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17 December 2021

Ofgem's consultation on its initial findings of its Electricity Transmission Network Planning Review (ETNPR)

This response is prepared on behalf of Scottish Hydro Electric Transmission Plc (SSEN Transmission), part of the SSE Group, responsible for the electricity transmission network in the north of Scotland.

We are acutely aware of the urgent need to focus on delivering Net Zero by 2050, and 2045 in Scotland, and the key role energy infrastructure will continue to play in maintaining security of supply, supporting jobs, and stimulating the economy as we recover from Covid-19. We therefore welcome the timing, intent, and objectives of Ofgem's Electricity Transmission Network Planning Review (ETNPR). Policy proposals that focus on timely and efficient delivery of infrastructure and provide confidence in delivery to system users are needed, given the pace and scale of investment required. In this regard, we note that Ofgem's consultation is a broad framework, rather than specific and measurable policy proposals.

How investment decisions are impacted by uncertainty is a significant factor which can lead to delayed or inadequate investment. We do not consider that Ofgem's Central Strategic Network Plan (CSNP) will overcome this. The current investment methodology, including, but not limited to, economic appraisals and the decision-making approach is not designed for the transformational strategic development required on the network. In addition, there continues to be conflicting signals from market design, including access and charging arrangements to encourage behaviours to facilitate Net Zero.

The consultation does not identify or quantify the potential limitations of the existing planning process, nor its impacts on network investment and meeting Net Zero. This limits the ability to target and prioritise actions to those changes which would improve outcomes for consumers. We believe that targeted and specific improvements to the current planning processes could improve the level of certainty and achieve Ofgem's objectives without the need for CSNP. There are short term adjustments which would have significant benefits. We are unable to determine the additional benefit a CSNP can provide over and above that of targeted and specific improvements to existing planning processes.

For example, Ofgem notes that National Grid ESO's FES could move away from the 'current broad scenario-based' to a 'less mechanistic' approach using central estimates of supply and demand. These improvements could be made now without the need for a full review of existing planning process. Likewise, the stated shortcomings of the NOA not providing for a GB-wide 'holistic' view are being

addressed through the Offshore Transmission Network Review whereby the Holistic Network Design (HND) is taking into account the offshore and onshore transmission network to deliver a more coordinated approach and being brought into the scope of NOA recommendations later in 2022. We agree with Ofgem that a review of NOA and its frequency is required but targeted improvements can (and are) being made now such that the network planning process provides for a holistic GB-wide view. It also is not clear how Ofgem's CSNP interacts with the OTNR Enduring Regime in this regard.

We would therefore welcome clearer articulation of the problem associated with existing planning processes such that the remedies proposed are both proportionate and centred on delivering additional benefits for consumers. In doing so, Ofgem must give careful consideration when evaluating changes to planning processes so as to not lose the benefits transmission owners provide through local coordinated delivery and stakeholder engagement (which ultimately determines whether a project or scheme is successful).

We would encourage Ofgem to focus its considerations on the following.

- **Network planning (through CSNP or other means) only has merit if users can see that it is robust, transparent and of value (i.e. used for decision making).** Effective long-term planning requires making assumptions and adopting common parameters recognising the risk inherent in investment decision making. Although Net Zero legislation has reduced the potential regret environment by identifying longer term targets, degrees of uncertainty and potential regret will always remain. Ofgem should target a planning process where, acknowledging the risks, it can make judgements on strategic infrastructure investments with confidence, whilst providing strategic direction where necessary.
- **Centralising network planning appears at odds with increased stakeholder input.** Ofgem expects the FSO to work closely with key stakeholders. However, it seems inconsistent to seek to achieve this by centralising planning control in the ESO/FSO. Other approaches to increase stakeholder input have worked well in the past. For example, the Electricity Networks Strategy Group¹ which brought together key stakeholders in electricity networks that work together to support government in meeting the long-term energy challenges of tackling climate change and ensuring secure, clean and affordable energy.
- **A holistic investment methodology:** As noted above, we support moving away from the 'start/stop' model that NOA has created. The planning process can be improved by ensuring the investment methodology incorporates considerations outside of only constraint and capital costs.
- **Clear roles and responsibilities.** Specifically, the boundary of activities of the ESO/FSO in undertaking the CSNP are not clear. The clarification of roles and responsibilities should also encompass a review of associated industry licencing and code requirements. Ofgem must also carefully consider whether competition could decrease transparency and choice. The importance and responsibility for development, construction and operation of critical national infrastructure cannot be understated. The 'blurring of lines' is not acceptable to energy consumers – consumers need assurance as to who is responsible for providing a safe, secure, resilient grid that meets current and future users' needs.
- **Defining in more detail the parameters of "low regret anticipatory strategic investment".** It is imperative that CSNP focusses on genuine strategic investments. We agree with Ofgem's proposal to set the 'bar' quite high and we consider that this should focus on those projects that

