

Meeting minutes

Transitional Centralised Strategic Network Planning (TCSNP) Governance Committee meeting – Inputs Generation and Demand Assumptions

Date: 08/06/2023 **Location:** MS Teams
Start: 14:00 **End:** 15:30

Participants

Attendee	Role in meeting	Job role	Minutes attended
Matthew Wright	Chair	Head of ESO Strategy and Regulation - ESO	1 - 8
Craig Dyke	Committee member	Head of National Control - ESO	1 - 8
Claire Dykta	Committee member	Head of Markets - ESO	1 - 8
Julian Leslie	Committee member	Head of Networks - ESO	1 - 8
Lauren Stuchfield	Committee member	Electricity Analysis Senior Manager - ESO	1 - 8
Paul Wakeley	Support member	Strategic Network Development Manager - ESO	1 - 8
Susana Nevesebrooks	Support member	Electricity Customer Connections Manager - ESO	Regret
Victor Matilla	Technical secretary	Power System Engineer - ESO	1 - 8
Presenters			1 - 8
Griffin John	Presenter	Technical Economic Assessment manager - ESO	1 - 8
Jason Hicks	Presenter	Offshore Network Strategy manager - ESO	1 - 8
Kelvin Lambert	Presenter	Power System Engineer - ESO	1 - 8
Toby Thornton	Presenter	Energy Insights Whole systems manager - ESO	1 - 8
James Whiteford	Presenter	Energy Insights Generation manager - ESO	1 - 8
Sagar Depala	Presenter	Energy Insights Energy Demand manager - ESO	1 - 8
External Participants	Role in meeting	Job role	Minutes attended
Ofgem			
Thomas Mackenzie	Observer	Head of Strategic Planning – Networks - Ofgem	1 - 8
Konark Anand	Observer	Electricity Transmission Policy senior manager - Ofgem	1 - 8
Joanna Gaches	Observer	Electricity Transmission Policy senior manager - Ofgem	1 - 8
Kelvin Hui	Observer	Senior Manager – Networks – Ofgem	1 - 8
Jon Sharvill	Observer	Ofgem	1 - 8
Keren Maschler	Observer	Ofgem	1 - 8

National Grid Electricity Transmission (NGET)			
Owen Wilkes	Observer	Network Development - NGET	1 - 8
Arif Husni	Observer	Network Planning manager - NGET	1 - 8
Dela Sharifi	Observer	Capital Project Delivery New Infrastructure manager - NGET	1 - 8
Simon Orr	Observer	Net Zero Engineering manager - NGET	1 - 8
Anato Chowdhury	Observer	Strategy Lead - NGET	1 - 8
Mark Lissimore	Observer	ET Head of Operations and Engineering Electricity Construction - NGET	1 - 8
Timothy Bull	Observer	Consents manager - NGET	1 - 8
Scottish and Southern Energy Networks Transmission (SSEN-T)			
Bless Kuri	Observer	Head of System Planning and Investment – SSEN-T	1 - 8
Roddy Wilson	Observer	Network Planning Manager – SSEN-T	1 - 8
Rahul Jadgale	Observer	Senior Manager System Planning & Investment – SSEN-T	1 - 8
Malcolm Barnacle	Observer	Senior Transmission System Planning & Investment Engineer – SSEN-T	1 - 8
Scottish Power Energy Networks Transmission (SPEN-T)			
Graeme Dean	Observer	Lead Design Engineer – SPEN-T	1 - 8
David Adam	Observer	Transmission Network manager – SPEN-T	1 - 8

Agenda

#	Topics to be discussed	
1.	Apologies and Introduction	Chair
2.	Governance and process <ul style="list-style-type: none"> • Terms of reference • Conflict of interests • Proxies to the meeting • SOFI confidentiality • Risks 	Chair
3.	Overview of TCSNP with an HNDFUE update	Mr John Mr Hicks
4.	Environment and community update	Mr Lambert
5.	FES 2023 update <ul style="list-style-type: none"> • Demand • Generation 	Mr Depala Mr Whiteford
6.	Date and time of next meeting	Chair
7.	Any other business	Chair
8.	Feedback and review	Chair

Discussion and details

#	Topics to be discussed
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1. Apologies and Introduction

Mr Wright welcomed the attendees and introductions were made.

2. Governance and process**Terms of reference**

The NOA Committee has now changed its name to the TCSNP Governance Committee. However, the Committee is still governed by the actual Terms of Reference of the NOA Committee and will continue to sign off the results from the onshore options assessment as part of the NOA process. Noting that this is Committee is different from the governance in the OTNR workstream (CDG). There will be a review of the governance processes in future.

Conflict of interests

None were noted.

