

# About National Grid

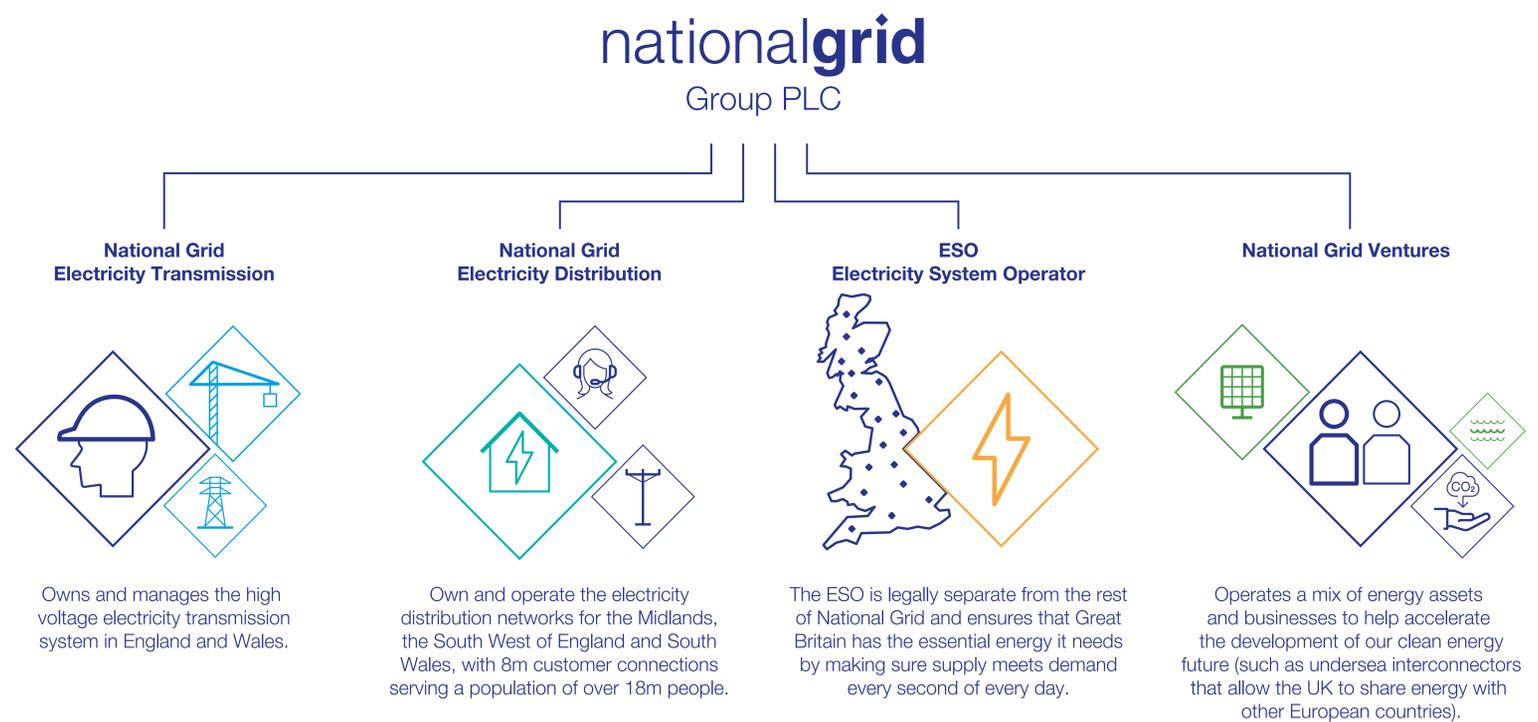
**National Grid is working to build a cleaner, fairer and more affordable energy system that serves everyone, powering the future of our homes, transport and industry.**

We sit at the heart of Britain's energy system, connecting millions of people and businesses to the energy they use every day. We bring energy to life – in the heat, light and power we bring to our customers' homes and businesses; in the way that we support our communities and help them to grow; and in the way we show up in the world.

