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25 August 2023

Dear Joanna,

**Centralised Strategic Network Plan (CSNP): Consultation on framework for identifying and assessing transmission investment options.**

Thank you for the opportunity to share our views on how the Future System Operator (FSO) should develop the CSNP. We welcome ongoing engagement and we're committed to contributing to the future stages of the consultation. Our main points on this consultation are:

- Adopt an incremental approach to the implementation of the CSNP. The issues the CSNP is attempting to address are complex, wide ranging and still evolving – the CSNP process should be evolutionary, building upon existing industry skills and experience and adapting to the new, strategic coordinating demands of the FSO.
- Implement a Strategic Spatial Energy Plan (SSEP) as an essential driver of the CSNP. A SSEP will enhance the cost-effective development of the network. Recognising the criticality of the SSEP, we think this role should (in the first instance) be a shared responsibility across the FSO and TOs with that common SSEP underpinning both strategic and area planning.
- Network planning, by its nature, needs to be collaborative and co-ordinated. Importantly, the recommendations of the CSNP need to be consistent with transmission area plans and distribution regional plans. The FSO should facilitate, coordinate and independently evaluate a GB CSNP across vectors, underpinned by options designed by Transmission Owners, as a strategic coordinator.
- The cost benefit analysis needs to be broader, considering wider issues including deliverability and operability of CSNP options. As per our stage 1 response, the CSNP should adopt a 'cost-effective analysis' (CEA) that defines the core purpose of achieving net zero in the most cost-effective way.
- The process and timeline for establishing the methodology and governance needs to be open and collaborative, and Ofgem needs to approve and adopt these. We are of the view that the development of the CSNP Governance Document and the CSNP Methodology are the critical next steps. These governance and methodology documents need to set out the scope, critical definitions, outcomes, roles, and responsibility of each party.

### ***Incremental CSNP Implementation***

We note that this consultation does not extend to the current transitional Central Strategic Network Plan (tCSNP), with tCSNP2 underway for conclusion in December 2023. We understand the time constraints around tCSNP2, however would urge the principles of CSNP to be applied as far as possible in the transitional phase. This includes the adoption of a target-led approach with a single supply and demand pathway in the near term (10-year ahead) and clear investment signals that are necessary for accelerated delivery and supply chain commitment.

The recently published Electricity Networks Commissioner's report (ENC Report)<sup>1</sup> highlights that the institutional arrangements that will be most effective to deliver the infrastructure for net zero (NZ), need to be agreed quickly, and plans need to be put in place to secure the globally competitive supply chain. The responsibilities of the FSO as proposed, would go enormously beyond those of the Electricity System Operator (ESO). It will be extremely challenging for the ESO to recruit and deliver the functions needed to become the FSO. We need a pragmatic approach that utilises and builds upon existing skills and experiences to achieve a collaborative model for the strategic development of the energy system. The FSO should facilitate, coordinate and independently evaluate a GB CSNP across vectors, underpinned by options designed by Transmission Owners, as a strategic coordinator.

### ***Strategic Spatial Energy Plan***

As recommended in the ENC report, spatial planning is an essential component of planning the network to meet policy targets, given that the strategic NZ technologies are not spatially homogenous across GB. We fully support the ENC recommendation for a Strategic Spatial Energy Plan (SSEP) as an essential input to the CSNP. Spatial planning should map national and devolved administration NZ technology targets to allow their network needs to be evaluated and developed. The critical drivers underpinning each technology varies, including the locational availability of the relevant resource, planning considerations and accessibility of a cost-effective network.

The SSEP is critical to Identify System Need (CSNP Stage 2) and Identify Options (CSNP Stage 3) and in general, the more localised knowledge and stakeholder input they contain, the better the outcomes will be. Recognising the criticality of the SSEP, we think this role should (in the first instance) be a shared responsibility across the FSO and TOs with that common SSEP underpinning both strategic and area planning. As recommended by the ENC, there should be a distinct step in the CSNP process to recognise this.

We have set out some key considerations and propose a strategic area system planning approach that utilises existing expertise and integrates with the CSNP into a single process (See Appendix 1 for details of our proposed approach).

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<sup>1</sup> [Accelerating electricity transmission network deployment: Electricity Networks Commissioner's recommendations - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/1000000/accelerating-electricity-transmission-network-deployment-electricity-networks-commissioner-recommendations.pdf)

### ***Co-ordinated and Collaborative Network Planning***

Network planning, by its nature, needs to be collaborative and co-ordinated and follow through into delivery. This consultation does not cover CSNP Stage 6 "Handover to Delivery Body" though we do have significant concern in this area. Current proposals suggest that the appointed delivery body will not be involved in the initial high-level design performed by the FSO. We are concerned that the process will cause delivery activity to stall post appointment, primarily driven by the delivery body performing its own due diligence of the high-level design.

This is not conducive to accelerated delivery and creates unnecessary duplication. This becomes further complicated where multiple connecting assets and delivery bodies are involved. Ultimately this will not allow for the delivery at pace and scale required to meet NZ. This could be avoided with relative ease by ensuring that delivery bodies are involved in the development of initial options.