Proxies to the meeting

Claire Dykta (Committee member) and Susana Nevesebrooke (Support member) could not attend the call and sent their apologies. No decision is expected to be taken at the Committee therefore there was no requirement for a DOA

SOFI confidentiality

Much of the material discussed in this meeting is SOFI until the publication of FES 2023 on 10 July and the TCSNP2 publication planned for December 2023.

Risks

None were noted.

3. TCSNP2 update including methodology

Mr Wright invited Mr John and Mr Hicks to provide an update on the TCSNP2 and methodology. The following points were noted:

Mr John provided an update on TCSNP2 and the following points were noted:

Context of TCSNP2

- The ESO has a license obligation to publish the Network Options Assessment or NOA in January every year.
- In 2021, a review took place of the current process under Ofgem's Electricity Transmission Network Planning Review, ETNPR. It was identified that the NOA should be evolved into the Centralised Strategic network plan, CSNP.
- The aspiration was to look further into the future and identify anticipatory strategic investments looking beyond just economics into environment and community impacts and consider multiple vectors – gas and electricity complementing the FSO's vision.
- The current focus of the NOA is to make recommendations predominantly to onshore network investment looking over the next 10 years. However, CSNP's scope will be larger than that and is still in the state of transition and change.
- Last year, for the first time the, ESO published the Pathway to 2030 suite of documents in July 2022 after the NOA was just published earlier in the winter. In that, the ESO presented a holistic network design, HND which facilitates the Government's ambition of connecting 50GW of offshore wind. The NOA was refreshed for this, presenting the onshore network needed to go alongside the offshore network to facilitate this level of offshore wind on the network. This was the first transitional CSNP, TCSNP1 which was the first step in the evolution of the NOA focusing on:

1. Looking beyond current NOA timescales, looking into the future i.e. 2030 and beyond what network is needed to meet the 50GW offshore wind ambition.
 2. Designing a coordinated onshore and offshore network that meets this requirement.
 3. Specifically highlighting strategic infrastructure works that are essential and those which need accelerating.
- This year, the evolution of the NOA process will continue with a second iteration of TCSNP, or TCSNP2. This will be published in December 2023.
 - Following on from TCSNP1, the ESO was tasked with building on the HND to further facilitate the coordination of the additional ScotWind generation. The HND follow up exercise (or HNDFUE) started in August 2023 and as a result of this additional work, the ESO sought direction from Ofgem to delay the publication of NOA which was due in January 2023. Ofgem approved the request to postpone the NOA publication to December 2023.
 - In the tCSNP report, we plan to meet the C11 and C27 license requirements to publish the NOA together with the outputs of the HNDFUE along with the electricity ten year statement (ETYS). This will be presented as one network – a co-ordinated onshore and offshore network having identified the system needs beyond just the next 10 years.

Key focus of TCSNP2

This year, building upon the HND and NOA refresh from last year, TCSNP2 will:

1. **Focus on more strategic network recommendations beyond 2030** – This means there will be no reassessment of any projects up to and including 2030 and so they will not be receiving a recommendation. They will retain their recommendations from TCSNP1. This has been discussed and agreed with Ofgem.
2. **Move to a more holistic network design by factoring deliverability, operability and consider environment and community impacts** – The TCSNP2 processes will share a set of design objectives that were initially developed for the first HND. Aligning these design principles allows the NOA to advance from being economics focused. TCSNP2 methodology will consider these elements across both the onshore and offshore network and factor this into our final coordinated network design. The design principles are:
 - 2.1. **Economic and efficient costs**
 - 2.2. **Deliverability and operability** – the network solution should contribute to delivery of Sixth Carbon Budget and net zero ambition, and the resulting system should be safe, reliable and operable.
 - 2.3. **Environmental impact** – environmental impacts should be avoided, minimised or mitigated by the network design, and best practice in environmental management should be incorporated into the network design.
 - 2.4. **Local communities' impact** – similar to mitigating environment impacts.

TCSNP2 this year is planned for a December 2023 publication, and will combine the outputs of HNDFUE, ETYS and the NOA by

1. Accounting for an offshore and onshore coordinated network from HNDFUE as a key input
2. Apply the latest FES 2023 generation and demand backgrounds
3. Reassessing the onshore network requirements and provide recommendations to the options that meet these system needs.

