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Dear Sir or Madam

Thank you for the opportunity to respond to the Key enablers for DSO programme of work and the Long-Term Development Statement (LTDS) consultation. Please find below E.ON's response.

Summary

E.ON is pleased to see Ofgem's continued work on how best to deliver a smart electricity system at all voltage levels across the UK via the creation of Distribution System Operator (DSOs). E.ON is in complete agreement with Ofgem in that the move towards DSOs cannot wait until the next price control period (RIIO ED2 between 2023-2028) and that work can progress under RIIO ED1. The linking of this work with the delivery of system value through wider access to data from the Energy Data Taskforce (EDTF) is in our view a significant step forward.

In our view, a lot of the data required to add value is already available. However, it is difficult to consolidate (e.g. LTDS, heatmaps, DFES etc) and compare across different regions due to differences in methodologies and format. Also, much of it is of a static, single point in time format i.e. peak loading of primary substations. Access to the full data will support flexibility providers by allowing better business cases to be built with more certainty over variables such as likely duration of utilisation and number of calls during the availability window.

With E.ON's focus on energy solutions across all voltage levels, we would be keen to see as much information of HV and LV networks being made available so soon as possible. By being able to identify potentially constrained areas earlier than the announcement of a flexibility market allows E.ON (and other solution providers) to engage with suitably located customers earlier and develop a relationship that covers any potential to offer flexibility.

To maximise the value of data, it is vital that all parties (including IDNOs) are mandated to provide data in a common and user-friendly format that allows all parties to participate i.e. no barrier to entry from requiring specific

bespoke systems.

Finally, E.ON is keen to see Ofgem continue with its approach to maintaining governance optionality. However, we are concerned that not making a decision around governance is in fact a decision in itself. We believe that DNOs will continue to transform themselves into DSOs without maintaining a separation of the DSO functions from its network reinforcement and maintenance business. Legal separation should be a minimum requirement to prevent the conflicts of interest that the industry has repeatedly highlighted, and which threaten the additional system (and customer) benefits of creating DSOs in the first place.

Q1: 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?

Having access to existing and planned DG data connected at the EHV level is important for flexibility providers to get a clear picture of the state of the local market. In addition, the LTDS should also include DG and LCT data at HV level and where possible LV level (especially when flexibility markets are beginning to be seen at this level). This could be facilitated from the system wide resource register that is currently being developed through the ENA's Open Networks Project[1] (although this is currently limited to DER which is > 1MW in capacity). Flexibility providers will also benefit from being made aware of where particular networks have Active Network Management present/in operation or are being planned.

Q2: Can you identify areas for improvement in the presentation of network information in the current FoS?

As network information is a highly technical area, anything that can be done to make the presentation readable for non-specialists would help.

Q3: 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?

Any data that is available on HV and LV networks is useful to flexibility providers, especially where these parts of the network are constrained or are forecasted to become constrained in the near future. This will allow flexibility providers to identify consumers who could support the network via Demand Side Response and develop a relationship with them before flexibility markets are launched. The lead time between the announcement of a local flexibility market and the auction does not give flexibility providers much time to investigate and build up these vital relationships.

Q4: 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?

Dynamic modelling of local networks would enable flexibility providers to better understand the likely level of utilisation under any flexibility contract (number of calls as well as likely durations). Whilst some platforms currently have the potential to offer this information (Piclo Flex), very few competitions/schemes currently submit this type of key data.

[1] http://www.energynetworks.org/electricity/futures/open-networks-project/workstream-products/ws2-customer-information-provision-and-connections.html

E.ON has no comment on an appropriate standard.

Q5: 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?

No comment

Q6: Should the FoS also be retained in its current Microsoft Excel form? Is there value in this format?

A versatile and low/no entry barrier format such as Microsoft Excel will ensure that all participants can take advantage of the full data, ensuring as wide a competition as possible.

Q7: 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?

Heatmaps are becoming a very important tool to help identify at an early stage the geographical areas that are likely to have high connection charges and therefore where the business case for on site generation is less likely to stack up. As such, E.ON believes that heatmaps should be mandated, especially as much of the data is already gathered to meet other license conditions. The additional cost placed on the customer is therefore quite low, especially compared to the system (and therefore customer) benefit of more quickly and easily identifying key potential DER locations.

There is however a significant variation in capability and user experience between the various DNO heatmaps. Ideally, all heatmaps should present the same data in the same format. Ideally, this would all be in one place or even in one app/website.

Q8: 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?

See response to Q7. E.ON does not believe that there are any significant barriers to adoption that are not counterbalanced by eventual system benefit.

Q9: 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?

There is currently a lot of useful information for users spread across several sources e.g. LTDS, heatmaps, DFES, flexibility market competitions. E.ON believes that a consolidation of all this data would be highly useful.

In terms of additional data, the LTDS currently reports the 5-year forecasts for primary substation demand. However, it is not clear if and how this can be translated into whether a substation is likely to require support across this period i.e. how likely is it that a substation will require either reinforcement or a flexibility market. E.ON believes that the reporting of DNO analysis on the likelihood of that local network requiring support over the 5-year period would be very useful. Whilst a flexibility provider is unlikely to base a business case solely on a likelihood of a flexibility market coming online, it can start the process of engaging with consumers in that area to identify potential DER options. See the response to Q3.

Q10: On what frequency should these maps be updated? Should they be updated as there are changes to the underlying data or periodically?

Periodic updates (probably annually) would help flexibility providers to develop engagement.

Q11: 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?