From the Accelerated Strategic Transmission Investment experience, assigning an appropriate delivery body early to undertake detailed design and delivery is the critical step to secure delivery dates and supply chain certainty. As recommended by the ENC report, the CSNP should be endorsed by Ofgem and become the initial needs case for the programme of projects.

Further regulatory approval should then not be required to justify project need. Projects identified in the shorter-term should become the baseline and the need for them should not be revisited. In our view, delivery then starts when Ofgem accepts the CSNP recommendation. This requires agile mechanisms for project development (preconstruction, early construction funding) and delivery to be progressed to ensure project commencement is not delayed.

### ***Cost Effective Analysis***

As per our stage 1 response, the CSNP should adopt a 'cost-effective analysis' (CEA) that defines our core purpose (achieving net zero) and seeks the most cost-effective way of achieving it. A cost effective approach considers a wider evaluation of benefits to ensure we achieve a just transition to net zero, including socio economic impacts, planning and environmental considerations, carbon displacement and community benefits. For a CEA process to be robust, an evaluation of options as part of the CSNP process must include issues wider than the present value of their costs, so deliverability, operability and crucially stakeholder buy-in (co-creation) should form part of the CEA. We expand these points on the decision-making framework in response to questions Q11 to Q15 in Annex 2.

### ***CSNP Methodology, Governance and FSO Licence Conditions***

We understand that Ofgem's objective is to introduce FSO CSNP Licence Conditions that will set out obligations for the FSO to deliver the CSNP and related products (CSNP Governance Document and the CSNP Methodology) and that Ofgem is working with the ESO to understand the timings of the CSNP publications and the associated licence conditions. We are of the view that the development of the CSNP Governance Document and the CSNP Methodology are the critical next steps.

These governance and methodology documents need to set out the scope, critical definitions, outcomes, roles, and responsibility of each party. We should not be making decisions on methodologies as part of this consultation, i.e. nodal analysis, and we should retain flexibility to use the best tools and techniques for the CSNP once the scope and outcomes have been agreed. In our view Ofgem and the FSO/ESO need to publish clear CSNP terms of reference and development timescales for these documents that allow for stakeholder input and consultation.

The most recent FSO policy consultation<sup>2</sup> is ambiguous on the implementation of the CSNP licence conditions. Stating that these are *roles that could form part of FSO's Day 1 licences, if timings align, or come into place shortly afterwards. These will not be included in Ofgem's forthcoming consultation on the FSO's Day 1 licences but will be subject to their own Ofgem consultation process.* It is our view that any consultation on the FSO licence conditions and any consequential licence changes to the TOs' licences, requires the CSNP Governance Document and the CSNP Methodology to be available, in order for stakeholders to meaningfully engage. To give stakeholders certainty, Ofgem should in our view, provide clarity on licence implementation timescales.

Please find our answers to the individual consultation questions in Appendix 2 below. We would welcome the opportunity to meet with Ofgem, to further discuss any of the issues raised in this response.

Yours sincerely,

Rebecca Middlemiss  
SSEN Transmission

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<sup>2</sup> [Future System Operator - Second Policy Consultation and Update \(publishing.service.gov.uk\)](https://publishing.service.gov.uk)

## Appendix 1 – Area System Planner

We propose that in the overall CSNP framework, SSEN Transmission maintains and enhances our role as North of Scotland (NoS) Area System Planner (ASP). This includes, defining the NoS contribution to the spatial pathways for 2035, and the future networks options identification process for within boundary strategic reinforcements. The FSO should facilitate, coordinate and independently evaluate a GB CSNP across vectors, underpinned by options designed and developed by the ASPs (i.e. the TOs). Given the significant growth in renewable generation needed in the NoS to meet NZ, maintaining a close working relationship between the FSO and SSEN-T, with clear roles and responsibilities, is essential to deliver the network required.



*Figure 1 North of Scotland and Indicative Areas*

Our proposed Area System Planning approach is complimentary and should form part of the overall CSNP process. The key difference will be that we are planning within boundary strategic reinforcements in our network with a clearer understanding of all the 'needs' placed upon it – encapsulated in the spatial plan. In our view our ASP approach:

- Builds upon and significantly improves the current system planning model. It is low risk, low cost and fully deliverable as part of a single CSNP process.
- Provides a more coherent, holistic and cost-effective planning output from the TOs' area to input into the CSNP, and coordinated with distribution network development plans, pragmatically enabling the FSO's cross vector co-ordinating role, planning the strategic network.
- Builds on HND and HND FUE, where significant progress has been made in the last 18 months. The target led approach has given project certainty, allowing TOs to secure the supply chain early and focus on delivery.
- Considers interactions with the existing network – including any linkage with asset management activities allowing TO's to develop a coherent approach to managing load and network risk.

Our view on the role of the scope of the CSNP and ASP and therefore the role of the FSO and TO is set out in Table 1 and with detail on the respective outputs in Table 2.

