

# Connecting East Anglia's offshore wind energy: What you told us

Post consultation update

December 2023

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# A greener future for East Anglia: The Great Grid Upgrade

## Bringing offshore wind energy to the UK's homes and businesses will deliver long-term benefits for all

**The government has set a target to increase the energy from UK generated offshore wind to 50 gigawatts (GW) – and deliver 18GW of electricity interconnector capacity – by 2030. Once delivered, this will generate enough electricity to power every home in the country with cleaner, more affordable energy.**

Several wind farms are already in operation or in construction off the coast of East Anglia. By the end of the decade, we could see as much as 18GW of new, cleaner electricity – enough to power around 18 million homes – connected into the East Anglian network alone.

Ensuring this energy can reach the homes and businesses that need it does however require a significant amount of improvement to the country's onshore electricity infrastructure, much of which was originally built to meet a significantly lower demand.

Across the UK, we will need to build five times more electricity transmission infrastructure over the next seven years than we have built in the last three decades. This is the Great Grid Upgrade – a programme of new infrastructure proposals across England and Wales which will help deliver jobs, energy security, low carbon electricity and lower prices.

Not only will this help lower bills and ensure our country is more self-sufficient, if we get this right, it will fuel a green jobs boom across the UK, supporting up to 130,000 jobs and adding an estimated £4-11bn (GVA) to Britain's economy by 2030.

Researchers at the University of Oxford have reported that the UK has enough wind and solar resources to generate 2,896 TWh a year by 2050, or almost ten times today's electricity needs, with 73% from offshore wind farms (Source: University of Oxford's Smith School of Enterprise and the Environment).



# What is happening in East Anglia?

**The existing network in East Anglia was developed in the 1960s. Though it has been successful in meeting demand to date, achieving government targets for renewable and low-carbon energy will require a significant overhaul and upgrade, along with many other regions across the UK.**

We are already carrying out work to reinforce and upgrade the existing network in East Anglia, but even with these upgrades, the network will not be sufficient for the amount of new electricity connecting to it.

So, as an important part of The Great Grid Upgrade, we are developing proposals for a new overhead electricity line between existing substations in Norwich (Norfolk), Bramford (Suffolk) and Tilbury (Essex), as well as a new substation in Tendring (Essex) to connect to new offshore wind generation and an interconnector.

In summer 2023 we invited communities to share their views in a second public consultation on our proposals for this important new connection between Norwich and Tilbury, which will connect enough clean, green wind energy to power six million homes in East Anglia and beyond.

Ongoing consultation is important in helping us refine our proposals and understand the issues and concerns that communities have. While your latest feedback is being assessed and considered by our team, we wanted to take the time to provide an initial update on some of the big issues that have been raised.

We acknowledge that there are real concerns and we have listened carefully to them. Since National Grid is regulated by Ofgem and the government, which protects the interests of consumers and governs our operations, we have a commitment to present facts relating to our operations and proposals. In this Update you can read about the facts relating to the big issues that communities have raised.

**How we consulted (27 June to 21 August 2023)**

Promoted to

## 3.1m

residents across East Anglia\*

Wrote directly to

## 50,000

properties along the 183km route

## 12

community events

## 4

community information webinars

## 4,000

feedback responses received

\* We promoted the consultation via social media and in newspapers across Norfolk, Suffolk and Essex, covering an area with a population of approximately 3.1m (2021 Census data).

# What you told us:



## #1

### Why didn't you consider all the options, including a sea-based connection?

Ahead of consultation, we conducted a full backcheck of the options for reinforcement of the East Anglia electricity network to meet the future needs of net zero and increasing demand for electricity. This was published in June 2023 and can be found on the project website. We considered the issues associated with the subsea option.

#### On cost

Due to the infrastructure required for a sea-based connection, the cost of building an offshore, under sea connection would be around £4 billion. When you compare that to the estimated £895m cost to build an onshore connection, this is an important consideration.

As a regulated business, we need to consider a range of factors to put forward the right solution and ensure good value for UK bill payers. We believe the current proposal provides this solution and is appropriate and consistent with Government policy.

A question on comparable cost has also been raised on National Grid's Sea Link project, which as a sea-based connection, presents costs as being relatively similar to an onshore connection. There are many technical reasons why the

two projects are not comparable, including capacity. The Norwich to Tilbury connection will connect around three times more electricity than that of Sea Link, which would have a significant impact on the cost to build and operate.

#### On technology

It is technically possible to connect the offshore wind generation to Tilbury.

