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Dear Joanna

### **Consultation on FSO supply and demand modelling**

We welcome the opportunity to respond to Ofgem's consultation on modelling future supply and demand. This response is being submitted on behalf of SSE's energy businesses - SSE Thermal, SSE Renewables, SSE Energy Customer Solutions, SSE Enterprise and SSE Energy Portfolio Management. Our networks businesses are responding separately.

There are currently a number of different, but linked, processes involved in the long-term planning of the electricity network (including but not limited to the FES, ETYS, HND and NOA). These have gradually evolved over time and Ofgem's plans for a Centralised Strategic Network Plan (CSNP) provides an opportunity to review their effectiveness and consider their alignment. In our view there could be real benefit from more closely aligning the production of the demand and supply forecasts (eg the FES) and the analysis of what that demand and supply might mean for the network (eg the NOA). These are currently produced in a sequential manner, however taking a more joined up approach could result a more cohesive set of forecasts and analysis.

#### **Q1. Do you agree that we should move towards pathways instead of scenarios, to provide greater clarity on the type of investments required under the CSNP?**

Yes, we agree that the proposed pathways approach is appropriate. To deliver against Government net zero targets there need to be clear market signals. However, it is vital that stakeholder engagement be expanded to include generation interests given the pivotal nature that significant generation investment has under all credible pathways. Pathways should be assessed in terms of the general deliverability with consequential impacts being weighted to take account of foreseeable pathway deliverability.

#### **Q2. Do you agree that all pathways should have a single forward view of the near term?**

It is important that clear, consistent signals are given to the market. However, we are concerned that a single short-term pathway may be insufficiently comprehensive for the timescale (seven to twelve years) outlined. It is important to consider how the pathways would be impacted by near term variations (such as the level of asymmetric perturbations that we have seen in the recent past).

**Q3. Do you agree with our proposal to have Net Zero compliant pathways (number to be determined by FSO), with a separate counterfactual demonstrating the scale of activities and investment that falls short?**

Yes, we are broadly content with this approach.

**Q4. Do you agree that the pathways should run to 2050, and if not, why not?**

Developers and generators will be making long term investment decisions (as will Ofgem and network companies on associated network investments). Therefore, it is important that the pathways provide a clear long-term vision of the market. At least a 25 year horizon (ie to c2050) is needed if these forecasts are to help inform investment decisions (given the asset lives involved).

**Q5. Do you agree that the model should develop the capacity to include extreme data ranges when requested of the FSO in its role as strategic advisory body?**

We agree that the model and modelling process should have the capacity to include extreme inputs. We consider that where extreme inputs are likely to have asymmetric characteristics the methodology should include these in an “expected” value so as to add an element of “extreme” risk robustness to the process.

**Q6. Do you agree with our consultation position on modelling network constraints?**

We agree that network constraints should be given consideration but that it is important to clearly identify those constraints that arise from shortfalls in network capacity associated with Connect and Manage and shortfalls in network that arise for other reasons. This should help inform consideration of non-network related constraint relief. It is important that the optimal levels of constraint are identified in the analysis (before and after applying practical network lumpiness characteristics).

**Q7. Do you agree with our consultation position, and do you have a view on which data principles should be possible to adopt for the first FES?**

We agree with the position outlined regarding the default need for transparency. We support the requirement for the FSO to carry out and publish an audit process of assumptions made to inform previous pathways. It very important that the consequences of a broad range of incorrect insights are considered and specifically the impact of potential underinvestment in network capacity.

**Q8. Are there specific stakeholder needs cases for publication of data, including the format of outputs?**

It is important that industry participants are involved in the development of the detailed requirements for this model in order to better identify opportunities for data sharing. Particular consideration should be given to developing open-source models that could be used by all parties throughout the planning process.

It is essential that the assumptions underpinning the modelling and its outputs are published in a way that:

- Covers the most significant assumptions (for example life cycle costs for production and network assets and constraint and societal costs associated with modelled outcomes)
- Is easily accessible to a wide audience;
- Is consistent over time (for example to support data scraping tools); and
- Remains visible over time (for comparison between years).

**Q9. Are there specific data outputs associated with the FES that we should mandate?**

The FSO should be transparent about the assumptions underpinning the scenarios/pathways. This is likely to include (but not be limited to) assumptions about constraint volumes and prices, and generation capture prices over time.

**Q10. Do you agree that regional and/or industrial hub pathways should be included in the FES?**

We agree that regional and major demand hub pathway (including interconnector) information should be included and shared (recognising the important role the TOs will have in this given their in depth knowledge of their networks). We think that it is very important that the nature of the regional issue is re-characterised as having the potential to be relevant for all regions of GB given the current and potential issues with constraints in areas beyond Northern GB.

**Q11. Do you agree with our proposal for a 'major' FES in the year prior to the main CSNP publication, with smaller annual updates in the intervening years?**

In principle we support this approach as the process will take time, and will require significant stakeholder input. However, it is essential that a full update to the 'major FES' should be undertaken when needed. If something with the clear potential to impact the results beyond a set of pre-defined levels should occur then we would expect the timing of the next 'major FES' to be revisited.

**Q12. Do you consider that longer-term evolution of energy supply and demand modelling should head in the direction outlined above and if so how? We consider that the direction outlined is sensible.**

Whilst we agree with the general direction Ofgem is proposing, we note the importance that greater modelling capability be accompanied by a responsibility to share the assumptions and the methodologies that are associated with the capability within a highly transparent and receptive framework.

We would be happy to discuss this in more detail if that would be helpful.

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