	<i>Central System Network Plan</i>	<i>Area System Plan</i>
<b>Broad Scope</b>	<ul style="list-style-type: none"> <li>Longer-term strategic assessment of network needs, primarily for bulk transfer of energy, across electricity transmission, gas transmission and hydrogen with a time horizon out to 2050.</li> <li>Determine network requirements across energy vectors against a backdrop of government NZ targets and demand/generation pathways to identify short and long-term solutions.</li> <li>Longer-term trends in system operability that can be addressed through innovation or through investments in bulk transfer solutions.</li> <li>Advice to government and recommendations to industry and stakeholders on wider energy system to maximise efficient utilisation of electricity transmission network infrastructure.</li> </ul>	<ul style="list-style-type: none"> <li>As Area System Planner (ASP) for the NoS, we will consider the spatial distribution of the strategic technologies and our contribution to the pathways.</li> <li>As ASP we will have the responsibility for the within boundary strategic reinforcement planning of our network where we have the relevant local knowledge, relationships, and expertise.</li> <li>We will disaggregate national targets into areas and plan the areas to meet the disaggregated national targets.</li> <li>Plan and model the 'needs' of ALL our network area based on the CSNP single pathway to 2035 for strategic NZ technologies and the longer-term FES to 2050.</li> <li>Assess all strategic NZ technology projects with the potential to develop by 2035 determined by stakeholder engagement on issues including planning, environmental and community sensitivities and developer interest, including repowering.</li> <li>Continue the valuable role of ensuring the operability and performance of our network designs, which the spatial planning approach enhances. This includes coordination of integrated system need covering load, operability and the need for asset condition related interventions.</li> <li>We will continue working with the DNO under Whole System to delivery efficient whole system solutions.</li> </ul>

*Table 1 Comparison of CSNP and ASP*

	<i>Central System Network Plan</i>	<i>Area System Plan</i>
<b>Outputs</b>	<ul style="list-style-type: none"> <li>• Review of the nearer-term system operability needs including voltage, stability, power quality, etc. to result in TO or third party delivered solutions (similar to the ESO's Pathfinders).</li> <li>• TO or third-party delivery of solutions to address any residual network system needs/constraints that can not be efficiently and securely met through the short term market.</li> <li>• Bring previously indicative solutions into delivery where the needs case has become firm and is now part of the single pathway.</li> <li>• Only review solutions in delivery if significant change in parameters e.g. delivery date, costs, location or needs case driver.</li> </ul>	<ul style="list-style-type: none"> <li>• Identify areas of cost effective and acceptable generation expansion informed by insights derived from network expansion insights.</li> <li>• Bring solutions into delivery where the need has become firm and is now part of the single pathway. Approved strategic and local network plans that are 'right sized' for targets.</li> <li>• Clear communication to local stakeholders and communities in the NoS area.</li> <li>• Provide clear investment signals to the market and underpin the 'need' for strategic network investment.</li> <li>• Facilitate whole system outcomes to inform holistic network development, protect and enhance the natural environment and deliver benefits to communities.</li> <li>• Ensure the operability and performance of our network design.</li> </ul>

*Table 2 Comparison of CSNP and ASP*

We note Ofgem's ongoing proposals to introduce Regional System Planners potentially through the FSO. This role is akin to the CSNP accountabilities outlined in Table 1, but includes a strong focus distribution networks and potentially gas- and hence would work with the ASP function to ensure detailed regional plans are effective across energy vectors and coordinated vertically, across distribution and transmission networks, with DSOs delivering the system planning function at the distribution level.



## Appendix 2 – Consultation questions

### Qn 1. Do you agree with our broad regulatory approach to establishing the FSO's obligations to deliver the CSNP products?

We broadly agree with the approach proposed and welcome the clear regulatory move to support the longer-term strategic assessment of network needs, primarily for the bulk transfer of electricity. There are significant uncertainties on the content and although some of this will be established through the methodology stage, there remain fundamental gaps in the consultation with regards to definitions, governance, and roles and responsibilities.

The development of the CSNP must be clear on the responsibilities and liabilities of all the parties involved in the development of the plan. It is critical that the current role and competencies of the TOs are understood along with the limitations and practicality of the proposed FSO role.

We reiterate the point that the responsibilities of the FSO, as currently outlined, are significantly beyond those of the ESO. It will be extremely challenging for the ESO to recruit and deliver the functions needed to become the FSO. There is not enough consideration of what exists currently and how current roles and responsibilities can evolve to better achieve ambitious obligations of the FSO. In our view a much more collaborative delivery model is required for enhanced and accelerated delivery.

SSEN-T is a world leader at delivering an operable, renewable dominated network. It is vital that our skills and expertise are maintained to support the FSO in its role, as we currently support the ESO by delivering an operable and high performing network. Failure to consider our current contribution and the importance of maintaining the relevant and necessary skills and expertise within the TOs creates significant risk, including a timely transition to net zero, inefficient network development and security of supply.

We propose the establishment of clear strategic targets for critical NZ generation based on UK and devolved administration policy targets, with the FSO leading **GB strategic spatial planning** of the critical NZ technologies. This should build on the experience of the HND/HNDFUE and working collaboratively with relevant parties including CE, CES, Ofgem, DESNZ, devolved administrations and the TOs. The resulting GB strategic spatial energy plan (SSEP) will outline the key contribution of differing regions of GB to the targets. Our proposal aligns well with the ENC report, with spatial planning forming the basis of strategic network planning.