HNDFUE Update

Mr Hicks provided further details and an update on the progress of HNDFUE:

- A high level timeline and HNDFUE process diagram was presented which provided an a draft indication of the steps taken to complete since August last year.
- The HNDFUE methodology is broadly the same as HND1, including efficiency improvements, the most significant change is the removal of the NOA refresh stage as this is being replaced by a full NOA. This is primarily because for HND1 a NOA had just been completed and so a refresh was a pragmatic next step. However, for HNDFUE no NOA has completed recently to be refreshed and so a full NOA is necessary. This of course adds more time to the overall process.
- The whole HNDFUE process is designed to consider a wide range of design solutions, in total 145 different designs were considered for connecting the ScotWind generation. These options were all appraised against the four design criteria and refined to optimise their performance against each.
- After appraising all designs, these were shortlisted to six best performing designs, which ranged from fully radial to a very coordinated design and several in between.
- The next step was to allow the TOs time to assess in detail the impact each of these shortlisted designs have on their onshore networks. The TOs have been assessing these options since February and have recently shared the results of this work in order for the ESO to carry out the next step of the process.
- Currently the ESO is carrying out the final strategic options appraisal process. The aim of this step is to firstly determine in a mini NOA style exercise which combination of onshore works is the most optimal against the four criteria for each shortlisted design. Once this step is complete each shortlisted design can be compared and appraise in detail narrowing designs down to a single and final recommendation.
- The final recommendation will include the offshore network design and the accompanying onshore works. Some of these onshore works will be new and so their development will be at the very early stages.
- It is important to note that the HNDFUE is focusing on a snapshot in time and the network necessary to connect the generation in scope. The NOA will take this one step further by assessing the network needs over multiple years and scenarios, building on the recommendations of the HNDFUE.
- It is also important to note that the ESO recently gained approval from the TNB to include INTOG analysis within the HNDFUE and pushed back our date for concluding the Celtic Sea design to incorporate changes within the TCE's processes. The ESO are now planning to conclude the recommendations of both INTOG and Celtic Sea by early 2024. It is not expected to have a material impact on the TCSNP2 process, the ESO believes that capacity of these leasing rounds is much smaller and the FES captures reasonable connection assumptions that will minimise any overall network planning impacts.

[Redacted due to sensitive nature]

- Mr Orr asked if the cost of the whole system solutions were being considered, such as Hydrogen and Storage, and therefore an evaluation of a network that has strategic demand vs non strategic demand
 - Mr John said that both scenarios (strategically coordinated and not) will be assessed in TCSNP2 but only the opportunity in constraint savings will be explored.

4. Environment and community update

Mr Wright invited Mr Lambert to provide an update on the Environment and Community work area as part of TCSNP2. The following points were noted:

Context of Environmental and Community Appraisals in TCSNP2

- The ESO has agreed with Ofgem that the CSNP will appraise environment and community aspects. There is a plan to introduce an environmental and community appraisal process in the TCSNP as an intermediate step to the CSNP. The ESO has recruited and continues to recruit SMEs in the environment and community area.

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- The Offshore Coordination Team has created methodologies in conjunction with the TOs for appraising offshore and onshore reinforcement projects.
 - This means that the offshore network proposals and their onshore elements have been appraised. If the onshore network was not appraised using the same and appropriate criteria, then it's possible that a reinforcement is recommended over another one that performs better from an environment and community perspective.
 - The ESO would conduct appraisals on combinations of reinforcements where the individual reinforcements are an input into that process. The target date for completion would be the System Requirement Forms, SRF submission date of 14 September 2023 as outlined in the latest NOA methodology, though extending to late September might be possible.

Proposal for carrying out Environmental and Community appraisals in TCSNP2

- The current approach is still being discussed with the TOs; the process will look to emulate the one used for HND.
- The TOs would carry out appraisals of individual options against the methodology criteria. Because of their work with the HND reinforcements, they're familiar with the methodology. The TOs have highlighted challenges continuing this work on an enduring basis given the volume of work required during the HND FUE analysis.
- Once the ESO has the results of the TOs' individual reinforcements, the ESO will conduct further appraisals that take account of the effect of multiple "cumulative" pieces of infrastructure interacting from an environment and community angle. This might be because a land corridor is wide enough for a limited number of new routes. Overall, it means that the combination of reinforcements that will be recommended is affected by environmental and community practicalities and result in restricting the combination of reinforcements and hence change the "NOA" recommendations.
- The ESO proposes to employ the same assessment methodology as HND FUE. It works by stepping along the line of reinforcements in a combination and the process will repeat for a parallel branch. This will give a clear idea of the strongest reinforcement combinations from the environment/community and economic criteria and where the two are out of step. Where reinforcements are marginal, TCSNP governance committee will be used in the decision-making process.
- The same process integrates the deliverability and operability assessments into the economic assessment.
- The ESO is considering what environmental stakeholder engagement is needed for the "NOA" onshore work area and whether it can be built on the existing Environmental Subgroup that has helped with the HND.

5. FES 2023 update

Mr Wright invited Mr Depala and Mr Whiteford to provide an update on the key messages for the latest FES 2023, which will be published on 10 July.