It is essential that all DNOs follow the same principles and methodology for load growth estimations. Flexibility providers will need to compare different opportunities across the entire UK. DNOs are likely to want flexibility providers to do this in a quick and agile manner to better inform connection requirements. A quicker and more efficient system should then filter down to lower costs for consumers (as well as delivering system benefits quicker).

Q12: Are there any lessons that can be learned from other industry documents such as the ETYS and the NG FES?

Whilst E.ON appreciates that DNOs have not been offering long term forecasts like the Electricity Ten Year Statement (ETYS) and National Grid Future Energy Scenarios (NG FES) for long, we believe that DNOs can (and should) look to base their Distribution Future Energy Scenarios (DFES)'s on similar principles to the NG FES. Like NG FES, there should be a well-publicised calendar of when new scenarios will be released and all data should be made available in an easy to use format (like the Microsoft Excel databook produced by NG ESO).

E.ON also believes that DNOs should follow a similar approach to NG ESO in that the FES is the starting point that feeds through into all other

forecast/publications such as the ETYS, the Network Option Assessment (NOA) and the Winter/Summer Outlooks,

Q13: 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?

As per our response to Q9, E.ON believes that all network forecasting/scenario development should be consolidated into a single source, ideally consolidating all the individual DNO analysis into a single report/databook.

Q14: 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

Q15: Do you agree that IDNOs should be issued with a direction to produce a LTDS?

Yes. There is no reason why IDNOs running 33kV level networks shouldn't be required to provide data and forecasts.

Q16: 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.

IDNOs should be required to produce the same information as DNOs such that all areas of the network can be compared equally and all constrained regions can be equally open to competition for flexibility provision.

Q17: What information on network data should IDNOs publish? This is currently found in section two of the LTDS FoS. Please explain your reasoning.

As stated in Q16, IDNOs should be treated identically to DNOs in terms of openness to data to ensure that all parts of the network (and hence all customers) have an equal chance of seeing system benefits via flexibility markets.

Q18: Do you agree with our proposal on how the LTDS delivery body should be convened and governed?

No comment

Q19: 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.

No

Q20: What network monitoring parameters would you like to have access to? At what frequency?

Whilst the point in time data such as peak load is very useful, it would be even more supportive towards flexibility assets to have the full half hourly historic data for each primary substation i.e. all 48 periods for all 365 days of the year in order to estimate the likely utilisation of any flexibility asset developed on that part of the network.

Q21: What would enhanced 33kV network monitoring enable that cannot be undertaken today?

Having a full picture e.g. 5 year forecasts of substation loading, likelihood of future need for flexibility markets, planned active network management schemes of the 33kV network would significantly aid flexibility providers in developing their business cases.

Q22: What would enhanced 11kV network monitoring enable that cannot be undertaken today?

Having a full picture e.g. 5 year forecasts of substation loading, likelihood of future need for flexibility markets, planned active network management schemes of the 11kV network would significantly aid flexibility providers in developing their business cases.

Q23: What would enhanced LV network monitoring enable that cannot be undertaken today?

Enhanced LV monitoring will enable LCT providers to understand the strength or otherwise of the local network when responding to residential customers requests to install EV chargers, heat pumps, PV etc. Even knowing the current fuse sizes for individual properties will enormously facilitate mass LCT uptake.

Also, data on LV looped connections will help prevent unforeseen impacts of LCT installation occurring and support targeted LCT installation where it will help the local network most. With shared access rights being one option considered by the Access and Forward-Looking Charges SCR, it may be possible to install technology that allows multiple LCT installation across a looped circuit without the need to dig up residential customers' gardens to reinforce at significant cost to the DNO and hence other customers.

Q24: What constraints in data systems architecture do you perceive are limiting network monitoring and visibility?

No comment

Q25: What operational data is most important to prioritise opening up

first and why?

Historic granular load data e.g. 48x365 for individual substations such that estimates for the likelihood and likely duration of flexibility assets are a priority. See response to Q20

Q26: How does a lack of access to this data impact the delivery of flexibility to the system?

Granular load data can give a better idea of likely revenue given the shift away from availability payments towards utilisation payments. This in turn will help support business cases for flexibility provision and remove a certain level of uncertainty.

Q27: 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?

Proliferation of ANM schemes removes need for market led flexibility markets – DNOs become the monopoly provider of flexibility as well as network access. This situation would then need regulating to ensure customers are not paying more than necessary but will struggle to find a counterfactual to compare against. Whilst ANM schemes are currently a cheaper alternative to flexibility markets, there is a concern that connectees, whose primary focus is not on delivering flexibility have not (and will not be able to) challenge the price the DNOs are offering for their flexibility i.e. some historic ANM schemes have paid for unlimited flexibility upfront via a cheaper and quicker connection, giving the connectee little control over the decision to offer flexibility.

Q28: In order to preserve optionality over ANM scheme operations, what technical and commercial protections, such as technical ring-fencing, may be required?

ANM schemes will need to ensure that customers are fully informed as to the flexibility value customers are giving up when they sign up to flexible connections.

Q29: 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

Q30: 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.

Allowing DNOs to run many (if not all) DSO functions in the immediate future threatens the optionality that Ofgem are so keen to foster. Whilst DNOs might be best placed to provide much of the information that is

necessary for DSO functions, there is an inherent conflict of interest that many in the industry have highlighted. By allowing DNOs to continue transforming into DSOs will make any later separation that more difficult and costly. Because of this, E.ON is keen to see DNOs start to divide their business into those parts that could function as part of a DSO and those parts that maintain and build the network. A governance structure along the lines being followed by WPD will allow for a later legal separation with little to no issues. Ideally, E.ON would like to see these separated DSO components brought together under a single system operator such that operational and commercial synergies can be fully exploited to the benefit of the customer.