Within their areas the TOs develop **area spatial plans**. The area spatial plans will disaggregate the FSO's regional targets into zones within a TO's area. The TO's continue to plan for resulting growth within their area, as they currently do, with the key difference that 'need' is more clearly defined by the area spatial plans. These plans then feed into the CSNP, aligning with the FSO's assessment of the strategic corridors. Therefore, the TOs will have an important role in assessing the impact of 'strategic connection exercises' within their areas, including their impact on load flow analysis and operability.

### Qn 2. What are your views on the types of system need that we have proposed are covered by the CSNP? Are there any gaps?

The consultation proposes 'that the FSO incorporates a wider set of system needs in the CSNP for strategic load-related system planning, including network capacity and operability requirements.' The consultation broadly outlines the status quo in Table 1 – but with the important distinction that the FSO leads and coordinates on 'strategic connection exercises.' While we broadly support types of system need identified, a whole system approach needs to be taken to ensure maximum efficiency gains to benefit consumers. For example, the model proposed wouldn't capture non-load requirements in the same area, where as an area system plan could.



There is also a gap surrounding the definition of strategic connections and the role and responsibilities for their assessment as part of the CSNP. The strategic connections definition runs risk of large single connections being included into the CSNP process. For example, within our area we have potential for significant demand connections in excess of 3GW associated with electrolyzers. We are of the view this gap is best managed by SSEN-T developing area spatial plans that feed into the FSO's CSNP.

There is little consideration of how the CSNP proposals will fit with the current regulatory model and the FSNR. There should be a presumption of transparency and collaborative engagement on the development of stages 5 and 6 of the CSNP. The CSNP must take a whole system approach, there is no consideration in the consultation of the interaction across vectors including with gas and DNOs. Similarly, the CSNP must accommodate a wide-ranging generation mix, including adequate system support and factor in other industry reforms including REMA, and connections.

**Qn 3. Do you agree that the time horizon for system need assessment should be extended to 2050?**

Yes, we need a long-term vision to effectively plan and cost our system to meet NZ. As we set out in our response to Stage 1, assessing system need with pathways running out to 2050, will allow the network to be planned in a more holistic and cost-effective manner rather than the unsystematic process that has previously dominated network planning.

By doing so, we would expect to see improvements made with regards to supply chain availability. Securing the necessary supply chain will continue to prove a key challenge in the near term with global demand outstripping supply, however, planning for 2050 and beyond may ease potential bottlenecks. Greater certainty of need over the medium to long term should enable the supply chain to invest in the workforce and manufacturing capacity that is needed to meet NZ.

While 2050 is a critical target date, there are issues to consider with respect to relevant timeframes:

- Although 2050 is an integral part of the UK's NZ targets, the CSNP must be an enduring process and not only a plan for 2050. A critical role for the FSO will be strategic advice to policy makers on planning the UK's longer term whole system needs as they evolve beyond 2050.
- When the FES were introduced over 10 years ago, the 'long term' was almost 40 years as the scenarios covered the period to 2050. The FES end date remains 2050, so when the first 'longer-term' CSNP is delivered in 2026, the 'long-term' will be only 24 years. Less than half the expected life of many network assets.
- We support the recommendations from the ENC report on proposed timescales for the CSNP, for short term CSNP covering the next ten years which should be updated annually. A longer term CSNP should cover the enduring 25 years and be updated every 5 years.

**Qn 4. Do you agree that the FSO should move to a year-round nodal assessment of system need as part of the CSNP?**

We do not agree that a decision should be made at this stage on the FSO planning down to nodal level. This should be decided by the FSO as part of the methodology development stage. A year-round nodal assessment of system need is linked to the expectation that the CSNP will cover all electricity transmission load related to network planning. While the FSO could extend its modelling to a year-round nodal assessment, the consultation provides no detail of how the FSO will undertake this, nor the costs and benefits of it.

In theory we agree that a year-round nodal assessment is preferred to the current boundary transfer assessment. However, we believe the benefits of nodal assessment can be more effectively achieved. As set out in Appendix 1, building upon existing responsibilities and expertise, a TO led area spatial and system planning approach will deliver

the benefit and experience of nodal planning feeding into the CSNP, with the TOs continuing to have responsibility for planning load related growth of their networks down to nodal level, with the key difference that their networks are planned to meet area spatial targets. The subsequent area plans will be signed off by the FSO for input into the CSNP. This is a broad continuation of current roles and responsibilities, with an evolution of the system planning process as it becomes more spatially target driven.

Such an evolution builds upon current roles, responsibilities and area expertise, rather than completely replacing them with an untried, unknown and uncoded process.

**Qn 5. We welcome stakeholders' views on how the FSO can communicate effectively about future system needs?**

Given the scale of investments across our communities, it is critical we communicate in a co-ordinated and holistic manner and avoid an incremental, piecemeal approach. Early and transparent engagement about future system needs with all stakeholders is essential if a network for NZ is to be delivered in a timely and cost-effective manner. This is especially important for local communities and statutory stakeholders and is not just the responsibility of the FSO.

Early-stage engagement should be undertaken by the TOs as part of their area spatial and system planning – including interactive engagement on zonal generation targets and associated network options. Providing targets and routing options for zones within a TOs area will ensure stakeholders are clearly aware of, and can contribute to, planning for the potential generation/demand growth in their area; including where it is likely to be located, and the most cost-effective network to deliver it, including a range of options under consideration (see parallels with our response to Qn 7). The TOs have significant competencies in this area which should be utilised and built upon to ensure the delivery of the CSNP.