Within the National Grid Group there are four separate legal entities, each with their individual responsibilities and roles. It is National Grid Electricity Transmission that is developing plans for Norwich to Tilbury.

We are holding a statutory consultation on proposals for Norwich to Tilbury, which follows two non-statutory consultations held in 2022 and 2023. This is your opportunity to see how our proposals have evolved as a result of feedback and technical assessments, and your chance to have your say on our Project.

**The deadline for providing feedback is 11.59pm on Tuesday 18 June 2024.**



# Moving to net zero

## The UK has set a world-leading target for tackling climate change: to achieve net zero carbon emissions by 2050.

Great Britain already has 8.5 gigawatts (GW) of offshore wind energy in operation, and another 1.9 GW under construction. The Government's Energy White Paper (December 2020) outlined a plan to increase energy from offshore wind to 40 GW by 2030, which was revised in April 2022 to 50 GW.

Just as the way we generate electricity is changing, demand is also set to significantly increase as the way we power our homes, businesses, industry and transport evolves. As the nation moves towards net zero, the fossil fuels that once powered our economy will continue to be replaced with sources of low-carbon electricity.

As a country, we are already making progress. But more needs to be done. A healthier, greener future for Britain requires significant upgrades to our energy infrastructure to deliver clean energy from where it is produced to where it is needed.

Norwich to Tilbury will help the transition to clean energy by making sure that the high voltage electricity transmission system in England and Wales is ready. Our proposals are part of The Great Grid Upgrade – the largest overhaul of the grid in generations.



**Jobs**  
new jobs to build the net zero energy workforce



**Offshore wind**



**Nuclear**  
new nuclear power

**Interconnectors**  
transporting and sharing low carbon energy between the UK and the continent

# The Great Grid Upgrade

**The way we're powering the things we love is changing. In the years ahead, more of our energy will come from renewables as part of the transition to a cleaner, greener future.**

This means we need to build new infrastructure, as well as upgrade the existing electricity grid, to bring this clean, green energy from where it's generated to where it's needed by homes and businesses.



### More clean energy for all

The Great Grid Upgrade will enable the electricity grid to carry more clean energy to communities in every part of England and Wales, helping us all reach net zero faster.



### Investment close to home

As well as helping to reach net zero, the UK Government suggests that investment in onshore network infrastructure could support up to 130,000 jobs and contribute an estimated £4–11 billion of GVA (gross value added) to the United Kingdom economy in 2050.



### A grid that's fit for the future

As we continue to reduce our reliance on fossil fuels and increase clean energy generation, we'll be using more electricity than ever. That means we'll need a grid that's able to carry all of this extra electricity to wherever we might need it.



### Energy security

The Great Grid Upgrade will connect clean energy that's produced right here in the UK, increasing the self-sufficiency of our energy supplies.

# Why we need to build Norwich to Tilbury

**By the end of the decade, there could be as much as 18 GW of new, cleaner electricity – enough to power around 18 million homes in East Anglia and the UK – connected into the network.**

Ensuring this energy reaches the homes and businesses that need it means we need to significantly improve our onshore electricity infrastructure, much of which was built to accommodate less demand.

Norwich to Tilbury is a proposal for the development of new high voltage electricity infrastructure in East Anglia, including new overhead lines and underground cables, substation improvements and a new substation. What we're proposing is part of the Great Grid Upgrade – the largest overhaul of the grid in generations – and is vital in helping us meet net zero goals.

By building Norwich to Tilbury, we would be able to connect new sources of low carbon energy to homes and businesses across the UK and help reduce our reliance on fossil fuels. In doing so, it would play a key role in addressing the climate emergency and help achieve the UK's targets for net zero.



