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1<sup>st</sup> September 2023

**Ref: Centralised Strategic Network Plan: Consultation on framework for identifying and assessing transmission investment options**

Dear Strategic Planning of Networks Team,

RWE is a leading global energy player, with a 38 GW global generating capacity worldwide, and a clear target: to get to net zero by 2040. With its new strategy 'Growing Green' (announced in November 2021) RWE expects to invest €50 billion gross in its core business globally - an average of €5 billion gross each year for offshore and onshore wind, solar, batteries, flexible generation and hydrogen.

RWE is the leading power generator in the UK, supplying around 15% of the country's electricity generated with a diverse operational portfolio of onshore wind, offshore wind, hydro, biomass and gas, amounting to over 10 GW pro rata<sup>1</sup> (12 GW installed capacity) - enough to power over 10 million UK homes.

RWE is also one of the largest renewables generators in the UK, with a combined installed capacity of over 2.79 GW (pro rata) (4.8 GW installed capacity) across its onshore wind, offshore wind, hydro and biomass assets. In addition to its growing renewables portfolio, RWE operates around 7GW of modern and efficient gas-fired capacity in the UK, making us one of the largest providers of firm flexible generation, which is crucial for security of supply.

Overall, and including its committed investments in projects already under construction, RWE has ambitions to invest up to £15 billion by 2030 in developing clean energy projects in the UK to support the energy transition, creating high quality jobs across the length and breadth of the country.

Thank you for the opportunity to respond to the consultation, we welcome to proposals for a more strategic and holistic approach to system planning. Lack of grid

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<sup>1</sup> Pro-rata – based on equity share

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capacity is the single biggest challenge for development of low carbon energy projects in Great Britain today.

### **Summary**

- Lack of grid capacity is the single biggest challenge for development of low carbon energy projects in Great Britain today.
- We welcome many of the proposals set out in the CSNP consultation. We are mindful of the timelines of development and publication of this document alongside the development and publication of the Winser Review. We would therefore welcome OFGEM, in its decision document to also include how it intends to take into account the relevant recommendations from the Winser Review in the development of the CSNP.
- We have significant concerns that some of the aspects of the CSNP imply a continued reliance on a highly-conservative approach to grid development. This risks continuing the pattern of chronic underinvestment in grid capacity, with continued delays to bringing new low-carbon generation projects online.
- Given the significant growth in demand and generation that the transition to Net Zero necessitates, the risk of under-build of network significantly outweighs risk of over-build. The approach to decision-making should be reflective of this.
- We would strongly support an update to the SQSS to support the CSNP, as a common understanding between government, ESO and industry of the system security and operational standards that we can expect to be delivered is essential.
- We strongly support efforts to ensure the FSO's decision-making is more transparent. Our response sets out areas we believe this to be particularly critical, and areas where it can go further. Transparency will help to ensure a level playing-field between network options, that developers of all types of asset can play their part in helping resolve some of the challenges the network is currently facing.

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

At a high level we support the broad regulatory approach, in particular we strongly support the proposal that consideration of the value of network infrastructure investment will take into account wider economic and social impacts, and not be limited to simple constraint cost minimisation. The proposal to only re-review projects where there are very material changes is also very welcome – the start-stop nature of the NOA process is one of its significant weaknesses. We would therefore urge for a *very* high bar for re-review to be put in place. To do otherwise would maintain the high level of uncertainty associated with the NOA process.

We would propose two amendments to the proposed approach with regard to timelines – Firstly, the consultation states an intention to signal if there are opportunities for TOs or third-party options to address residual network constraints up to ~12 years in advance, and that this is based on the average network build time. We propose that this timescale should



be longer, basing it on an average implies this timescale will be too short for 50% of infrastructure project build times. It would be appropriate to review this timeline however as delivery times for network fall (e.g. as proposed under the Winser Review). Secondly, the proposed delivery of the first long-term CSNP in 2026 appears to be a very long timeline, and we would welcome efforts to bring this timescale forward.

**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?**

We agree that it is logical to design the network with reference to the wider needs of the system beyond simple thermal constraints. However, we would welcome clarity on why not all system services are covered, notably reactive power and system restoration.

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

We agree that taking a longer term view is beneficial, and it is logical to align this, at least initially, to the 2050 target. A decision must be made at what point this time horizon is extended beyond 2050 however. It is important that 2050 does not become a cliff-edge of system planning. We would welcome clarity on how the near-term and longer term planning processes will interact. It is unclear if an asset is deemed necessary in the near-term, but no longer necessary in the longer term owing to further network expansion, would be considered, and what implications this would have for near-term development.

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

Moving to a year-round nodal assessment of system need would imply a significant increase in modelling load from the current boundary-based approach. We believe a full cost-benefit analysis would be necessary.

Although we agree that more clarity on the level of capacity at different nodes would be beneficial to users, but we are not clear this necessarily implies therefore that the CSNP should be developed on this basis. We are mindful of possible interactions with work currently being developed on TNUoS zones, whereby the ESO has proposed that charging zones should align with ETYS boundaries.

