



Bringing Energy
Together

ADE Response to Ofgem consultation on DSO Programme of Work and LTDS | 7 February 2020

Context

The ADE is the UK's leading decentralised energy advocate, focused on creating a more cost effective, efficient and user-orientated energy system. The ADE has over 150 members active across a range of technologies, including both the providers and the users of energy. Our members have particular expertise in combined heat and power, district heating networks, demand side energy services and energy efficiency.

Response

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?

The ADE agrees that improvement is required but it is likely to be extremely complex to fully reflect DG and LCT connections at all voltages. Instead, the focus should be on acquiring the information that is directly relevant to the desired outcome of the DSO function. For example, it is essential for networks to know the size and responsiveness of an asset, but not its type.

Networks should be agnostic about whether a LCT is, for example, a V2G charger or a flexible storage heater; what matters is the asset's availability for dispatch. Flexibility platforms may be a more efficient sources for this kind of aggregated data than DNO-owned asset registers.

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

The ADE does not have a view on this question.

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?

The ADE believes that there is value in creating this sharing mechanism ahead of full data availability, adding data on an incremental basis as needs emerge and telemetry expands. This will ensure that the mechanism is in place and robust before full rollout during the RIIO-ED2 price control.

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?

The ADE believes that the FoS should be enhanced to mandate the development of this type of common network model.

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?

The ADE believes that the FoS should mandate the adoption of these standards.

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

While the primary mechanism for sharing data should be the CIM, there may be value in retaining the FoS in its Excel format too, if this does not create large administrative burdens.

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?

The ADE believes that the scope of the LTDS and FoS should be extended to mandate the production of heatmaps.

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?

The ADE believes that there would be clear benefit to adopting common guidance and formats. This would greatly simplify interaction for stakeholders and make it easier for new market entrants to understand where their services would be of most value.

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 ADE believes that the scope of the heatmaps should include flexibility requirements, given the increasing focus on comparing flexibility solutions directly with network reinforcement.

A variety of mechanisms should be used to notify network users of opportunities, including email distribution lists, presenting at events and talking directly to demand side response providers.

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

The ADE believes that the maps should be updated whenever there is a significant change to the underlying data. If this approach is taken, however, it is essential that these changes are well signposted and communicated widely to ensure that the market is aware of them.

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?

The ADE believes that there is a clear need for a common methodology for estimating load growth.

If a consistent methodology were also put in place for producing the D-FESs, and they were subject to data assurance governance, we believe that the D-FES could play a similar role in informing the forecasts in the LTDS as the FES scenarios play in feeding into the ESO's Electricity Ten Year Statement. This scenario-based approach would allow the LTDS to capture a wider range of future network requirements.

As part of this, it will also be important that consumer behaviour and its ability to respond to flexibility signals is considered. Given how nascent understanding is of this, these assumptions should be updated regularly; including through ongoing feedback from industry and the customer data they are gathering.

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

It is essential that a robust structure be put in place that links different stages of the assessment process. At the transmission level, there is a clear path from the FES consultation to production of the FES, which feeds into the ETYS and the NOA, leading to the development of the Least Worst Regret tool. This then results in a clear comparison between the value of reinforcement, deferral and flexibility procurement. A similarly robust process needs to be put in place at the distribution level. For example, a sensitivity analysis of constraint forecasts from EV load growth may be more useful than asset-by-asset information. As with the FES, the D-FES and the associated process to network planning should be undertaken on an annual basis.

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?

The ADE does not have a view on this question.

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?

The ADE does not have a view on this question.

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

The ADE agrees that IDNOs should be issued with a direction to produce a LTDS, given that they account for 49% of all new connections.

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 ADE does not have a view on this question.

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 ADE does not have a view on this question.

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

The ADE agrees with Ofgem's proposal. It is essential that a range of industry parties, including non-traditional market participants, are represented.

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 are aware of ADE members who are applying for this group through their submission.

Part 2 – Key enablers for DSO

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

Key network monitoring parameters to have access to include load, flow direction, voltage, frequency and network constraints and congestion. These should be provided at a minimum of half-hourly granularity.

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

The ADE has no comment.

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

The ADE has no comment.

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

Enhanced LV network monitoring would enable more coherent planning for the impacts of electrification of heat and transport by enabling better understanding of system needs and clearer valuation of flexibility at LV. To avoid unnecessary costly reinforcement, it is essential that this is considered in conjunction with expected demand requirements from electrification of heat and transport, as well as increasing penetration of renewable generation.

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

A major current constraint is the use of Excel for modelling and communication of information. A more efficient approach should be employed, which would enable better data sharing with DNOs with a lower administrative burden and the development of a two-way communication loop with flexibility platforms holding asset registers.

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

A key piece of operational data for prioritisation would be geographical network mapping. This would unlock the value of existing data and set a framework for more granular information.

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

A lack of visibility of current and future system constraints at LV means that the rollout of devices and provision of flexibility services is limited to areas where DNOs have identified specific constraints and run flexibility tenders, the value of which has been limited to deferred reinforcement value. This means that future flexibility needs at all levels, particularly LV, have not been considered or valued, meaning that there is no functional market for flexibility delivered to the system. This has also led to a widespread use of ANM systems, which further harm competitive procurement of flexibility.

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?

There is a clear conflict of interest in DNOs owning and operating ANM schemes at scale, particularly when it involves dispatching and controlling flexible assets on their network. DNOs should not be allowed to extend their role into direct relationships with customers via command and control of procured flexibility. If necessary, dispatch should be conducted via an aggregator or flexibility provider. It is essential that a clear hierarchy of need is established, with DSOs having to demonstrate why the competitively procured flexibility was not an option and paying a penalty for resorting to direct curtailment.

At present, ANM contracts constitute effectively bilateral flexibility contracts between the DNO and a generator. This is being phased out at national level and should be phased out at distribution level towards a fully competitive market.

One approach to this could be the following. Existing ANM contracts could be migrated to procurement via a tradable constraints market, with flexibility providers and renewable generation able to bid in. This migration should be conducted in a gradual manner, in order to analyse the changes to planning standards required and to avoid generators having their connection agreement altered at short notice. It could be achieved, for example, by the DNOs committing to a fixed cap of curtailment for all current and any future ANM generation rather than the current estimates, with the DNOs facing a financial penalty if the cap is exceeded. This cap would slowly be reduced over time as more flexibility becomes available to the DNO.

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

Analysis should be undertaken on the distortion to competitive procurement in both the short and longer term resulting from use of ANM. Technical solutions should focus on visibility, not control. If a DNO uses an ANM for curtailment, then should report on the state of the network, the actions taken to avoid the curtailment event and the value of the curtailment (either compared to a competitively procured service or based on lost revenue to the customer that was curtailed).

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 ADE has no comment.

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.

The enablers identified are significant and we strongly support Ofgem's focus to improve them.

We would note that greater visibility of network conditions and likely constraint cannot in themselves bring forward investment in DSR. It is extremely difficult to recruit new DSR customers on the basis of forecast need, without having already won a contract with a flexibility buyer.

Therefore, this work needs to go hand in hand with continuing to develop truly liquid flexibility markets: at close to real-time to support operational grid management and a couple of years ahead of need for network reinforcement deferral and avoidance.

The ADE is preparing a position on its priorities for RIIO-ED2 and we would very much appreciate the opportunity to share this to support this work when finalised.

Finally, we would also note the significant cultural shift for the DNO that starting to undertake DSO functions represents. It is important that this work and RIIO-ED2 result in clear, outcomes-driven success criteria for the functions taken on by the DNOs.

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