Demand

Mr Depala provided an update on Demand in FES 2023 and the following key points were noted:

- FES 2023 also includes a five year forecast (5Y) which will be available in the Data Workbook
- Similar to FES 2022, this years FES will also include three of the four scenarios expected to meet net zero targets by 2050. Leading the Way will meet net zero targets before 2050, with Consumer Transformation and System transformation by 2050 and Falling Short not meeting net zero.
- FES 2023 updates should not affect demand assumptions for TCSNP2 study years of 2031 and 2034
- The main messages were as follows:

1. Transmission connected demand increases in all scenarios due to triad avoidance incentive ending with no confirmed replacement however it remains within historical norms so the drivers for network reinforcement would mainly be from supply, as they are today.
2. Beyond 2030, underlying peak average cold spell, ACS demand, Distributed generation, storage, and microgeneration assumptions are unchanged for FES 2023.
 - 2.1. The distributed generation at peak ACS are negligible for TCSNP study years in all scenarios.
3. In the short term, annual demand is suppressed due to the cost-of-living crisis, high energy prices, increased borrowing costs and reduced economic activity in FES 2023 compared to FES 2022. This price elasticity is not seen as much in peak demand, as consumers protect the demand that they value most.
4. Long term trend is increasing electrification in all scenarios – nothing prompting any change from FES 2022 beyond 2030

Mr Wright asked if there were any questions on what had been presented and the following points were noted:

- Mr Orr asked if the growth in embedded storage and meeting the Consumer Transformation scenarios was due to battery storage and if that was embedded in micro-generation.
 - Mr Depala replied that it includes a combination and varied technologies. These technologies will be outlined as part of the FES launch on 10 July.

Generation

Mr Whiteford provided an update on Generation in FES 2023 and the following key points were noted:

Main reasons for changes from FES 2022 to FES 2023

- Capacity Market agreements have caused some changes in generation and storage within FES23.
- Stakeholder feedback on commissioning dates for plants & technologies has been taken into account as well as consideration of additional offshore projects through ScotWind, Innovation and Targeted Oil & Gas (INTOG) and Celtic Sea
- Bioenergy with Carbon Capture and Storage, BECCS capacity has reduced in later years and replaced with Hydrogen plant. This reduces the amount of wind curtailment (swapping baseload plant for dispatchable) & biomass fuel use to keep within fuel limits.
- All of this has caused a requirement of a recalculation of Loss of Load Expectation, LOLE to keep it within the limits, of which these changes cover the entire FES period.
- FES 2023 Offshore wind has been aligned with HND and HNDFUE
 - This includes new offshore nodes and zones corresponding with the revised designs for HND.
- There is an increase in Offshore wind between the Leading the Way 22+ scenario used in HND and Leading the Way 2023.
 - The capacity locations are subject to change once the HNDFUE optimal design is finalised which will affect the studies in the TCSNP as the FES 2023 database will need to be amended for the purpose of the studies in TCSNP.
- Location of Electrolysis
 - HNDFUE has made assumptions for relocation of electrolyzers.
 - On a high level, the electrolysis below the boundary B7a (excluding East Anglia) has been relocated to Aberdeenshire
 - These assumptions will be used in TCSNP alongside the FES location assumptions.

Mr Wright asked if there were any questions on what had been presented and the following points were noted:

- Mrs Maschler (Ofgem) asked if the changes in generation and higher levels of battery, impact the Large Onshore Transmission Investment, LOTI projects and Accelerated Strategic Transmission Investment, ASTI projects, with a risk that some of the projects that have been approved already, might be needed at a later date.
 - Mr Whiteford responded that the impact is in the shorter term for storage in the assumptions and does not affect projections post 2030. These updates have been reflected as part of the capacity market results where the engagements carried out by FES showed that the FES ranges were still credible.
- Mr Wilkes (NGET) asked if the assumptions made on strategic demand from HNDFUE were included in the offshore design and therefore how does that align with the TCSNP2 analysis.
 - Mr John replied that as mentioned earlier, two scenarios will be looked at as part of TCSNP where an evaluation of a network that has strategic demand vs non-strategic demand will be carried out whereby a delta will be calculated to assess the benefit. tCSNP will be aligned with HNDFUE with its flexible demand assumptions (which includes hydrogen).
- Mr Husni asked if the HNDFUE is based on Leading the Way 22+ offshore wind capacity, the Leading the Way 2023 scenario is showing higher amounts and wanted to know the reasons for the increase.
 - Mr Whiteford replied that this is because the FES 2023 considers INTOG, Celtic Sea and other specific projects. Exactly how that is dispersed across the country will be looked at when the HNDFUE Optimal design is known.

5. Date and time of next meeting

The next meeting will be scheduled for October 2023.

6. Any other business

None

7. Feedback and review

Dr Wakeley wanted to thank all the TOs and other colleagues for their collaboration for this year and their continued support during the TCSNP and the enduring CSNP.

Decision Log

[Redacted due to administrative nature]

Action Item Log

[Redacted due to administrative nature]