

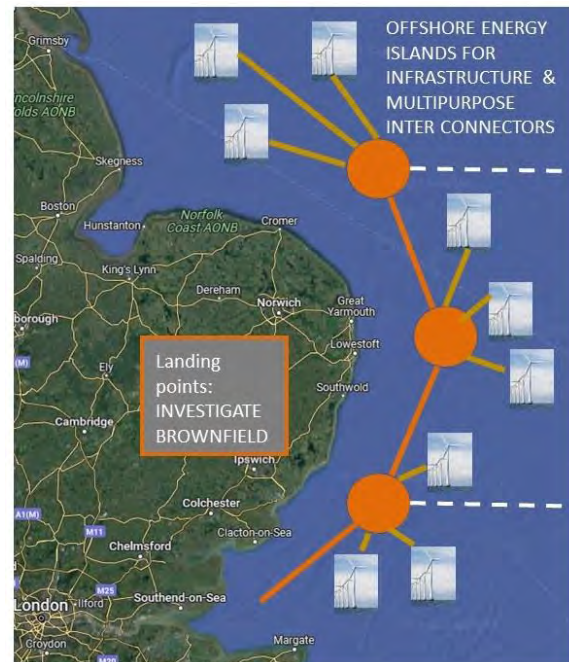
NG ESO Eastern Region Transmission Review 2023

Essex Suffolk Norfolk Pylons

Essex Suffolk Norfolk Pylons action group represents 23,000 people who signed a petition saying “no” to the ‘East Anglia GREEN’ (EAG) pylons proposal, and “yes” to a coordinated offshore grid.

We also work closely with Suffolk Energy Action Solutions, Norfolk Parishes Movement, Stour Valley Underground, East Anglian Alliance of Amenity Groups and Dedham Vale Society.

This schematic (see right) illustrates what our group seeks - a coordinated and integrated offshore grid, linking wind farms and interconnectors to offshore energy islands.



SUMMARY: Terms of the National Grid ESO review 2023

We welcome the Eastern region transmission infrastructure review. The Essex Suffolk Norfolk Pylons Action Group, and others, have called repeatedly for a review since the exclusion of the East of England from the Holistic Network Design (HND) in 2022. We believe this scoping-out to be counter to the four design objectives of the HND.

We therefore welcome that the new, National Grid ESO (NG ESO) review will be conducted¹ in accordance with the four required design objectives, namely **Economic & efficient costs, Deliverability, Environmental Impact, and Local Communities’ impact**. The HND required each objective to be considered on an equal footing and this review must do the same.

In addition to the HND Design Objectives, we believe it is imperative that the review is subject to Treasury Green Book guidance². OFGEM requires Treasury Green Book principles to be followed when reviewing projects.

We are pleased to hear, from James Cartlidge MP, that the review will welcome the input of communities (as it must to fulfil HND Design Objective 4). With that in mind, this paper sets out the following -

1. Projects (and their timings) that should be within the scope of the review.
2. The key criteria for a successful review, which we will use to judge it.
3. Concerns about the reliance on National Grid Electricity Transmission (NGET) for costings.

We would also like to request a meeting at the earliest opportunity.

¹ See Appendix

² The 2020 NG ESO report followed this requirement.

Projects for inclusion in the review.

NG ESO has noted that the following transmission projects are currently active and under consideration in the East of England:

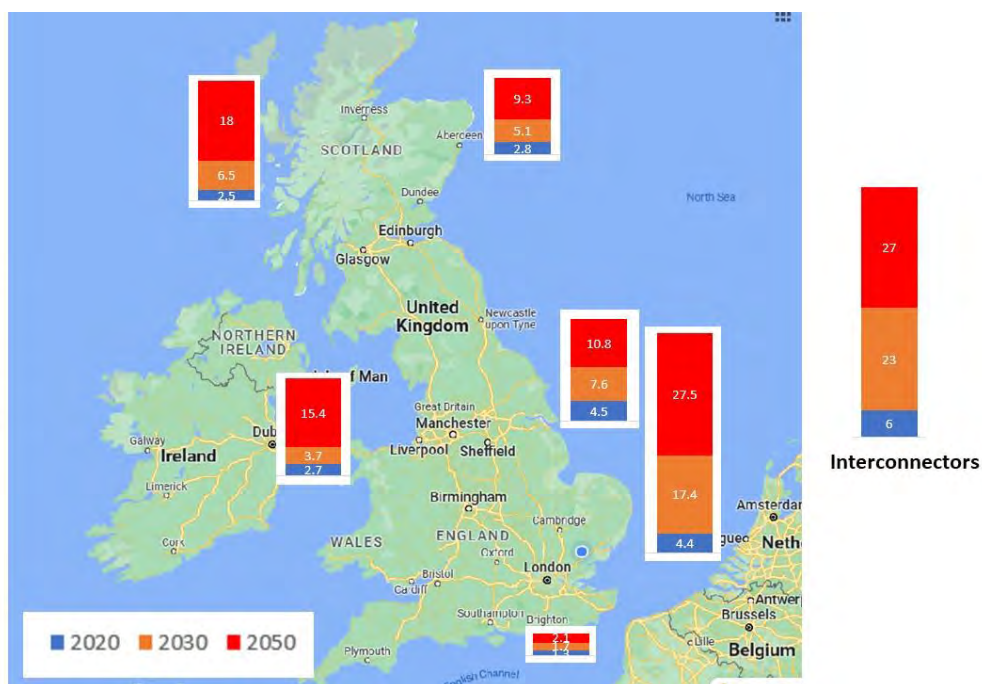
- Twinstead-Bramford (not under construction as stated in NG ESO’s summary of the review)
- Sea Link
- EAG – delayed by one year.
- Upgrades.

The current scope of methodology proposed by NG ESO does not go far enough. It restricts itself to the Early Opportunities projects, which not only ignores projects to 2050, as set out below, but also reduces the scope for a fully coordinated grid. We would therefore expect all of the wind farms listed below to be included:

- In Development: Dogger Bank South-West & Dogger Bank South-East; Outer Dowsing; North Falls / Five Estuaries
- In Planning: Dudgeon Extension Project; Sheringham Shoal Extension Project; Hornsea 4
- CfD eligible: Norfolk Vanguard; East Anglia One North, East Anglia 2³
- CfD secured: East Anglia 3; Norfolk Boreas; Orsted Hornsea 3
- Preconstruction: Dogger Bank B & C; Sofia
- All of the following **interconnectors**: Tarchon (Bramford), Eurolink & Nautilus (Suffolk coastal), Aminth (Mablethorpe, Lincs).

In addition, the review must look to the offshore capacity forecast to be installed in the North Sea by **2050**, which is incredibly significant. This must be planned for, with the scalability of any grid being a key parameter. Forecast growth to 2050 is shown in the graphic below (taken from NG ESO 2020).

Offshore wind capacity, Gigawatt



³ These two latter are delayed by two years which gives added scope to connect them into a coordinated offshore grid.

Success criteria for the review

In addition to the above, we believe a successful review should include/take account of, all the points below:

- A fully coordinated offshore grid. In the UK there have been reports in 2011, 2015 and 2020 which showed that such coordination is beneficial for consumers, communities and the environment. Denmark has already made excellent progress with an offshore grid including offshore islands, and EirGrid⁴ has announced that future offshore wind farms around Ireland will not connect to points on land, but rather to offshore substations designed and built by EirGrid.
- An investigation into **offshore energy islands** for associated infrastructure.
- Full survey of, and consultation on, **brownfield sites** for landing points.
- A study of all **alternatives** to new overhead lines through countryside, including directional drilling, under-grounding, following existing infrastructure and/or power lines, increasing capacity of existing 400kv lines to 800kv or higher.
- Evidence of all associated impacts - environmental, socio-economic, heritage, health (including mental health), and carbon/climate change impacts (following Treasury Green Book guidelines)
- Scalability of solutions for the long-term
- Full cost breakdown of all alternatives, to include totality of infrastructure and cost, not just the elements which fall to NGET to provide; lifetime costs, technical complexity, delivery risk, legal risk, planning risk. It should be noted (and factored in) that the 'experience curve' leads to lower costs.
- A study of future resilience of the network to 2050.
- Full independence. We seek to understand what processes are in place to ensure independence between NG ESO and NGET. It is also imperative that there is oversight by an independent entity with **no association** with either National Grid or the Offshore Transmission Network Review, such as WSP (formerly Parsons Brinckerhoff). The review must be transparent, unbiased and with all background evidence openly provided for scrutiny.

⁴<https://www.4coffshore.com/news/uncertainty-caused-by-new-government-offshore-wind-policy-nid27416.html>

Concerns about reliance on NGET's project costings

We have serious concerns that NGET will be providing the project costings for this review, as we do not believe their figures can be safely relied upon.