¹ <https://www.gov.uk/government/groups/electricity-networks-strategy-group>

seek to transfer large amounts of power across several transmission boundaries with a positive Net Present Value (NPV) in all plausible scenarios.

- **Choosing one central planning scenario and the inclusion of spatial planning.** The UK Government has set out policy targets in relation to Net Zero. CSNP must therefore use a single assumption towards delivery of that goal. If the benefits of CSNP are to be realised, the plan must be deliverable. We would therefore encourage Ofgem to consider spatial planning as in scope for the CSNP similar to the Holistic Network Design being developed under the Offshore Transmission Network Planning Review (OTNR).

We welcome continued engagement and discussion with Ofgem to best support and deliver the right institutional framework that will facilitate Net Zero ambitions whilst maintaining a safe and secure electricity transmission system to the benefit of all GB consumers. In our response, we have referenced short term, targeted changes that will deliver value for customers and would be happy to work with Ofgem to identify and explore these in the coming months.

We would welcome the opportunity to discuss any of the points raised within our response at Ofgem's earliest convenience.

Kind regards

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Executive Summary

We are focussed on achieving Net Zero by 2050 and 2045 in Scotland. We recognise the merits and opportunities to reform the current system to reflect the pace and transformative change required to meet the unprecedented challenge of Net Zero. Whilst we continue to support the intent behind Ofgem’s Electricity Transmission Network Planning Review (ETNPR) and Centralised Strategic Network Planning (CSNP) proposals, we think that to address weaknesses in the current investment approach, Ofgem’s proposals should focus on short term changes that add value for consumers.

Making necessary decisions under conditions of uncertainty is a significant factor which can lead to delayed investment. We do not consider that Ofgem’s Central Strategic Network Plan (CSNP) will overcome this. The current investment methodology, including, but not limited to, economic appraisals and the decision-making approach is not designed for the transformational strategic development required on the network. In addition, there continues to be conflicting signals from market design, including access and charging arrangements to encourage behaviours to facilitate Net Zero.

We think there are core areas Ofgem should focus on when identifying change to facilitate an electricity transmission network that can efficiently support the delivery of Net Zero at lowest cost to consumers.

Managing uncertainty and transparent decision-making framework

Uncertainty is a significant factor in investment decision making. However, when undue emphasis is placed on eliminating that uncertainty, this can lead to delayed, or inadequate, investment.

Effective long-term planning requires making assumptions and common parameters for the risk inherent in investment decision making. There will be uncertainty and regret although Net Zero legislation has reduced the regret environment somewhat. Ofgem should target a planning process where, acknowledging the risks, it can make judgements on strategic infrastructure investments with confidence, whilst providing strategic direction where necessary.

Pressure to get the “right” regulatory decision at lowest cost for consumers has created a barrier for delivering strategic development. The industry as a whole must move away from being focussed on a narrow economic appraisal and begin considering how it will balance other consumer and stakeholder priorities, as well as affordability for consumers today and in the future, as there will be trade-offs.

We support Ofgem’s consideration of additional analysis tools and level of evidence required to support decision making, however more judgment will be increasingly required by the regulator. These judgements must reflect the new aims of achieving Net Zero, not only what regulators have learned from past experience.

Holistic investment methodology

Least cost, incremental risk-averse investments put Net Zero at risk and should be avoided. We recognise there are significant shortcomings in the current investment methodology and decision-making.

Alongside any economic appraisal, decision-makers should also consider wider system stability, operability, network security, inertia, frequency control, voltage, and regional activity (and account for consumer and stakeholder priorities).

Clarity of roles, responsibilities, and accountabilities:

It is essential any review of the energy system considers the benefits of the current model and recognises the transition to Net Zero that is already well underway. TOs are already playing a crucial role in the achievement of GB's Net Zero targets, particularly in the North of Scotland which is a gateway to renewable energy.

