Hitachi Energy response to Ofgem's consultation on the initial findings of the Electricity Transmission Network Planning Review

Introducing Hitachi Energy

Hitachi Energy (formerly Hitachi ABB Power Grids) is a global technology leader that is advancing a sustainable energy future for all. We serve customers in the utility, industry and infrastructure sectors with innovative solutions and services across the value chain. Together with customers and partners, we pioneer technologies and enable the digital transformation required to accelerate the energy transition towards a carbon-neutral future. We are a major investor in the UK, with a turnover of £500 million.

We are advancing the world's energy system to become more sustainable, flexible and secure whilst balancing social, environmental and economic value. Hitachi Energy has a proven track record and unparalleled installed base in more than 140 countries. Headquartered in Switzerland, we employ around 38,000 people in 90 countries.

Our response

1. *What are your views on our key objectives for future ET network planning arrangements that can deliver Net Zero at lowest cost to consumers?*

Hitachi Energy supports the overall objective to create a transmission network that supports the delivery of net zero, at the lowest cost to the consumer. However, the ETNPR would benefit from further exploration as to what is meant by "cost". We encourage adopting a wider interpretation that takes into account not only the baseline capital cost, but also full life-cycle cost, and long-term societal and environmental value. On the issue of the financial cost, further consideration could be made of whether the intention is to minimise it for the consumers of today or tomorrow.

Hitachi Energy and its predecessor organisations have long advocated for one "guiding mind" to preside over a genuinely joined up energy system that reflects changing supply and demand, and that works across a variety of energy vectors. We welcome that this goal is now shared across government, Ofgem and ESO although we believe that future ET planning should encompass the needs of the 'entire' energy system, not just the Transmission System. Looking to the future, it is essential that the FSO has the requisite skillset, resources and culture to ensure it delivers on its promise.

Finally, turning to offshore wind, there is a risk that the drive on achieving 40GW capacity by 2030 means that the onshore network expansion necessary to accommodate future capacity is not available. There is the potential for the rapid expansion of offshore wind – to at least 85GW by 2050 – to outstrip the pace of transmission installation, thereby raising the prospect of stranded generation. Part of the FSO's role will be to hedge against this risk to ensure generation and transmission infrastructure programmes are aligned.

2. *Are there any other key workstreams that interact with this review that we need to align with?*

While they are mentioned in the consultation document in relation to planning in the marine space, more consideration should be given to alignment with BEIS' Energy National Policy Statements, which have application across all environments. Hitachi Energy believes that the draft Energy NPS are a step in the

right direction to ensure – in conjunction with the OTNR and this document – transmission networks that support a joined up, best value, net zero-ready energy system.

Lastly, we suggest adding reference to the significant economic advantages associated with investing in electricity networks, in terms of levelling up, green jobs, and strengthening the UK supply chain to ensure greater domestic content in energy projects.

3. Do you have any views on the scope of the review? Are there any key topics that we have missed?

No. The topics suggested are correct and we have nothing to add.

4. Do you have any views on the success criteria? Are there any key areas that we have missed?

Our overall view is that while the criteria are broadly right, stakeholders would benefit from more clarity and specificity to give firmer direction. They would also be improved if there was an element of quantitative measurement attached to them – for example, on criteria A1. 'Support timely delivery' could be made more specific by saying 'Identify latest solution delivery dates consistent with Sixth Carbon Budget' . Given the urgency of implementing ET solutions to achieve Net Zero the framework must also provide a mechanism for establishing measurable milestones for solutions to be progressed against.

Furthermore, the proposed wording around innovation is currently framed negatively, i.e., "avoids acting as a barrier to adoption of smart/innovative solutions". We would articulate this more positively to actively encourage innovation, recognising the imperative to deliver a smarter network. It is also essential that innovation incentives succeed in taking innovation from the R&D lab and into "business as usual", so the potential is realised in the "real world".

On the question of robustness, the definitions provided do not include what we would consider to be the most important: that is, a robust network is a resilient network. Resilience must be a key feature of a transmission network needs to onboard an increasing number and range of renewable sources.

Finally, and reflecting our answer to Q1, we would add a criterion that covers cost holistically, considering also the costs of delay by not acting quickly enough. These costs could be constraint costs or increased environmental or societal damage.

5. What are your views on our enduring vision for Centralised Strategic Network Planning?

We are supportive and have nothing further to add.

6. Do you have any views on the proposed central network planner's role, who that planner might be, and how it may perform this function?

The key to the success of the central network planner will be capacity, skill, and the confidence to perform its functions. There is no track record from which to learn, and yet the body will be pivotal to the success of the future energy system. It must be properly resourced to reflect the challenge ahead and will need a range of skills to perform the whole system planning function. These skills do not yet exist in the UK, and the new organisation needs to have a credible plan to develop them in partnership with the government and other relevant bodies.

7. *What are your views on the proposed stages and focus of the enduring CSNP model? If you can suggest alternative approaches to any of the stages then please do so.*

We agree with the staging but would wish to emphasise the value of ensuring the planner seeks input from the broader supply chain throughout the process, but particularly during the option and solution identification stages, Supply chain stakeholders bring the experience and knowledge of the whole energy ecosystem. While we are cognisant of the need to move quickly, giving the supply chain opportunity to feed into the network plan *before* launch would give the best opportunity to test its feasibility from a technological and market capacity perspective. This will be particularly important in ensuring innovative 'smarter' solutions are given due consideration where they can bring cost, time and resilience benefits.

8. *What are your views on closer stakeholder co-working to break longer-term uncertainty deadlocks?*

We agree that closer stakeholder co-working should be introduced but argue that it should not be reserved only for longer-term uncertainty deadlocks. Thorough and formal stakeholder engagement should be the norm, and the range of who should be regarded as a relevant stakeholder will naturally develop as the energy system transforms. The approach should, therefore, be flexible enough to bring different voices into the conversation as and when needed.

9. *What are your views on allocating risks and accountability for various aspects of the CSNP, and for delivering the options finalised under CSNP? Do you have any suggestions to mitigate any of the risks?*

The risks identified in Table 2 are all very relevant and much of the mitigation relies on the capacity and competence of the FSO and a high level of collaboration across the sector. As previously stated we feel having an adequate level of resource and competencies within the FSO is critical, however recruiting such resources will be extremely challenging. Simply taking resource from other parts of the ecosystem, e.g. TOs will not mitigate the risk as the collaboration from TOs will then not occur. Any mitigation relies on increasing the resource and skills in the sector as a whole and while this may sit outside of the scope of this consultation, the issue of attracting and training new recruits into the sector is vital for the success of the ETNP.

When it comes to allocation of risk across the solutions identified by the CSNP the business models and performance criteria of specific solutions must be aligned with the risk taken / or not by the solution provider.

As discussed in our response to question 4 the risk of delay in taking action should also be considered as part of any CBA exercise. Given that renewables will ultimately reduce consumer energy costs any delay in reaching a fully renewable system also delays the benefit to consumers.

What are your views on the proposed Transitional arrangements?

We agree with the proposed Transitional Arrangements. ESO taking on the role of FSO is the right direction to take. However, as discussed in our response to Q 9 the ESO must be adequately resourced, to allow for this additional task while still delivering it current functions to a high standard.

10. *Do you have any views on the next steps to implement CSNP?*

Nothing to add.

11. *What are your thoughts on our initial view of the areas to be covered in the next phase of the review? Are there other areas that aren't included that you would like us to include?*

Nothing to add.