1. We have previously raised concerns, both in our submission to NG 2022⁵ and in subsequent meetings, with regards to EAG costings errors and methodology, not least the "Least Worst Regret" approach employed. That approach was shown, in an independent report commissioned by OFGEM in 2020, 'Decision Making for Future Energy Systems'⁶, not to be appropriate for the analysis and financial justification of future energy systems. One of the recommendations was that OFGEM should *"take more control of the analytical and decision-making processes themselves. Particularly it needs to ensure that these are correctly aligned with consumer and societal objectives."*

Additionally, there were substantial material costing errors admitted by NG in its 'offshore' option, sent to MP's⁷ in the autumn 2022. Several mistakes of up to £2.3bn were subsequently corrected.

2. NG continues to ignore the findings of NG ESO's report in 2020⁸, which found that a coordinated offshore grid costs c.£5bn, while a continuation of the status quo (the counterfactual), with piecemeal approach and pylons, costs c.£7bn.
3. It was concern about NG's costing of projects that led to calls for an independent review and resulted in the Parsons Brinckerhoff⁹ report, in 2012.
4. NG has demonstrated, in its EAG project, an eagerness to choose the cheapest project irrespective of harms - or of benefits of other solutions. That is despite Parsons Brinckerhoff having found, thirteen years ago, that: *"No one technology can cover, or is appropriate in, every circumstance, and thus financial cost cannot be used as the only factor in the choice of one technology over another in a given application."*¹⁰
5. We know from the refusals of NG to delay the second non-statutory consultation of EAG to await NG ESO's review findings, that delivery of pylons at any cost is the primary objective and that it is not receptive to considering alternatives. This blinkered approach will not engender objective or independent thinking.

Please contact Rosie Pearson pylons@mail.com with any questions.

⁵ https://pylonseastanglia.co.uk/news_documents/220616_ESNPFinalSubmission.pdf

⁶ <https://www.ofgem.gov.uk/publications/decision-making-future-energy-systems>

⁷ <https://www.nationalgrid.com/electricity-transmission/document/146091/download>

⁸ [download \(nationalgrideso.com\)](https://www.nationalgrideso.com) <https://www.nationalgrideso.com/document/182936/download>

⁹ <https://www.theiet.org/media/9376/electricity-transmission-costing-study.pdf>

¹⁰ The report also found that costs per kilometre, for all technologies, tend to fall with increasing route length, and tend to rise with circuit capacity and that for typical National Grid system circuit loadings, the inclusion of operating costs in the technology comparisons does not significantly affect the overall differences in cost between the technologies. However, they do affect the cost ratios considerably, rendering them misleading when making investment decisions.

APPENDIX



Impact of the outcome of the Early Opportunities workstream on investment needs in East Anglia

Impacts of Early Opportunities on transmission reinforcements

Following the conclusion of the Early Opportunities workstream (and finalisation of associated decisions around connection of the relevant offshore windfarms), the ESO will undertake an analysis of the implications for the transmission system in East Anglia and beyond.

Proposals for transmission reinforcements in East Anglia currently include:

- upgrading of the existing circuits;
- a new circuit from Bramford to Twinstead (under construction);
- planned HVDC offshore link from Sizewell to Richborough (SeaLink); and
- a new circuit from Norwich to Tilbury, via a new substation at Clacton (East Anglia Green).

The Early Opportunities workstream is considering the interaction of connections for two Offshore Windfarms (Five Estuaries and North Falls), two interconnectors (Eurolink and Nautilus), and the planned SeaLink transmission network reinforcement. The outcome of the Early Opportunities workstream therefore may have implications for the requirement for, or design of, the other three transmission reinforcements listed above.

Outline Scope

The analysis will:

- Examine if the changes in connections after the requirements for any of the planned reinforcements
- Identify other options that could address these changed requirements including consideration of offshore routes
- Assess the relative merits of the options
- Benchmark the costs of options against those in other projects across Britain and internationally

Methodology

The assessment of the options / alternatives will use the same criteria as utilised in the Holistic Network Design which includes cost to consumers; deliverability and operability; impact on the environment and impact on local communities.

The alternative transmission reinforcement options will be developed by National Grid Electricity Transmission (provision of designs, costs, and timelines) and will include onshore and offshore options that meet the required network need.

Timeline

We expect to have preliminary results from our analysis after approximately three months.