TOs must play a significant role alongside any Central Network Planner. Incumbent TOs provide crucial value to network development and management, as they collect practical, real world knowledge. This information comes from years of managing the network, understanding the geography and topology of the asset locations, and brings significant value when designing, developing, and constructing the network that cannot be captured in the Electricity Ten Year Statement (ETYS). This knowledge helps to ensure TOs deliver well-considered and value-engineered solutions for consumers that are effective and economical.

We highlight again our concern on the ESO/FSO's capability to take on the role of central planner (as we have in our FSO consultation response and consultation responses on competition). Planning cannot be done in isolation from design, development, and delivery considerations. TOs bring significant experience developing, managing, and considering deliverability of options. Close coordination between a future FSO, with TOs continuing to play a key role in optioneering will enable a new CSNP framework to retain the high-performance behaviour, benefits, and outcomes evident under the current framework. Clear roles, responsibilities and accountabilities are needed to reduce duplication or parallel functions between the future FSO and TOs, which will otherwise be expensive and inefficient for consumers at a time where there is already a significant skills shortage.

Ofgem's consultation document notes (p.52) *'that there might be some duplication of skills and resources between the FSO and TOs'*. Network planning and the associated skill set is a finite labour market. Set against the backdrop of an ever-increasing development portfolio to deliver Net Zero, securing the right experience and talent is an existing challenge in the industry today. Ofgem must therefore be careful in its approach towards ensuring that any duplication of roles and responsibilities is considered carefully against the energy industry's task of attracting the relevant talent (and not increasing the challenge by TOs, FSO and Ofgem competing for the same resource pool). We do not believe this to be in the best interests of consumers.

The consultation notes (also p.52) *'TOs will retain their responsibility to identify and resolve any shortfalls in the system that would lead to potential non-compliance with the Security and Quality of Supply Standard (SQSS)'*. We agree with this view. However, under *'Identifying System Needs'* (p.42) Ofgem state that the central network planner would use the outputs from modelling supply and demand to carry out an assessment of the impact on the ET network, including operability assessments where appropriate and *'compliance with technical standards like SQSS'*. If TOs are to retain responsibility for compliance with technical standards such as the SQSS, it therefore suggests TOs must have a formal role within the CSNP. We cannot be held accountable for compliance if we do not have a formal role in determining how compliance is achieved. This serves to emphasise the need for a 'root and branch' review of roles and responsibilities to ensure there are no gaps between business as usual network planning and those identified for progression under the CSNP. We therefore ask for further clarity on the obligations of the FSO in terms of sharing and collaborating with incumbent parties.

Lastly, any regulatory framework must retain one sole decision maker for investments and one sole organisation for dispute resolution. Ofgem should retain these roles. Regarding decision making, as the regulator, Ofgem has clear accountabilities to consumers and legislative processes for challenge. Duplication, or introduction of two parties to undertake this role, is inefficient and can lead to lack of

ownership. Furthermore, any form of dispute resolution between industry participants should lie with Ofgem, not an industry participant. Separation of powers is essential to ensure there are no conflicts of interests (what the FSO proposals is intended to avoid). As an industry participant regulated under Ofgem, it is essential the FSO is treated equally to other industry participants. For example, if the FSO in the future is responsible for competitive processes for onshore infrastructure, it too must be accountable for its actions, if for example, this process results in late delivery or consumer detriment.

Clarity on the criteria and parameters of “low regret anticipatory strategic investment”.

We require details and criteria of what “low regret anticipatory strategic investment” entails. Whilst we agree with Ofgem’s assessment that *‘the ‘bar’ for qualifying as SI may be set quite high, at least initially’* we will require further clarity. There are several metrics Ofgem could rely on this instance (please note, this is not an exhaustive list):

- The transfer requirement crosses several National Electricity Transmission boundaries (as per ESO’s Electricity Ten Year Statement).
- The proposed reinforcement presents a positive Net Present Value for consumers in all plausible scenarios (against a central theme of delivering Net Zero).
- The capital expenditure is expected to be at least £500m.
- Consistent proceed or hold signals through the NOA
- Least worst regret option benefit is significantly greater than capital costs
- Covers a range of network needs and schemes (i.e. clustering)
- Projects that form part of the interconnected network
- Meets a minimum amount of generation or level of capacity

Failure to adopt criteria (following consultation) will undoubtedly increase uncertainty in the pipeline of projects, making the framework for infrastructure development unpredictable for all parties including the supply chain, and those who want to connect to the network.

