



Via email:

RIIOElectricityTransmission@ofgem.gov.uk

Joanna.Gaches@ofgem.gov.uk

Email: Tom.Steward@RWE.com

23rd June 2023

Ref: Centralised Strategic Network Plan: Consultation on Stage 1 – modelling future supply and demand

Dear Joanna Gaches,

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 UK's largest power producer, accounting for around 15% of all electricity generated across a portfolio of onshore wind, offshore wind, hydro, biomass and gas, amounting to over 10 GW pro rata¹ (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 our 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 expects to invest up to £15 billion in new green technologies and infrastructure in the UK by 2030.

Thank you for the opportunity to respond to the consultation on the Centralised Strategic Network Plan.

¹ Pro-rata – based on equity share

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Registered Office: Greenwood House · Westwood Way · Westwood Business Park · Coventry · United Kingdom · CV4 8TT



Summary

- We support a move from the current scenarios-based approach, to a series of credible pathways forming an input to the Centralised Strategic Network Plan. The FES is used across industry for various reasons, not just network planning, and as such we suggest that a range of such pathways representing realistic uncertainty continues to be valuable.
- We do not support using a single pathway towards the beginning of the forecast horizon, as it is important to reflect the full range of uncertainty into the future.
- We believe the modelling of a constrained network throughout the entire time horizon is important to inform early investment in areas that are likely to be constrained in future.
- Modelling assumptions must be made as transparent as possible to support stakeholders understanding, and facilitate their providing useful input into future modelling rounds.

1. Do you agree that we should move towards pathways instead of scenarios, to provide greater clarity on the type of investments required under the CSNP?

We agree that the current scenarios based approach, whereby each FES scenario is considered equally credible, but not intended as a forecast, does not best support a strategic view to be taken by the FSO. The outputs from the FES need to become more certain to allow clearer requirements to be specified (e.g. type, location, scale of investment) as opposed to the broader “recommendation approach” currently presented via the NOA. We therefore agree that going forward the FES process should set out strategic pathways to allow a more directive approach to be taken. It is important that real uncertainty in future outcomes is properly represented. The FSO has the task of developing a network strategy that enables appropriate investment against the backdrop of this uncertainty. We support that modelling continue to be an input to, but distinct from, the network planning process.

If the FES pathways are to be used for strategic central planning, this is a significant step change in their importance, and it will therefore be critical to ensure they are as robust and credible as possible. In addition, should locational investment signals move to a more constraints-based approach as a result of REMA, generators and suppliers will be even more significantly impacted by transmission build than they are today, and are likely to base a large part of their own investment decisions on FES scenarios/pathways. This means the accuracy and robustness of the FES will have wide-reaching consequences for the cost of achieving Net Zero and, the consequently the FES process will need to be more thorough and transparent than it is today.



The move towards pathways, rather than scenarios, interacts closely with the FSO's advisory role. Although we agree all pathways should be consistent with delivery of an electricity system supportive of a net-zero economy, not all policy ambitions are always met. Where the FSO believes that a government target is unlikely to come to fruition (e.g. on level of deployment of a particular technology), this should be transparently reflected in the modelling. Over time, this will allow stakeholders to see the FSO's view on progress towards a particular target, or impact of policy changes.

2. Do you agree that there should be a single forward view of the near term for all pathways?

We do not agree with the proposal for a single forward view in the near term. Although we would expect that the pathways would be more closely aligned with one another in the nearer term, it is important that where there is real uncertainty, that it is clearly visible. This visibility will help stakeholders to understand the decision-making behind network development, as well as supporting the proposed publication of where too much or too little network development has been undertaken.

There is significant need for grid investment on the pathway to 2030 (and beyond). Modelling multiple pathways may better support understanding regarding the interaction between different levels of grid development today, and the levels of deployment of generation further into the future (e.g. how greater network development in the 2020s affects deployment of offshore wind in the 2030s).

Modelling multiple pathways across the entire time horizon alleviates the need for selection of an arbitrary point where a single pathway is split into multiple pathways. However, if a single pathway at the beginning of the time horizon were to be used, this should be limited to a period over which there is an exceptionally high degree of certainty. The proposed 7-12 years appears to be too long to meet such a standard.

3. Do you agree with our proposal to have Net Zero compliant pathways (number to be determined by FSO), with a separate counterfactual demonstrating the scale of activities and investment that falls short?

We agree that the inclusion of a pathway that is not consistent with an electricity system that supports a net zero economy by 2050 is not appropriate and does not send the correct signal. However, we agree that including a separate counterfactual (separate to the specific pathways) would be useful to assess implications of not meeting the economy-wide Net Zero target. This counterfactual should be contextualised by wider impacts such as associated impacts on CO₂ output, energy security, jobs, and energy bill levels in the long term.

In response to Ofgem's consultation on network price control review in autumn 2022 we flagged that we have significant concerns that the electricity Network Options Assessment process still appears to be designed to deliver a "least worst regrets"



outcome and that in practice, this appears to be resulting in minimum electricity network build that only delivers capacity when it is sorely needed. As such we welcome this proposal and agree that all pathways should show a route to meet the legislated economy-wide Net Zero target, and look forward to future consultations setting out how the decision-making process regarding network investment decisions will be altered to ensure network investment occurs at the scale and pace that is needed. The methodology behind the weighing up of network options is of critical importance to ensuring that network development continues at the pace and scale necessary to supporting net zero. There are a wide range of possible scenarios through which Net Zero by 2050 could be achieved, and the pathways need to recognise these and distinguish between the legislated end-points and interim ambitions with associated uncertainty.