We believe system planning should not be limited to managing winter peak, but consider year-round constraint costs of managing peak flows on the system. The scenarios against which the system is planned should reflect forecasts, including probability weighted scenarios, of peak flows. It is highly conceivable there will come a time when, for some links, the driver of peak flows is high levels of wind or solar rather than high levels of demand linked to cold weather. Modelling of flows on the network should be sufficiently flexible to reflect the changing drivers of peak load.



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

Detailed information about system needs, timelines of that need, how it will be delivered or auctioned should be freely accessible to all. It is essential that the design of systems for information sharing be under constant review, responsive to user feedback, to ensure they are fit for purpose and as user-friendly as possible. It is essential that bureaucratic systems do not become a barrier to innovative solutions for supporting the network.

Wherever the FSO decides to host information about system needs, it is essential that they are properly sign-posted. Forums such as the TCMF are a beneficial way to communicate where network users can find out about the developing needs of the system.

System needs are also underpinned by system security standards which are currently defined in the System and Quality of Supply Standard along with the definition of scenarios ("backgrounds") for charging for use of the transmission system. It is critical that the standards that are defined in this code are adhered to.

**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?**

Whilst we support the development of minimum standards for high-level options, we believe that these requirements should be subject to further consultation when they have been developed, and should then be transparently set out. The minimum requirements should be developed in conjunction with OFGEM as the final decisionmaker on if a project will be pursued – the high-level design stage should require cost-benefit analysis and be publicly available in detail. Finally, the high level design should capture the wider benefits of an infrastructure project e.g. carbon benefits, social benefits, and support of delivery of net zero of the link.

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

Our experience tells us that community engagement is most effective when it begins as early in the development process as possible. Consideration should be given to where community engagement at early stages of the CSNP development might be appropriate. Given the scale of the development of grid necessary to deliver net zero, the significant delays in grid development that the industry is currently facing, and the significant opposition that exists in some areas of the country to new grid development, full and effective community engagement is absolutely essential. It is also essential to have a joined-up approach to multiple grid works occurring in the same region, so that local communities feel well-informed about both current and upcoming grid upgrades rather



than the existing piecemeal approach (which is also driven in part by planning rules) which has created frustration in some parts of England.

**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?**

Whilst we understand the concerns regarding a potentially restrictive definition of strategic investment, we are still not clear on the criteria that the FSO will use to establish which projects it will lead on and which will be TO-led. The FSO should not be able to simply ‘cherry-pick’ projects without other asset developers understanding the basis on which these decisions will be made. Resource planning under such circumstances would be highly challenging.

Detailed criteria for weighing the different solutions, whichever entity they are provided by, must also be published. Without this, other parties will be at a consistent disadvantage when proposing solutions, and there is risk that an unintentional FSO-solution bias could develop. Transparency around criteria will allow external scrutiny of decisions and prevent such a bias developing.

**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?**

We strongly support a transparent process for gaining engagement from third parties on the development of the projects to meet system needs (and consequently become part of the CSNP). This is best achieved through a transparent end-to-end process for development of the CSNP, with stakeholders easily able to understand the needs of the system, and transparent assessment criteria that third parties need to meet when putting forward alternative solutions alongside traditional TO-build solutions.

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

We believe that transparency regarding the state of the network is absolutely critical to the cost-efficient transition to net zero. Insufficient network data is a significant contributor to the lengthy connection queue (as some developers file multiple connection applications to assess the state of the network). Greater transparency will not only support developers of network assets (and assets which have the potential to alleviate the need for network development) to bring forward effective solutions, but allow those seeking generation and demand connections to make more informed decisions.

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



We believe the principles set out upon which the CSNP decision-making framework will be based are broadly the right ones. Transparency is absolutely critical, in particular if the FSO is intended to be free to exercise its own judgement to recommend options into the funnel of potential projects. It is essential that stakeholders are able to understand, and comment upon, the basis on which critical decisions such as these are made.

We would welcome future publications from the FSO to set out how each of these criteria might be met and invite input on how/where they can go further on each of them. This is particularly important in the early years of the FSO to allow OFGEM to receive feedback on the FSO's performance against each of these principles.

**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?**

If the FSO is intended to be free to exercise its own judgement to recommend options into the funnel of potential projects, we believe transparency is absolutely critical - it is essential that stakeholders are able to understand, and comment upon, the basis on which these decisions are made.

We have significant concerns with the consideration of continuing to use the current "least worst regrets" approach to network development. This is a highly conservative approach which appears to have materially contributed to the under-build of network over previous years. It may be suited to an electricity network which is largely steady-state, but is not suitable for rapid grid expansion. Current least-worst regrets decision making is primarily focussed on avoiding stranded network assets. However, given the urgency of the need to develop network, concern about stranded network assets should no longer be the primary driving factor in grid development. Least-worst-regrets for achieving net zero could be a way to re-frame this. Given the significant growth in demand and generation that the transition to Net Zero necessitates, the risk of under-build of network significantly outweighs risk of over-build. The approach to decision-making should be reflective of this. Furthermore, we would welcome more clarity on how the FSO will measure the impact of choosing not to invest in an asset which could lead to further delays in connection of new low-carbon generation.