Furthermore, whilst we welcome holistic analysis to provide analysis for decision-making, Ofgem must make decisions and provide certainty now, to facilitate renewable generation opportunities that achieve a Net Zero future. In addition, Ofgem should be able to take calculated risks and make pragmatic decisions on strategic infrastructure investments with confidence, aligned to national strategic direction. We welcome Ofgem’s consideration of further analysis to improve decision-making in the face of uncertainty.

Focus on one central planning scenario and consideration of spatial planning

We agree with Ofgem that an amendment to the current Future Energy Scenarios (FES) and Network Options Assessment (NOA) is required. As noted above, future network planning should be undertaken against a pathway aimed at delivery of Net Zero with appropriate sensitivity testing (and also accounting for relevant milestones as set out by UK and devolved governments, such as decarbonisation of the electricity system by 2035²).

Full coordination between stakeholders including Ofgem, BEIS, National Grid ESO and TOs is required to accommodate the 2030 renewable targets. It is essential that wider stakeholders are included in network development to ensure proposals are deliverable and workable in practice. As with Holistic Network Design being developed under the OTNR, future network planning arrangements must also

² <https://www.gov.uk/government/news/plans-unveiled-to-decarbonise-uk-power-system-by-2035>

consider the views of environmental and community stakeholders. This includes spatial planning, environmental constraints, land availability and interactions with other assets. Including spatial planning considerations as part of CSNP will lead to reduced impact on planning and consenting timelines.

This will also aid in ensuring improved deliverability leading to the proposed benefit of the plans being realised for consumers (and industry).

Appendix 1 – Consultation question responses

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?

We support Ofgem’s overarching objectives and need to continue to plan the energy system holistically to maximise efficient utilisation of electricity networks. We note that some of shortcomings in the existing arrangements are overstated within the current system. TOs and the ESO, albeit operating across boundaries, together coordinate, as required in our licence obligations, and are responsible for the entire GB network.

For example, we do not agree entirely with Ofgem’s assertion that planning processes are ‘reactive’ and TOs do not coordinate across boundaries. In most circumstances, the location of generating assets are dictated by market mechanisms (i.e. CfDs, TNUoS etc) and other aspects (i.e. load factors). Regardless of which entity is responsible for network planning now or in the future, these uncertainties will continue to exist. The major barrier relates to the approval framework and focus on economic appraisal of network developments and Ofgem should be enabled and facilitated to take risks and make judgements on strategic infrastructure investments with confidence.

In addition to the above, Ofgem must also take into account deliverability aspects of system planning, and the role the supply chain plays in costs and deliverability.

Please see our response to gaps of review in question 3 and question 5 on our views of the enduring regime.

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

Underlying each workstream Ofgem has identified in its consultation, the energy code review must complement changes being undertaken. Any changes in obligations, roles, responsibilities, and accountabilities, as well as standards and processes should be in place ahead of CSNP going ahead.

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

Incumbent TOs have decades of experience planning and delivering reliable infrastructure at an efficient cost, particularly during the RIIO price controls. Local knowledge, particularly in the challenging terrain in the North of Scotland must form part of optioneering in low regret SI and non-SI. The scope of Ofgem’s review must also include considerations of deliverability of network solutions, alongside planning. “Non-system” considerations, such as the challenging locations and topography, sensitive environments, transmission specific environmental impact assessment, and logistics of transporting assets through these areas need to be considered when scoping solutions.

Ofgem’s review has missed the consideration of the electricity transmission supply chain and how its role impacts the system and its associated costs. The supply chain for transmission assets, including manufacturers, is limited. Only a handful of manufacturers and suppliers worldwide can produce the transmission and high voltage equipment that will be required in coming years. Without a clear pipeline of potential opportunities and clear Government and regulatory policy, there is a risk that the investment required for the innovation and expertise that is necessary to deliver GB

Net Zero targets by 2030 (and beyond) will not be readily available in GB, or will be at an increased cost as investors manage the uncertainty through demanding higher returns³.