So – engagement with stakeholders is firmly not just the remit of the FSO – but requires collaboration with the FSO and some clear distinction of roles and responsibilities. This is particularly important when evaluating the FSO's high level strategic evaluation of need and translating into specific projects.

**Qn 6. What are your views on the FSO establishing minimum design requirements for high-level option designs and are there areas where exceptions are needed?**

This is an important area – building on the experience of HND – there should be a clear distinction of roles and responsibilities – including a very clear definition of what a 'high level' design is, what it includes, what it does not include and who is responsible for what part of the high-level design. This needs to be articulated in the CSNP methodologies and governance documents.

We broadly accept there is benefit in establishing minimum design requirements for high-level options design. This should recognise that the purpose of the high-level design options is to provide enough information to complete early optioneering and assessment of alternative solutions. Our Strategic Optioneering Methodology has evolved over many years, incorporating our approach to option identification and associated screening criteria. This considers several factors such as technical, constructability, environmental and community impacts. The TOs have developed significant competency in this area.

**Qn 7. Do you have any views on our proposals for considering environmental and community impacts as part of high-level design of options?**

At this high-level strategic stage, details such as route corridors and site locations are unlikely to have been defined. This lack of design definition will make it exceedingly difficult to robustly identify specific environmental and community impacts for each of the potential options being considered. Typically route and site selection activities will be undertaken as part of our existing project development process that incorporates extensive periods of

stakeholder consultation and increasing levels of assessment (including surveys, site visits and ground investigation, depending on the constraints identified). It is our view that any appraisal at this stage should be based on wide study areas considering baseline mapping of priority constraints, rather than more detailed assessment of impacts on routes or sites which are not adequately defined.

In addition, due to the lack of route and site optioneering activities at this stage, we do not feel it would be appropriate for the CSNP to make recommendations on potential mitigation. The absence of a robust detailed assessment of impacts could lead to an expectation of mitigation that may not be necessary for certain options. This could potentially undermine the formal Environmental Impact Assessment process, make consenting more challenging and add substantial cost to the consumer (e.g. extensive cable undergrounding).

Ensuring we understand potential implication on people is important. However, framing this as a community assessment provides an expectation of greater levels of consideration and confidence than is possible at this stage (as specific affected communities may only be identified during the later routeing or site selection process). We would suggest that this aspect is re-framed to consider 'people' more generally, rather than 'communities' specifically.

We do support incorporating a Strategic Environmental Assessment into the CSNP process though we recognise the FSO will need to upskill in this area and the scope of the SEA would need to be considered carefully based on the level of spatial certainty of options. This is a common query posed by stakeholders and should help ensure effective consultation and input at the earlier stages of decision making.

We also believe that there is a need to be clear on terminology with respect to both environmental and community considerations. Terms such as effects, impacts and constraints are all used interchangeably. A common language is needed to avoid any potential ambiguity further down the line.

Finally, when defining the level of detail being considered in the CSNP, it is important to recognise the important role that the CSNP will play in future consenting considerations. The CSNP will be used to explain strategic consideration of alternatives that have been undertaken to inform the proposed reinforcement option, for which the FSO would need to support throughout the consenting process, where appropriate.

**Qn 8. Do you have any views on our proposal for the FSO to independently decide which network needs it may lead the high-level design of?**

We strongly oppose the suggestion that the FSO could potentially lead on the design of the network. As asset owner and regulated transmission network licence holder we are responsible and ultimately liable for the economic and efficient delivery of the transmission system assets. We need to retain our role as design authority to meet our legal, regulatory and consumer commitments.

The lack of definition on strategic Investments, network need and design boundaries have the potential for FSO led options to hinder or delay network development. For example, if the FSO decided to develop a network solution, it is not clear what the design boundary would be, leaving TOs unclear on how to develop the surrounding network.

In our view, the FSO should delegate this to the delivery partner where a network solution is required, and only lead on non-network options. This will allow the policy intent to be met and increase the number of third party solutions that are involved for non-network builds.

**Qn 9. Do you have any views on our proposal for the FSO to set out how and when third parties can be involved within the CSNP?**

It will be for the FSO to set out **which third parties** can be involved and **how and when** they can be involved. Given the overarching security of supply and cyber risks associated with the transmission system, establishing who can come forward is as important as setting out how and when third-party options will be assessed. Therefore, the FSO should set out the prequalification requirements for third parties within the FSO's CSNP Methodology, including any CNI compliance aspects.

It is important that the FSO considers how to establish a 'level playing field' for third party options in terms of third parties' ability to propose, deliver and operate alternative designs. Therefore, the FSO should set out and consult on the options assessment criteria and how options will be assessed against traditional TO proposed options. This assessment must consider deliverability issues, such as the ability to gain consents and organisational operability issues, like return to service post storm events.

**Qn 10. Do you have any views on our proposals on data exchange to enable the implementation of CSNP?**

We consider that the proposed FSO led data sharing review should consider codes, licences, and industry methodologies, but we consider that the open data provision and associated data best practice licence conditions should be sufficient to facilitate data sharing. We agree with the principle of data sharing applying across all parties involved in network planning, for example TOs would benefit from access to other network licensees data to properly triage whole system options.