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

RWE strongly supports the use of wider metrics beyond simply constraint costs vs. cost of infrastructure. We would welcome further clarity on how costs, benefits, environmental and community impacts, contribution to Net Zero or other government targets, or to compliance with technical standards will be assessed. We also believe other wider economic considerations should also be taken into account such as job creation and reductions in wholesale cost stemming from increased deployment of zero marginal cost plant.



**Qn 14. We would welcome 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.**

We strongly support the suggestion that once a project is in the CSNP delivery pipeline that it should not be re-evaluated again. This will significantly reduce delivery times and levels of uncertainty. If there is to be a materiality trigger, this should be based on a *very* high bar for reconsideration of network projects. To do otherwise would maintain the high level of uncertainty associated with the NOA process.

We note the concerns regarding stranded assets, but would argue that given the significant growth in generation and demand that net zero implies, the risk of stranding is small. The approach to evaluating investment of infrastructure projects should reflect this.

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

We strongly support wider considerations beyond the simple constraint vs. infrastructure costs. We support the consideration of the impact of failing to meet net zero and the cost of carbon from delayed deployment of low carbon generation, and having to dispatch high carbon generation when constraining off low carbon generators. In addition, we believe there may be value to considering other non-constraint impacts such as job creation and benefits to energy security of network investment.

We note the text in 6.36 that impacts should be managed and mitigated to the extent possible, while keeping the overall cost of new network low. We would argue that the cost should be kept *efficient* - costs should not be incurred where not necessary, whereas a focus on minimisation of cost has contributed to underinvestment in the network. Where additional cost in the short term avoids longer term costs or delays, this should be considered as efficient investment.

**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?**

We support steps being taken to facilitate a joined up approach to planning system operability solutions, and in particular support the proposal for transparency around what exactly will be required and where.

**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?**

We support the FSO reviewing the current approach to assessing short and longer term solutions, and would welcome further consultation on how this might be achieved. We





believe that the lead times for implementation are also a key consideration, as the lead time on non-network solutions may sometimes be significantly different to network-based solutions.

Clear transparency will also allow developers of non-network solutions to accurately forecast revenue streams over the longer term, allowing the lowest cost combinations of non-network solutions to come forward, supporting the most cost-efficient development of the network possible.

**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 are supportive of the proposal that the way that the FSO will develop and offer advice to government will be the subject of further consultation. It is logical for synergies to be sought between development of the CSNP and the advice given to government. However, wherever such advice is given, this (and the assumptions behind it) need to be transparent, with adequate opportunity for the industry to inform and critique the proposals. For example, developers are better placed to know the capabilities and limitations of their own projects than the FSO, and therefore the best quality advice is reliant upon close participation of the industry.

**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 agree a new requirement to provide recommendations on strategic opportunities for interconnection and OHAs should form part of the CSNP licence condition. We do not think this should be covered by a separate licence condition as this would not align with the ambition of being able to provide a holistic process.

**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 that the FSO should engage and support The Crown Estate, Crown Estate Scotland, Government and other relevant bodies as part of a forward-looking offshore asset development process. We are aware that DESNZ has recently published its Decision on the Future Frameworks workstream of the OTNR, which also sets out the work ESO/FSO will need to carry out to deliver the CSNP.





**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 agree that it would be appropriate for the FSO to assess options for competition and provide recommendations to Ofgem on whether early competition would be appropriate under the CSNP. This builds on the existing process whereby the ESO already signals in the NOA which reinforcement projects are likely to be eligible for competition based on the competition criteria. The basis on which these recommendations are made must be clearly visible to the wider industry.

**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?**

We would strongly support an update to the SQSS to support the CSNP, as a common understanding between government, ESO and industry of the system security and operational standards that we can expect to be delivered is essential.

Limited progress appears to have been made by the current SQSS review (or any progress that has been made is not clearly visible to the wider industry). The SQSS sets out that backgrounds much be reviewed at least every five years, meaning they are becoming increasingly out of date. The review of charging scenarios is being conducted via the TNUoS Taskforce which to date has not included any cost benefit analysis of constraints versus transmission build costs, and activity which is required according to the SQSS code.

We note that there have been a number of suggestions from Ofgem and ESO that system planning and/or charging arrangements do not always need to be consistent SQSS requirements.

We believe that introduction of the CSNP would be an excellent opportunity to consolidate the medium to long term role of the SQSS as an important standard for defining system planning and operation that is consistently adhered to.

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

We support the FSO taking steps to evaluate (and where possible, mitigate) relevant risks to future security of supply. These include, but are not limited to, the impacts of the changing climate, changes to patterns of demand, greater inter-dependencies of energy systems, and geo-political shocks.



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

We believe it is appropriate that individual connections are not part of the CSNP process, whereas significant wider works to facilitate large connections, or clusters of connections (as occurred under the HND) are an important part of the CSNP's remit.

Yours faithfully,

Dr Tom Steward

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