Example 1: Deliverability and efficiencies must be considered alongside costs and planning in the CSNP. For example, TOs can provide:

- **Cost savings through co-ordinating a portfolio of works:** As TOs have oversight of works within our regions we work with NGENSO to coordinate the development of transmission network efficiently for the long-term in the best interests of GB consumers. We avoid fragmentation and short-term solutions by implementing synergies across our portfolio of load and non-load related works. Regarding connections specifically, we find efficiencies to enable multiple connections and coordinate offers with wider works, where possible. We deliver up front, as well as long-term efficiencies across our portfolio and invest strategically to avoid repeated disruption or duplication of works to a community and environment.
- **Economies of scale and scope in operational expenditure:** The layering of operation and maintenance costs as the network fragments could result in any short-term construction or financing benefit being lost in operational inefficiency over the medium to long-term, particularly where there is post-award contract change control mechanisms proposed – i.e. the outturn cost could be significantly higher than the original successful bid cost.
- **No integration costs:** There is a risk of high integration costs where new assets interface with the existing network.
- **Early engagement with supply chain:** TOs are currently able to start procurement negotiations early to ensure assets are procured in time to meet key dates. Early engagement allows for contractors and supply chain to collaborate on the best solutions for consumers. This includes an approach that encourages freedom to challenge traditional thinking, exploration of new designs, methods, materials, and identifying drivers for eliminating risk, efficiency savings, and safety improvements

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

The success criteria appear to be a sensible starting point. However, transparency and rationale is required against how each model is scored. Furthermore, as the Transitional and Enduring CSNP has not been put into practice, scoring of such models is an estimation and may not be accurate.

We note that there are targeted improvements that can be undertaken within the current NOA to improve holistic considerations. For example, environmental and community impact in the CBA can be included, as TOs already submit this information as part of the NOA. Furthermore, The HND being developed as part of the OTNR could also be a continual additional process to NOA which the TOs feed into to determine the best location to connect large scale generation (not just offshore wind), which can inform revision of offers, feeding into FES and NOA.

³<https://utilityweek.co.uk/cc-c-chief-points-to-lack-of-scrutiny-on-net-zero-policy/>

Under any model, we strongly support the focus of Topic 2 - 'Analysis and decision-making methods for load related network planning'. The success of any model requires Ofgem to identify the level of analysis required to enable it to make robust and balanced decisions. Many industry challenges and barriers stem from Ofgem's decision-making framework.

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

We support many of the proposals Ofgem set out as part of its enduring vision, as outlined in paragraph 4.3, and recognise the potential benefits. The table below sets out our views on specific views on aspects proposed on the enduring CSNP.

| Developing an optimised plan for necessary investment in the ET network, including identifying and specifying the high level design of low regret SI | | |
|---|--|--|
| Modelling Supply and Demand | | We strongly support focussing on pathways that are compliant with Net Zero. We note that scenarios that do not meet Net Zero could be used as a counterfactual to show consequential possibilities. |
| Identifying system needs | | As with the current NOA, we support the central network planner identifying system needs based on the supply and demand modelling, using inputs incumbent TOs provide. |
| Options for addressing system needs and specifying the high level design of SI | | <p>Whilst we support coordination across parties to identify solutions to best meet network needs, we disagree that the development of the Strategic Investment (SI) options should be owned by the Central Network Planner. We think the central network planner adds most value by coordinating across vectors, and delegating specialised skills to the appropriate stakeholder. We are concerned over lack of capability and duplication of efforts. Please also see Example 2 below.</p> <p>Network planning cannot be undertaken in isolation from design, development, and delivery considerations. Collaborative national long-term system planning must consider national impacts, but importantly relies on detailed options presented by TOs based on 'on the ground' design, development (including environmental and community impacts), stakeholder engagement, and costing. It is our view that TOs should continue owning the development of SI options, as currently, it is the TOs who have the experience in network planning and development, who own the wider stakeholder relationships and maintain accountability to consumers, customers, and wider stakeholders.</p> <p>As we've stated in our FSO consultation response, a central network planner would require significant capability and capacity increase to enable to take on many responsibilities that currently TOs do well. This area of expertise already sit with the TO, following decades of building skills, processes and trust with stakeholders, and duplication within a new FSO is not efficient.</p> <p>We agree that incumbent TOs or third parties should retain high level design of non-SI.</p> |