As part of any data sharing provisions, the FSO should undertake a review of the data already provided to ensure it is fit for purpose. The FSO should undertake a data triage process to systematically identify issues (privacy, security, commercial, legislative and regulatory) with required datasets which limit potential openness and identify mitigation. The ENA Data Triage Playbook provides guidance on identifying issues and a similar process could be adopted to allow triage of CSNP data.

**Qn 11. Do you have any views on our proposals regarding the principles to be followed in the CSNP decision-making framework?**

We support the principles identified to be followed as the basis of the CSNP Methodology. However, the broad obligations on public bodies, including the specific statutory obligations of the FSO in the delivery of its functions, are significantly broader and more complex than the high-level principles the consultation captures.

It should be recognised that there will be an increasing likelihood of complex trade-offs by the FSO in the development and delivery of the CSNP methodology, when balancing these principles with other statutory duties. The FSO should have clear guidance aligned with the governance document and licence conditions on how to manage these trade-offs in a transparent way, for example between current and future consumers, and between affordability and wider societal and NZ benefit.

The CSNP methodology should be clear on the responsibilities through the decision making framework and acknowledge the existing competencies within the TOs. Some of the most important decisions are taken at this early stage in a projects lifecycle and it is critical everyone is aware of these responsibilities within the decision making framework. The TOs have developed significant capabilities in relation to methodologies for early strategic optioneering that incorporate complex trade-off across multiple evaluation criteria (environmental, technical, cost), as well as extensive experience in stakeholder engagement across our network. The CSNP methodology should recognise these capabilities along with the limitations of the FSO's role in this area.

**Qn 12. Do you have any views on our proposals on the decision-making framework for selecting potential projects to address longer-term system needs?**

A broader set of values should be considered in economically evaluating network investment and we welcome a reevaluation of the existing CBA methodology. Ofgem has tasked the FSO with developing an appropriate cost benefit analysis (CBA) methodology, but SSEN-T urges Ofgem, as economic regulator, to also consider its view of an appropriate methodology – including the consideration of cost-effective analysis.

When evaluating network designs and subsequent development, a CBA approach with a narrow set of costs and benefits, such as focus on constraints avoided, is unlikely to result in a sufficiently cost-effective evaluation for the longer term. We set out in Q15 the broader set of societal values that should be considered as part of a transparent and robust cost-effective methodology for holistic network planning. The ‘long term’ for network assets extends beyond 2050 and a decision making methodology must also accommodate the intragenerational value and costs of these assets in a timeframe that reflects their longer lives – not simply assuming a steady state in all scenarios beyond 2050.

It should also be noted that the current LWR decision making approach based on the ‘equal plausibility’ of future scenarios will require the scenarios to evolve beyond 2050 – particularly given that the shorter term ‘strategic pathway’ for 10-12 years provides a more certain view. LWR/Laplace decision criteria require the monetisation of costs and benefits and often result in ‘penny switching’ between options based on present day views of key drivers. Applying qualitative evaluation of additional factors could be employed to broaden the approach for the long-term funnel, with considerable transparency required in their objective determination and inclusion. We support the notion of ‘stress testing’ FES pathways (with the ‘stress tests’ to be transparently developed) given that the FES in any current year are highly influenced by present day/confirmation bias and form a snapshot of current views.

**Qn 13. Do you have any views on the decision-making framework to bring potential projects into the ‘delivery pipeline’ for nearer-term needs?**

The decision making methodology used to date has focused on the ‘benefit’ of investment constraint costs avoided relative to a counterfactual and compared to the costs of network reinforcement. With considerable uncertainty surrounding both the volume and cost of constraints evaluated in the FES. One issue with the approach is the present day bias of the FES, a deliberate bias as the FES evolve annually. Using present day views of critical factors driving constraint costs (gas and carbon prices) and constraint volumes (MW of generation connecting and demand disruptors) has proved to be an uncertain ‘snapshot’ approach to evaluating long term investments and therefore encouraged a ‘wait and see’ approach to dealing with uncertainty.

Planning for strategic NZ technology targets combined with a strategic spatial energy plan will remove significant volume uncertainty – the key then is evaluating how these targets can be most cost-effectively accommodated within the existing and potentially new network infrastructure, with the FES evolving beyond 2050 to address longer term uncertainties.

Evaluating the move from the funnel into the pipeline must avoid the narrow definition of costs and benefits and the ‘snapshot’ present day bias of critical factors that drive these costs and, in particular, benefits. These investments are significant and an appropriate and transparent methodology for assessing their long term value and cost to society must be developed. The methodology should also allow long term investments to be compared to shorter term options, not necessarily network based. In doing so a more holistic, cost effective and enduring approach to system development will emerge.

The methodology for a 'cost effective analysis' is more complex. But with targets and spatial planning, the range of uncertainty will narrow. We urge Ofgem, as economic regulator, to consider the valuable contribution it could make to the development of a cost effective methodology and not place the onus wholly on the FSO. At SSEN-T we are developing our own views on the topic and will feed our assessment into, and collaborate with, the work and resulting methodology the FSO and Ofgem develop.