However, subsea links have a maximum capacity of 2000 MW, so to match the 6000 MW that the overhead lines can carry, we would need to propose three new offshore cable links.

An offshore connection would also need new infrastructure on land, including cables from Norwich out to the coast, as well as convertor stations at each end of the cables.

When we assess options, there are times when we feel a subsea connection is the most appropriate proposal, but this is not the case for Norwich to Tilbury. We are also planning to build a sea connection, Sea Link, to carry power out of East Anglia. Sea Link would carry 2,000 MW between Kent and Suffolk and, in this instance, a subsea option was assessed as the most cost-efficient option.

## #2

### Why aren't you going offshore as an integrated offshore grid is cheaper, greener and quicker?

The Electricity System Operator (ESO) – a separate part of National Grid – published a preliminary report in December 2020 on various strategic options (Offshore Coordination Phase 1 Report). This preliminary analysis only considered issues at a high-level and has been comprehensively superseded by subsequent assessments, which clearly indicate that an onshore connection would provide best value to consumers.

The ESO has since given this project the go ahead through its Network Options Assessment process (NOA). ESO's NOA process assesses the costs and benefits of reinforcements and provides recommendations on which project should receive investment – and when. It is also incorrect to assert that an offshore grid is 'greener'.

All developments have environmental impacts which need to be assessed, managed and mitigated.



It is our responsibility to identify the option which reduces the impact on the environment and the costs to consumers as much as possible.

That option, for Norwich to Tilbury, clearly points to an onshore solution.

## #3

### Why not build an offshore grid?

There is no fully offshore solution to connect offshore wind to the Grid. We have to bring the power onshore somewhere. Our job is to carefully consider the most feasible options and present proposals for public consultation, which go as far as possible to address impacts on local communities and the environment, and also deliver for electricity consumers.

The electricity grid built in the 1960s wasn't designed to transport renewable energy generated offshore from different sources, so it has to be upgraded.

We continue to consult with local communities and will always endeavour to reduce impacts as much as possible so that we can deliver this vital infrastructure, which is essential for the country as a whole.

The Great Grid Upgrade, including the Norwich to Tilbury proposals, will bring huge long-term benefits for consumers, including low-carbon power, energy security and lower prices.

## #4

### Why haven't you followed The Treasury Green Book guidance?

The Treasury Green Book provides guidance on the interpretation by public servants of public spending, assets and resources for projects, policies and spend from the public purse. This does not apply to us. We follow national guidance, primarily the National Policy Statement EN-5 (National Policy Statement for Electricity Networks Infrastructure), which does not specify application of the Treasury Green Book.

We follow a robust assessment process which we believe is appropriate for projects like this. Our assessments, strategy, plans and recommendations all come under Ofgem regulation and approval. Ultimately our processes will be assessed and tested by the Planning Inspectorate and the relevant Secretary of State. The Treasury Green Book guidance has never been used for any DCO and is not applicable to this project.

## #5

### Why won't you underground the full length of the route?

The Government's National Policy Statement EN-5 clearly states that overhead lines should be the strong starting presumption for electricity networks developments in general, except where proposed development will cross part of a nationally designated landscape (for example, a National Park or Area of Outstanding Natural Beauty).

Undergrounding cables is significantly more expensive and has environmental and engineering considerations too.

That said, we've looked carefully at where undergrounding is the best solution and our current proposals include sections at Dedham Vale Area of Outstanding Natural Beauty (AONB), Great Horkesley and close to Tilbury.

Wherever undergrounding is being considered, we need to ensure we're carefully considering the local environment too. This includes looking at local habitats, heritage, and other factors such as watercourses and rivers in order to reduce impacts.



# #6

## You don't listen and nothing will change.

This is not the case. We have delivered two public consultations along the length of the connection route, inviting communities to talk to us about our proposals.

We have listened and we understand concerns about the project. You have given us a significant amount of information on local issues which will help our technical design team with decisions they need to make.

Every piece of feedback received will be reviewed and considered by our team. Once our process is complete, we will make changes to the design where appropriate and present our proposals for a further statutory consultation next year.