| | | |
|---|--|--|
| Decision making, including the use of cost benefit assessments | | <p>Currently, the scope of Ofgem’s proposed CBA is vague.</p> <p>As we’ve set out in past consultations, current analysis tools, such as the ESO’s CBA requires updating. Ofgem must set out the level of analysis and evidence required from network companies, and how it will make proportionate judgements must be clearly established and adhered to (Focus area 2).</p> <p>Least cost, incremental, risk averse investments based on least worst regret analysis is an outdated short-term approach and must be avoided. The ESO’s BID3 model cannot adequately consider and compare the long-term economic benefit of managing constraints costs through the Balancing Mechanism versus the option of building infrastructure. By its nature, the CBA currently used to determine network investments provides very narrow analysis as it does not consider wider economic indicators, such as environmental and social costs and benefits of investments. In addition, the analysis tends to be ‘static’ with an emphasis on what is known today rather than the transformative change associated with the Net Zero transition.</p> <p>We support Ofgem’s consideration of academic papers that consider models for decision-making in the face of uncertainty. Risks and judgements must be taken to meet the unprecedented challenges of Net Zero,</p> |
| Detailed solution design and delivery | | We agree that detailed solution design and delivery should be carried out by an incumbent TO or third party. |
| Facilitating strategic energy system planning | | |
| N/A | | We agree that there are benefits for a central network planner to have a holistic view of energy planning to support other sectors and inform decision-making. However, we continue to note the increased capability required to provide this advice. |
| A single, independent, expert body – a ‘central network planner’ | | |
| | | <p>As above, whilst we support the FSO in undertaking a central network planning role, we raise our concerns that there currently lacks capability in many of the proposed responsibilities. The FSO must be also be accountable for any for advice provided.</p> <p>We agree that licensees should play continue to play a significant role in network planning as it can provide guidance, views and expertise on practical implementation and wider impacts on the network.</p> |

Example 2 – Gap in knowledge in HND workstream

Currently in the industry, there is a significant skills shortage for roles such as system planners, control room engineers, etc. We note that building capacity and obtaining skills and resource for a new FSO may be at the expense of other key stakeholders.

We welcome further evidence from Ofgem and BEIS as to how these gaps will be filled sustainably and effectively. Currently, with the offshore Holistic Network Design (HND) development for OTNR, the ESO has had to outsource this workstream to Imperial College, as it does not have the resource and capability. It has also used consultants for other related activities, work undertaken under normal circumstances by TOs. Academic or consultants one step removed from project developments will arguably have limited practical knowledge and experience delivering infrastructure projects.

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?

Role of the central network planner

The role of the central network planner should include enhanced 'planning' capabilities when it comes to modelling supply and demand and identifying system need. It should coordinate management of the electricity network, long term strategy towards Net Zero across energy vectors, and consideration of proposed solutions. The central network planner should delegate the responsibility for high-level design for optioneering to TOs or third parties. This will allow for clear responsibilities and enable TOs to continue to play a key role in owning option development for SI and non-SIs, as retain accountability to consumers, customers and wider stakeholders.

We seek clarity on roles and responsibilities to ensure the FSO's roles do not overlap with those of TOs, but also of Ofgem and BEIS. Any regulatory framework must retain one sole decision maker for investments and one sole organisation for dispute resolution. Ofgem must retain these roles.

Ofgem must ultimately sign off scenarios to provide the right strategic direction for industry. Regarding decision making, as the regulator, Ofgem has clear accountabilities to consumers and legislative processes for challenge. Duplication, or introduction of two parties to undertake this role, is inefficient and can lead to lack of ownership. Any form of dispute resolution between industry participants should lie with Ofgem, not an industry participant.

Who should the central network planner be

In principle we support the FSO undertaking the role as central network planner. However we point to our past consultation responses that highlight its current limitations to undertake the role effectively. Currently, the ESO's role in challenging solutions is confined to areas where the ESO has knowledge and oversight, for example network access.

The FSO should also gain better insight into how feasible and deliverable high-level proposed solutions are at an early stage. TO proposals take significant time and cost to develop and are subject to intensive engagement, pre-construction engagement and preparatory works to ensure deliverability, across its own organisation, but stakeholders as well in other network companies, communities, etc. It is imperative the new central planner is able to weigh in on deliverability and be liable for high level designs. This would reduce passing substantial risk to the consumer.

How it may perform its role

The FSO will be most effective in developing over-arching direction and coordination, rather than trying to re-create capability or reproduce functions that already exist within other industry participants. The FSO should be responsible for ensuring common assumptions are being

undertaken (regardless of who is delivering network), coordinating, and bringing together the inputs of industry players, rather than taking it on themselves. This way, the FSO can adopt a more holistic view, whilst being able to step into, and outside of details.