**Qn 14. Views on our proposal to not re-evaluate projects that are in the delivery pipeline, and whether a materiality trigger is appropriate and what criteria might be used**

The area system planning approach outlined in our response, planning the network to accommodate the spatial distribution of policy targets for key NZ technologies, will significantly reduce the risks identified by Ofgem for projects within the delivery pipeline. While exceptional trigger events may occur, for example an anchor project is abandoned or significantly delayed, we consider that, on balance, there is greater risk associated with removing projects from the pipeline – including the deliverability of NZ.

**Qn 15. Do you have any views on our proposal on inclusion of environmental and community impacts in the CSNP CBA?**

As outlined in our response to Q12 and Q13, we welcome a wider evaluation of costs and benefits – including a more 'value' based assessment. These should be embedded at the earliest stage of the decision making process and made transparent and objective for early stakeholder engagement. The widened brief should not end with community and environmental impacts. A cost-effective analysis methodology should be developed that considers a broader set of societal values, including:

- Environmental impacts
- Community considerations, including potential payment of community benefits
- Socio economic issues – including local, regional and national economic benefits
- Achieving NZ
- Displacement of carbon emissions
- An equitable evaluation of long-term and short-term investments – even if funded through differing mechanisms to allow unbiased comparison of intergenerational investments that extend beyond 2050
- Option for staged expansion in network design
- Interaction with the existing network – including linkage with asset management of existing assets working with/to be displaced by new investment
- Operability considerations
- Deliverability

The range of factors to consider as part of a robust CEA process is wide and the evaluation of options as part of the CSNP process must include issues wider than the present value of their costs, so deliverability, operability and crucially stakeholder buy-in (co-creation) should form part of the CEA. While we already consider environmental and community considerations in our optioneering, site selection and routing evaluations, a more enduring and consistent methodology for assessing the cost effectiveness of the wider 'values' outlined above is needed. We urge Ofgem to consider a cost-effective analysis methodology that considers the values outlined above for assessing the potential 'funnel' of projects and movement into the delivery pipeline.



**Qn 16. Do you have any views on our proposal for the CSNP to include a methodology for assessing and taking forward system operability solutions?**

System operability is an integral part of our network design. As outlined above, we consider operability key to ensuring the development of a cost effective system. The cost effective methodology developed must include the ability to compare differing operability and network solutions to achieve the more joined up approach advocated by Ofgem in the consultation.

**Qn 17. Do you agree with our proposal for the ESO to review its current approach to assessing short and long term solutions, and for the FSO to set out its approach in the CSNP Methodology?**

In principle we agree with that the ESO should review its NOA CBA approach to assess any shortcomings in fairly assessing short- and long-term options when resolving network constraints. This should take our responses to Q11 to Q13 on the decision-making framework as these may be relevant to the enhanced methodology.

**Qn 18. Do you have views on our proposals for FSO to develop capabilities to consider different combinations of options and how this should be implemented?**

We agree that the FSO should develop a CSNP Methodology and a decision-making framework that includes the capability to appraise different combinations of energy system and network options as part of its CSNP products. As we have argued previously, there is scope for a much more collaborative delivery model.

As per the consultation, how and when this FSO capability is used more widely, requires further engagement, policy development and governance at various levels across government, including with DESNZ, The Crown Estate, Crown Estate Scotland and other devolved administrations. We are of the view that network companies should be part of this governance framework.

**Qn 19. Do you agree with our proposal to introduce a requirement, as part of the new CSNP licence condition, for the FSO to make recommendations on additional interconnection and OHAs opportunities between GB and other markets?**

We support the introduction of this requirement. As a TO we are responsible for connecting these assets to the transmission network and the wider enabling works. Given their high-capacity and bi-directional flow interconnectors can have a complex and material impact on wider onshore system needs. It is right that consideration is given early to the location of future interconnection to ensure they are located optimally from network capability and system operability perspectives, whilst also ensuring that future network plans take account of future impacts.

It should be noted that Energy Codes Reform and Distribution System Operator should also be considered in this context.

**Qn 20. Do you agree with our proposal that the FSO should use reasonable endeavours to support relevant stakeholders as part of the offshore asset development process?**

We agree with the intent of Ofgem's proposals with regards to the FSO, through the CSNP, supporting relevant stakeholders involved in offshore transmission. The offshore domain is complex and congested, so early and integrated planning of future leasing rounds alongside network development is essential for the timely delivery of offshore infrastructure. In doing so, OTNR and HND made significant strides forwards in creating a targeted pathway to the delivery of 2030 offshore wind ambitions. We therefore welcome that Ofgem intend to build-upon lessons learnt through those workstreams to date within the CSNP.



We would welcome further clarity, however, from Ofgem on the role of the CSNP in the planning and development of the offshore network in both the near- and far-term. The offshore domain is, and will continue to be, crucial to the delivery of 2030 ambitions and the longer-term pathway to NZ. The offshore network is a network, in no way different to the onshore network in terms of how it behaves or operates. It is right, therefore, that the offshore network is planned and delivered in conjunction with the onshore network; we need to move away from a delineation between onshore and offshore, towards a single integrated transmission network. The CSNP is the opportunity to do this.

