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Your ref: NET ETP GEN 05

Dear Erik

Long-Term Electricity Network Scenarios (LENS) – draft report and consultation

Thank you for the opportunity once again to comment on the LENS project generally, and specifically the recently published draft scenarios report.

We continue to support the LENS project and Ofgem's underlying objective of ensuring the UK has long term direction for GB's critical electricity networks. The broad range of scenarios and possible influencing factors assessed by the LENS team highlight why this is such an uncertain time for UK energy businesses and customers. The challenges of addressing climate change, ensuring energy security and alleviating fuel poverty are substantial, and it is therefore essential to take a long term view of infrastructure planning, whilst retaining flexibility to cater for emerging requirements or changes in the energy environment.

The three principal drivers which LENS identifies (growing environmental concern, increased customer participation and transformed institutional governance) emphasise the increasing importance of energy networks. Such radical changes also highlight the need for appropriate regulation that can facilitate delivery of the new infrastructure and operating practices.

Following the interim report and workshop, the project team has clearly worked hard to merge the energy and network scenarios into a common set, and has also continued to try and develop suitable modelling tools to quantify potential impacts on network infrastructure. At this point in the process we have chosen to provide some general comments rather than responses to specific questions.

- **Scenario merging process -** Merging the energy and network scenarios into a small number of consistent themes runs the risk of confusing the reader, particularly with respect to the corollary between outcomes and a blend of the specific inputs. For example the "DSO scenario" is characterised as having

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larger penetration of low carbon, smaller generation. But it also assumes a drive towards a hydrogen economy. The result is a hybrid scenario that may not predict the potential more extreme outcomes that might become apparent with individual modelling.

- **DSO Scenario (Hydrogen or Electric vehicles?)** - We believe that electric vehicles are likely to emerge on a significant scale as a viable and implementable transport solution and should feature more strongly in the DSO scenario.
- **Transmission or Distribution ? -** Much prominence is possibly given within the report to the MARKEL model tool. It has clearly been substantially developed since the interim report and workshop. Since the model tends to deal with both Transmission and Distribution infrastructure as a single entity, it becomes difficult to predict the relative impacts of changes to the key inputs. Again there is a risk that the scenarios outcomes may not sufficiently recognise the relative impacts on the two distinct infrastructures. Indeed the impact on Distribution networks may be very different in some regions to others. For example the treatment of CHP in the model, its size, location and connected voltage level could have very different implications for Transmission or Distribution networks.
- **MARKEL Model -** We have found it challenging to interpret the potential range of impacts on networks as a result of changing specific key inputs. The scenarios, while intended to show a broad range of outcomes and not model every situation, in our view, appear to show a set of very specific outcomes for a specific set of inputs. For the final report, we would recommended placing less confidence on the modelling tool outcomes, and accentuate the importance of the earlier qualitative analysis.
- **Climate Change Beliefs -** As we have commented previously, we do not believe it is plausible that the level of public environmental concern will diminish from the levels of today, and indeed will almost certainly increase as the effects of climate change are more widely felt. An increasingly well educated adult population on environmental issues will support this trend. We therefore once again urge caution with the first scenario introduced, "Big T&D". Such an extreme position, taken in the wrong context, could damage the overall credibility of the LENS project.
- **Substitution Effects –** It is not clear from the report how the potentially large impacts on networks from energy substitution have been factored. Although some prominence is placed on hydrogen in one scenario, the mass adoption of electric vehicles and widespread construction of heat networks is not fully considered.
- **Scenario Illustration** - Within the latest report, we found the diagrammatic representation of the five scenarios particularly powerful

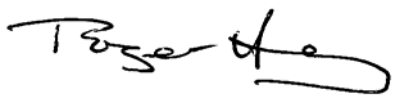
In summary, we are very pleased with the work that has been undertaken for LENS. No doubt others will agree that:

- All the scenarios indicate that substantial changes are necessary for the GB electricity infrastructure to support the energy challenges we face
- That there is a clear need for well coordinated and sustained action to develop network infrastructure capable of supporting such an energy revolution
- That the range of outcomes reflects the considerable uncertainty we are facing, reinforcing the need for responsive and flexible regulation
- The scenarios and the MARKEL tool outputs appear to be broadly supporting the findings of our own energy scenario modelling work.

We also welcome Ofgem's plans to use the findings of the LENS project to inform discussion on DPCR5 policy and as a feed into the RPI@20 review. Naturally, we look forward to attending the last workshop in order to draw some final conclusions from the LENS work.

I hope that you find our response valuable and if you have any questions please do not hesitate to contact me.

Yours sincerely



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