For the FSO to effectively undertake the role as central network planner, it must delegate optioneering to asset owners to better consider knowledge of the networks, its operational characteristics, geography and topology. By engaging closely with incumbent TOs and third parties, the FSO can increase its knowledge and capacity in understanding the practical and pragmatic realities of system plans. It must also gain experience in developing, operating, and maintaining networks simultaneously, and costing solutions. To develop strong and deliverable options, the responsible party must have good eyes, ears, and hands on the ground. TOs are best placed to continuing optioneering as it understands specific challenges to its region, including geographic, weather, and community issues. This is particularly important for the ultimate asset owner to be able to maintain and address realities on the ground, decades after construction.

Where the FSO has insights, the FSO should provide strategic advice to encourage the right regulatory mechanisms required to enable TOs to provide timely solutions. For example, the current ESO has been aware that inertia on the system has been a longstanding issue on the network (at least 4-5 years). However, the current system relies on short term commercial solutions to partially address the problem. The ESO is continuing to constrain renewable generation to manage these system inertia issues, which has cost consumer billions of pounds in constraint costs. These insights could have been considered and shared earlier, and thus could have allowed for TOs to be incentivised to manage issues in an efficient and coordinated manner (taking into account wider system requirements, including security of supply, as opposed to addressing a single problem via short-term market-based approaches).

As an industry participant regulated under Ofgem, it is essential the FSO is treated equally to other industry participants. For example, if the FSO in the future is responsible for competitive processes for onshore infrastructure, it too must be accountable for its actions, if for example, this process results in late delivery or consumer detriment.

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.

Ahead of potential stages, Government and Ofgem must provide consistent political messaging and societal imperative to give direction of ambition to industry.

It remains essential that Stage 2 Identify System Need and Stage 3 Identify Investment Options includes TO and third-party input. We welcome streamlining and alignment of ETNPR aspirations and detailed application of RIIO-T2 schemes to avoid delay.

We raise our concerns again on Stage 4 – Cost Benefit Analysis. Whilst the CBA will be helpful in indicating economic aspects of each option, the current CBA used does not consider system operability and SQSS standards, nor does the CBA consider the needs driven from local generation. Any such analysis must consider coordination with other drivers, not only capital and constraint costs. Alongside any CBA, decision-makers should also consider, system stability, operability, network security, inertia, frequency control, voltage, and regional activity.

We must move away from unmovable focus on capital and constraint costs. CBAs should be used as a tool to facilitate decision-making, it does not determine the “correct” investment option. We

think further consideration is required on how to improve this stage. We continue to support Ofgem in setting out the level analysis it requires to facilitate robust judgements.

We think further consideration is required on Stage 6 – CSNP Finalisation and Handover to Delivery Bodies. This stage implies that strategic option will be approved ahead of consents. This is at odds with how the network is currently developed. Under the LOTI mechanism, planning consent is required ahead of submitting a Finals Needs Case, as strategic options may be altered and changed during the consenting process. Robust support and justification is needed from the CSNP throughout the consenting process. As well, liabilities will need to be explored and agreed upon between CSNP and delivery bodies.

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

We agree that greater coordination is needed between stakeholders and the FSO, beyond TO and FSO coordination. However, centralising network planning appears at odds with increased stakeholder input. Ofgem expects the FSO to work closely with key stakeholders but it seems contrary to seek to achieve this by centralising power in the ESO/FSO. Other approaches have worked well in the past such as the Electricity Networks Strategy Group which brought together key stakeholders in electricity networks that work together to support government in meeting the long-term energy challenges of tackling climate change and ensuring secure, clean and affordable energy.

If the FSO intends to undertake planning and high-level design responsibilities, it must engage more widely with a variety of stakeholders to inform its thinking. This may include, but is not limited to the supply chain (who play a large role in challenging solutions), planning consents unit, communities, etc.

We ask for Ofgem to clarify this concept in more detail. Currently, there is significant transparency and “co-working” in the investment process the TOs undertake with stakeholders, landowners, communities, etc. Does Ofgem consider the FSO would be responsible for this engagement?

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?

We think the further consideration on the risks and its mitigations are required. Clear roles and responsibilities for incumbent TOs will mitigate risks highlighted.

For the first risk identified in “Table 2 Potential risks and mitigations of the CSNP process”, we note that Ofgem states that it expects support from TOs and third parties. Network companies are regulated business, and therefore must be remunerated for activities that fall outside its licenced responsibilities in RIIO-2. This may include, but not but is not limited to additional FSO/TO coordination obligations, increased data sharing and reporting, etc.