**Qn 21. Do you agree with our proposal that the FSO assess third-party options under the CSNP and recommend delivery by competition where proposed solutions meet the relevant competition criteria?**

We do not agree that the FSO recommends delivery by competition, for any proposed solutions critical to the pathway for meeting NZ targets. The electricity transmission sector has a clear pipeline of works that must be delivered at pace to facilitate a NZ pathway required to deliver the Government's ambitions. The policy landscape has evolved significantly since the idea of competition in onshore transmission was developed, with a growing need to increase domestic supply of renewable generation and improve the connection backlog. It is widely recognised that NZ will require accelerated network infrastructure to support it which can only be achieved through increased coordination across the energy sector. We think competition will introduce delay, unacceptable risk to system stability and reliability, alongside the increasing challenge of balancing the system with increasing use of intermittent generation.

We are aligned with the recommendations from the ENC report, TOs should form long term relationships with the supply chain and look to book slots and bulk purchase equipment early where possible. This approach is moving away from engagement on a project-by-project basis and looking at long term programme of projects identified by the Area System Plans as part of the CSNP. The CSNP should recognise that contestable provision of all strategic transmission assets looks an unlikely route to success, at least in the medium term, and could introduce delivery risk.

It is important to recognise the limited global supply and high demand, specifically for high voltage cables and HVDC equipment. This is primarily driven by economies across the world all competing for the same transmission resources needed to facilitate the push towards NZ. This needs to be considered in conjunction with challenging UK targets to connect more renewable energy sources and ultimately reduce carbon emissions. There is an inherent risk that opening the CSNP up to third party competition will result in project delays due to an inability to secure the necessary components required for project delivery. This places already challenging climate targets in jeopardy. We are well positioned to utilise our existing supply chain relationships, and our ability to procure at scale, to secure the necessary resources and deliver the required infrastructure projects in a timely manner.

The process for third party involvement must consider the overall need for accelerated network infrastructure to support NZ, and the CSNP must provide a clear signal as to which projects are contestable based on robust competition assessment and the ability to meet NZ timelines. It remains our view that there has not been a robust determination, nor consultation on competition criteria and those that exist are lacking in maturity. For example, we are concerned there is not a clear, consistently applicable, and risk-assessed methodology for identifying separability. The application of competition criteria will need significant refinement beyond what is currently in the NOA process.

**Qn 22. What are your views on whether changes to the SQSS or obligations on licensees are needed to support the CSNP – where specifically are these changes needed and when do they need to happen by?**

In our view the uncertainty on whether changes to the SQSS or obligations on licensees is due to the lack of defined roles, responsibilities and obligations and lack of definition for strategic investment, connections, and design etc.

Via licence conditions C17, D3 and E16 of the Transmission Licences, SQSS enacts a coordinated set of criteria and methodologies (for example cost-benefit techniques and weather-related operation) that transmission licensees shall use in the planning and operation of the national electricity transmission system. For example, Appendix G provides Guidance on Economic Justification.

Ofgem has committed, as part of their work to establish the CSNP regulatory framework for the FSO, to consider if any consequential licence changes to the TOs' licences are required and when these changes may need to progress. This should also include a review of additional documents such as SQSS and STC. A review of the SQSS is underway as part of the ESO Business Plan 2 with a timeline extending to 2026. In relation to relevance and alignment for CSNP we believe this review should continue, including a focus on;

- Scaling factors/availability factors
- Solar generation representation in the assumptions
- Low MWh capacity storage treatment
- Interactions between CSNP and SQSS Chapter 4
- Operational measures and commercial services as compliance
- Additional offshore changes (e.g. Chapter 7)

Extending the scope of the planned SQSS review, to consider SQSS impacts of the proposed CSNP would be a reasonable low regrets step.

**Qn 23. Do you agree that the FSO should evaluate the climate resilience of the long-term whole-system CSNP?**

The impact of climate change on energy security is critical and requires wider considerations and climate resilience to be taken into account. Transmission networks are experiencing unprecedented climate events and distribution networks in particular are coming under increasing stress from the impact of climate change, at a time of growing reliance on electricity. We have a robust climate resilience strategy in place and are continuously reviewing and assessing the risks on our network. We believe that NZ and climate resilience must go hand-in-hand and should both be a key consideration for all stakeholders. Accordingly, we agree that the FSO should evaluate the climate resilience of the long-term whole-system CSNP. However, this will need to be evaluated using a transparent methodology and a robust understanding of risk exposure.

**Qn 24. Do you agree with the proposed position on the treatment of connections in the CSNP?**

Having undefined views of what connections are developed by FSO and by TO will lead to confusion and delays. It could also lead to differing levels of planning due to SQSS interpretation.

Under 7.44, it states that individual connections sit outside of CSNP unless there are accumulations of generation in a specific area. The current piecemeal approach of applications means that it may take a long time after the initial customer has contracted to find out that a cumulative position means it should fall under CSNP. There needs to be clear boundaries to each approach or consider having only 1 approach.

Under 7.54 it states that the FSO should consider its approach to a "significant" connection. This term will need to clearly be defined for customers as there could be seen to be favouritism if not.

It is also important to consider that the SSEP approach, and spatial planning underpinning the ASP approach, will provide much greater clarity around the 'need' for connections within an area.