A range of other questions that you asked us can be found at [nationalgrid.com/norwich-to-tilbury](https://nationalgrid.com/norwich-to-tilbury)

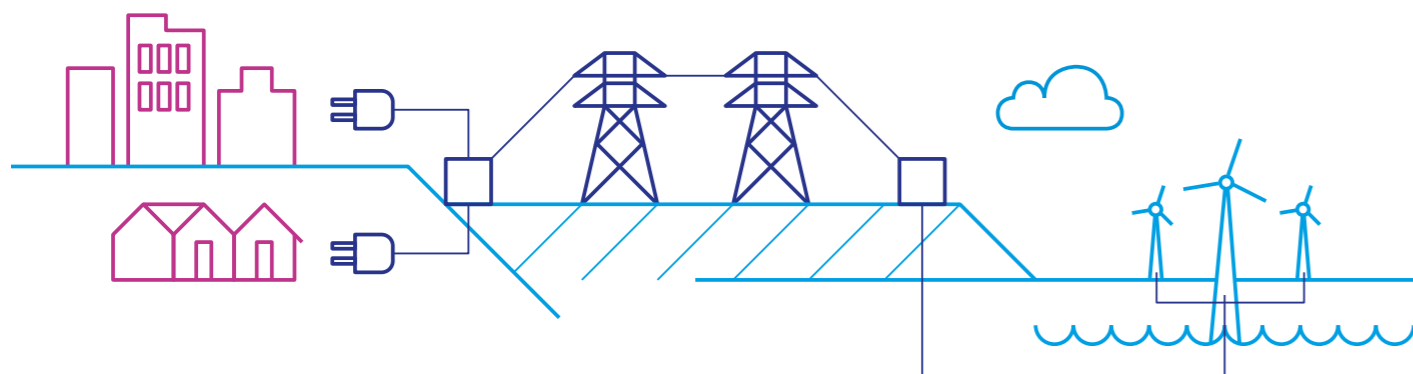
# #7

## Why are there people working on the project already?

As part of our work to develop our proposals, you might see some activity in the area of our current proposals. This includes our Ground Investigation (GI) studies, which cover a range of study types including borehole drilling, trial pit digging and monitoring activities, as well as environmental surveys and traffic assessments. We need to carry out these surveys to help us better understand the local conditions and any potential effects of future work.

For large, complex projects like this, we often need to undertake survey works to inform our proposals in advance of any consenting decision. Doing so does not in any way predetermine our proposals, but will help to make them as accurate as possible when we present them for consultation.

Where we do need to undertake important survey work, we will always make sure landowners are aware of site activities in advance.



# The planning process

**If the proposed development is classified as a Nationally Significant Infrastructure Project (NSIP) under the Planning Act 2008, we will need to prepare and submit a Development Consent Order (DCO) application to The Planning Inspectorate. We expect this to be the case and are following processes and timescales to ensure that we are compliant and deliver against the requirements of the Act.**

The Planning Inspectorate would consider our proposals and make a recommendation to the Secretary of State for Energy Security and Net Zero, who would decide whether development consent should be granted. Local planning authorities, communities and a wide range of other expert bodies and interested parties remain important consultees in the process.

# What happens next

**Following our recent consultation, we are reviewing your comments and suggestions. These are being carefully considered as we develop our project design in more detail. We are also continuing with our surveys and assessments.**

At that consultation we will also publish a Consultation Feedback Report to explain how we have considered your previous comments, along with a Preliminary Environmental Impact Report (PEIR) to explain how we are assessing potential environmental impacts.

We will publish any changes to our proposals at our next public consultation. This will be our statutory consultation and we expect to hold it in spring 2024.







At our next round of consultation, we will ask for further feedback on the design before we finalise our proposals. More information on the future timeline is available on the project website.



## Stay in touch

We will publish regular updates on our project website.

### Links

-  The Great Grid Upgrade: [nationalgrid.com/the-great-grid-upgrade](https://nationalgrid.com/the-great-grid-upgrade)
-  Norwich to Tilbury Project Background Document: [nationalgrid.com/electricity-transmission/document/149151/download](https://nationalgrid.com/electricity-transmission/document/149151/download)
-  Green Energy Network: [nationalgrid.com/electricity-transmission/what-if](https://nationalgrid.com/electricity-transmission/what-if)
-  Strategic Options Backcheck and Review: [nationalgrid.com/electricity-transmission/document/149281/download](https://nationalgrid.com/electricity-transmission/document/149281/download)
-  National Policy Statement for Electricity Networks Infrastructure (EN-5): [assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1147384/NPS\\_EN-5.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1147384/NPS_EN-5.pdf)
-  Ofgem: [ofgem.gov.uk](https://ofgem.gov.uk)



## Contact us

If you would like to contact the community relations team, please get in touch via:

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