For the second risk highlighted, we ask for more clarity on the overlap and interaction between high level designs relating to SI, and how that will impact options TO put forwards. TOs should not be assuming risk if it does not agree with high level designs put forward by the CSNP. SQSS compliance needs to be considered by the FSO as well as TOs, otherwise SI designs may be rendered incompetent. To be able to operate the network under the existing compliance regimes,

and meet its obligations and standards, TOs must be able to influence and decide on early design features of network solutions.

For the third risk highlighted, we ask Ofgem to clarify what it means by economies of scale in this context. TOs already deliver benefits from economies of scale as it can look across its whole portfolio by bundling projects to obtain volume discounts and efficiency in delivery programmes. We note again that the risk of duplication of skills and resource can be avoided by enabling TOs to continue to undertake the role of optioneering, and the FSO undertaking a coordinating and oversight role. We continue to raise our concerns on the FSO's ability to increase its capabilities and the realities of the current industry, where there is a significant skills shortage for roles such as system planners, control room engineers, etc

Lastly, whilst we support data sharing to enable efficiency in planning, we raise that there is a significant cyber security risk in openly sharing information amongst parties for the national transmission network. With the addition of third parties and new technology, the institutional framework must consider additional risk of cyber attacks and spread, due to increased interfaces and shared data between FSO, incumbent TOs, and third parties.

Furthermore, currently, data submitted by TOs as part of NOA can be misinterpreted. Any data sharing amongst industry parties should be justified and its intent of use and purpose stated clearly, to ensure data is accurately interpreted and used efficiently.

10. What are your views on the proposed Transitional arrangements?

It is not immediately clear from Ofgem's consultation document as to the inherent flaw in existing planning processes and therefore what specifically needs to be fixed or improved upon to improve outcomes for consumers. Ofgem must also seek to prevent multiple shocks to the present framework and avoid risk of disruptions and delays due to further uncertainty.

We are supportive of any arrangements that seek to deliver more efficient ET network planning. Transitional (or enduring) arrangements should focus its scope on areas that will bring the greatest value to energy consumers, including the areas we highlight in our executive summary. Furthermore, targeted code changes should also be prioritised to enable storage and services.

In particular, the transitional arrangements should focus on improving a holistic investment methodology and identifying the barriers and shortcomings within this (ie economic appraisal) to enable the right investment at pace. Ofgem must identify the level of evidence requires in the face of uncertainty, so TOs and third parties can provide confidence and facilitate its decision-making. As well, identifying and adhering to future energy scenarios that only meet Net Zero should be the basis of network planning going forward, and should be prioritised as part of Transitional arrangements.

We strongly support the identification of key SI on the onshore ET network to enable the connection of significant offshore wind generation, as well as onshore generation to enable Net Zero targets, as part of the transitional regime. We are also supportive of clustering projects to retain efficiencies in delivery and maintain pace to decarbonise the electricity network.

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

SSEN Transmission is not opposed to more efficient transmission network planning arrangements being implemented from 2022 onwards. However, as noted above, it is not immediately clear from

Ofgem's consultation document as to the inherent flaw in existing planning processes and therefore what needs to be fixed or improved upon. We are unable to determine the additional benefit a CSNP can provide for consumers over and above that of incremental improvements to existing planning processes.

This exercise must be undertaken prior to Ofgem taking a decision on whether (and when) to implement future planning arrangements.

Please see our response to Question 12 below as well.

12. 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?

It is essential Ofgem clearly define the current problem and/or future challenges within the energy system, how the CSNP will address these, why the introduction of the CSNP is the optimal way forward, and what consider what benefits the current system provides, without making large sweeping generalisations. It's not clear how a new body and structure will address functional issues within the current system (e.g. difficulty providing needs case, over-reliance on CBA, etc). We ask that the objectives and benefits are specific, measurable, and time bound.

There are weaknesses associated with "learning by doing" and the importance of a clear purpose and upfront policy objectives cannot be underestimated. We welcome confirmation that statutory consultations will be undertaken with all members of industry to establish codes and licences ahead of any introduction of the Transitional Arrangements.

We ask Ofgem to focus on Topic 4 "Roles and responsibilities in network planning, including the early development of solutions and designs". We think that consideration of the latter three topics is required to enable robust consideration that informs how Topic 1 "Strategic clustering of large projects and centralisation of planning" is set up.