# How our proposals have evolved

**Your feedback helps to shape the development of our proposals.**

**We have held two non-statutory consultations, one in 2022 and one in 2023, and at both consultations we asked for your feedback on our proposals. Your feedback, along with technical and environmental studies, has helped us evolve our proposals for Norwich to Tilbury.**

This includes:

- repositioning pylons to avoid battery storage, the South Norfolk Model Flying Club, and to reduce impact on views and woodland
- moving the draft alignment further from the Brook Farm airstrip and to avoid interaction with solar farm developments, as well as increasing distance from Hempnalls Hall
- undergrounding some of the route from Offton Middle Wood through to Bramford Substation
- moving the proposed Cable Sealing End (CSE) compound north of Raydon Airfield to allow continued safe flight activities
- removing the split corridor for the underground cable in the section near to Great Horkesley
- introducing an additional pylon near Thurrock airfield to keep pylon heights low
- general adjustments such as straightening the alignment and moving pylons further from residential properties
- a new alternative design at Waveney Valley (referred to as the Waveney Valley Alternative) which would include 157 km of new 400 kV overhead line and 27 km of 400 kV underground cabling, as well as eight new CSE compounds (each with permanent access) to connect the overhead lines to the underground cables.

You can find out more about how and why our proposals have evolved in the 2024 Project Background Document and the 2024 Design Development Report.

You can also see how we've considered feedback we received at our last consultation in the 2023 Non-statutory Consultation Feedback Report.



# Why can't we build the connection offshore?

**There is no fully offshore solution to connect offshore wind to the grid as we have to bring the power onshore somewhere. Our job is to carefully consider the most feasible options and present proposals for public consultation. In doing this, we must consider the impacts on local communities and the environment and deliver value for electricity consumers.**

We have assessed an equivalent offshore option and to deliver the same capacity as the overhead line, we would need to build three subsea cables and associated onshore infrastructure. Along with the potential environmental considerations, this would mean significant extra cost to consumers, and that would not meet the requirements placed on us.

In addition to cost, there are a range of environmental factors and other onshore and offshore impacts which need to be considered in this option. Taking all these considerations into account we have concluded that an onshore connection is the most appropriate solution.

## **Government's review of offshore coordination**

### **Offshore Coordination Support Scheme (OCSS)**

On 5 December 2023, the Department for Energy Security & Net Zero (DESNZ) announced funding to a consortium formed of National Grid's Sea Link project and both the North Falls and Five Estuaries offshore windfarm projects. The funding is to investigate a coordinated design for offshore energy transmission and to learn lessons to inform future projects. We await the Government's decision on the outcome of the first phase of this OCSS, and will back-check and review our proposals for Norwich to Tilbury to ensure we reflect this within the ongoing development of our East Anglian projects.

### **The Electricity Systems Operator (ESO) study**

In March 2024, ESO published a fresh look at the drivers for network reinforcement in East Anglia. We remain committed to carefully considering the findings from the ESO Study as we develop our proposals.

### **East Anglia Transmission Network Reinforcement Report**

An independent review of the strategic options appraisal by National Grid for the Project was carried out by Hiorns Smart Energy Networks, which supported the need for improvements to the transmission network and recognised that an offshore solution would result in significantly higher costs and provide lower capacity than the Norwich to Tilbury onshore proposals.