We agree that the FSO should consult with stakeholders when determining the number of pathways that will be used to assess future investment options, and look forward to participating in this engagement activity.

4. Do you agree that the pathways should run to 2050, and if not, why not?

We agree the initial FES pathways should outline activities up until 2050, recognising that there are currently no UK targets for post 2050.

We also agree that as we get closer to 2050 a suitable decision point or trigger should be identified to extend the timescales of the pathways and included in guidance for the FSO. This trigger point should be selected with reference to investment lifetimes – both for Transmission Operators and developers of other energy assets.

5. Do you agree that the model should develop the capacity to include extreme data ranges when requested of the FSO in its role as strategic advisory body?

We agree that low probability, high consequence events should be factored into the FES model going forward in order to support the FSO's strategic advisory role.

We agree that it is not appropriate for strategic investment decisions to be unduly impacted by low probability, high impact events and as such these should not be heavily weighted. However we think there is value in developing an approach to ensure low probability, high impact events can be used to stress test the approach recommended by the FSO where appropriate.



6. Do you agree with our consultation position on modelling network constraints?

We agree that the FES modelling should try to accurately represent the network in the short term and therefore should include existing network constraints, as opposed to modelling an unconstrained network.

However, we believe that continuing to model a constrained network further into the future will help to use generation/demand siting decisions to inform recommendations for expansion of the electricity network. Modelling constraints on the electricity network will also help to shed light on opportunities or limitations of other networks to relieve electrical constraints e.g. hydrogen.

7. Do you agree with our consultation position, and do you have a view on which data principles should be possible to adopt for the first FES?

We agree that increased transparency of input and output data used in the FES would allow for more informed decision making both by industry and government. Particularly from an industry perspective, aspects such as changes in “NOA signals” have previously been difficult to interpret or understand due to the approach taken to date. If the FSO is able to provide underlying data (as referenced in paragraph 3.45) this would allow impacted stakeholders to analyse the impact on any projects/future planning.

8. Are there specific stakeholder needs cases for publication of data, including the format of outputs?

As set out above, a high degree of transparency regarding the assumptions behind the modelling are essential. We would support a flexible regime whereby industry stakeholders are able to propose new use cases for publication or format of data as they arise.

9. Are there specific data outputs associated with the FES that we should mandate?

The more locationally granular the data that can be provided, the more beneficial it can be to market participants in their decision making.



10. Do you agree that regional and/or industrial hub pathways should be included in the FES?

We agree expanding the FES to provide an increased focus on regional and/or industrial hub pathways would be beneficial. The FSO should be proactive in its strategic thinking, identifying a region of growth and putting infrastructure plans in place, rather than relying on multiple parties navigating their connections process and triggering works. However, we are concerned that the FSO will have limited knowledge about the variability and complexity of generation and storage costs, including by location, and may not have relevant knowledge and experience to develop efficient pathways. This can be mitigated to some extent by increasing the input from these parties, and publishing assumptions. This may also be further mitigated if the proposal for Regional System Planners, as part of the FSO, is taken forward.

We agree this additional detail will provide greater clarity for all stakeholders and allow more detailed investment planning and decision making, however there are a number of initiatives such as “Welsh Future Energy Grid for Net Zero”² which are also looking at regional grid issues – its important that these are taken into account where relevant.

11. Do you agree with our proposal for a ‘major’ FES in the year prior to the main CSNP publication, with smaller annual updates in the intervening years?

We agree that FES publication must precede the CSNP into which it provides input, however are not clear on the justification for some years to have a more significant update than others (or indeed what aspects of modelling are considered part of a ‘major’ update). Given the advisory role of the FSO, and how widely the FES is currently used as an input to policymaking, we believe a full annual update would be beneficial.

We are mindful that any delays to the FES should not have a knock on impact to the main CSNP and expect Ofgem to hold the FSO to account on deadlines and requirements.

It would be useful for the proposed timeline to be set out clearly in the decision and/or consultation on licence conditions to ensure it can be understood, including the type of publication/information that will be shared as part of each publication/update.

² [Energy Systems Catapult - Wales Future Energy Grid for Net Zero](#) (



12. Do you consider that longer-term evolution of energy supply and demand modelling should head in the direction outlined above and if so how?

We support the approach to modelling remaining flexible to the changing nature of the energy system. However it is essential that outputs are comparable between years. The frequent changes to the assumptions behind the existing FES has made it difficult to compare outputs from one year to another.

Modelling of the electricity system must remain responsive to developments in other related sectors or energy vectors (e.g. increased use of hydrogen). Where this has an impact on modelling assumptions, this must be transparently set out.

We welcome the idea that the FSO will publish where areas of the network have been under or over developed, and the associated implications in terms of cost, CO₂ output, energy security etc.

We also note that, without yet having a clear view of the process for development of the CSNP, it may be necessary to revisit the design of the modelling that supports it to ensure it is fit for purpose.

We hope you find these comments useful, if you have any questions or would like to discuss our views in more detail, please do not hesitate to get in contact.

Yours sincerely,

Dr Tom Steward
Senior Regulatory Manager
RWE Renewables