicable, common processes and platforms for procurement of flexibility services. We welcome the extent to which this current goes on, for example through the Piclo platform, and the suggestion that there should be full alignment regarding the Terms and Conditions, contracts and compliance.

We would like to see Ofgem work together with industry to develop a roadmap where perceived and real conflicts of interest of both ANM and contested services would be addressed.

Optionality in terms of the ownership and operation of any future ANM must be addressed as a matter of priority before any further ANM schemes are facilitated. Further work under this workstream should clearly set how future alternative options for flexibility should be assessed and the system outcomes required. This should also lay out an assessment in terms of how those requirements can be best met – through ANM or flexibility tenders, and the consumer and commercial impacts of ANM schemes.

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.

No comment.

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.

No comment.