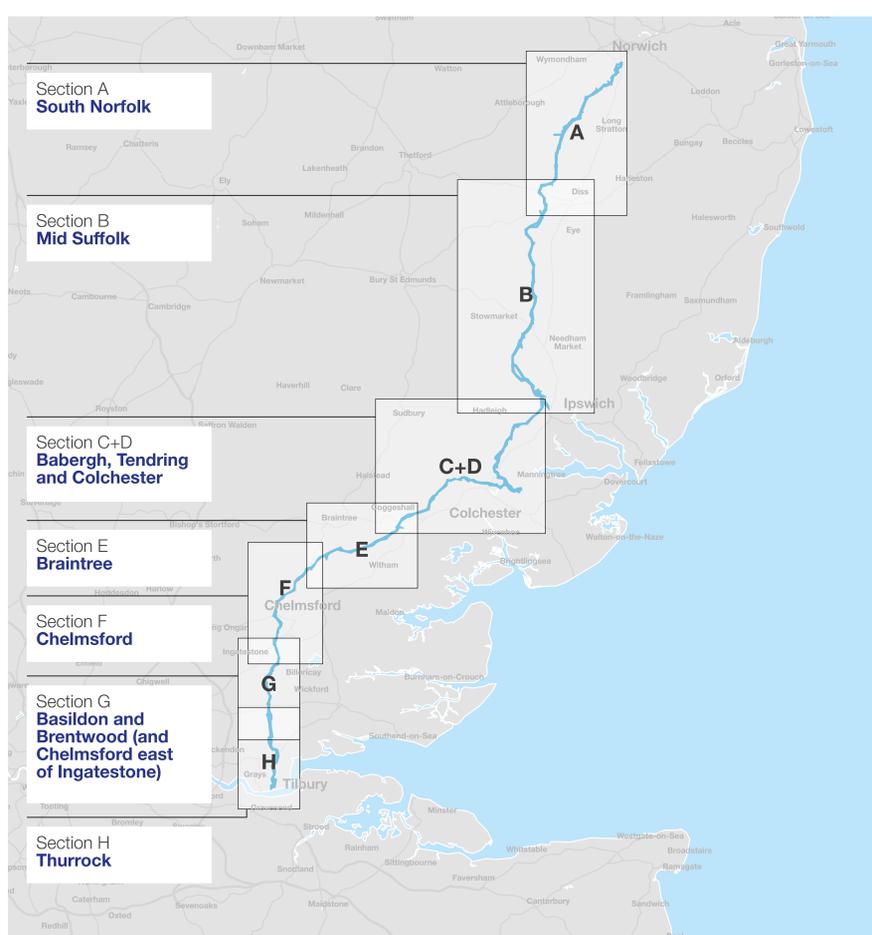
# What we are consulting on

**We're looking for your feedback on our proposals for Norwich to Tilbury, which would see the development of new high voltage electricity infrastructure in East Anglia, including new overhead lines and underground cables, substation improvements and a new substation.**

During this consultation we are seeking views on our latest proposals for the project, which include:

- the preferred draft alignment for a new 400 kV electricity transmission connection of around 184 km running from Norwich Main Substation to Tilbury Substation via Bramford Substation including approximately 159 km of new overhead line and approximately 25 km of underground cabling
- six new Cable Sealing End (CSE) compounds (where high-voltage underground cables join onto an overhead line) and associated permanent accesses
- a new East Anglia Connection Node (EACN) 400kV substation, with a new permanent access on the Tendring Peninsula
- an alternative design at Waveney Valley, substituting approximately 2 km of pylons with underground cabling
- substation extension works at the existing Norwich Main and Bramford substations and works within the existing Tilbury Substation
- temporary works including access roads, tracks, compounds and those associated with the project's construction.

We are also consulting on the preliminary findings from our environmental studies and assessments, as well as proposed mitigation.



Map showing sections A-H of Norwich to Tilbury.

# Our proposals in South Norfolk

## Our plans in the section

Our proposals would start at Norwich Main substation in Norfolk and run south passing Mulbarton, Tacolneston and Shelfanger towards the Mid Suffolk border.

## Changes since our 2023 consultation

We have moved our proposed pylons to the west of Sprow's Pits Woodland to avoid proposed battery storage south of Norwich Main Substation. Between Swainsthorpe and Mulbarton, we will also be moving pylons to avoid Bloy's Grove Solar Farm and an archaeological site.

We are proposing a realignment near South Norfolk Model Flying Club to increase separation from the club to over 200 m. We will also be moving certain pylons to avoid an open view in the same area, as the new locations will benefit from screening from existing woodland.

We are also proposing that the route moves further east near Aslacton to reduce effects on woodland. We will be removing a single pylon (RG72) and replacing it with two angle pylons, which allows for directional change.

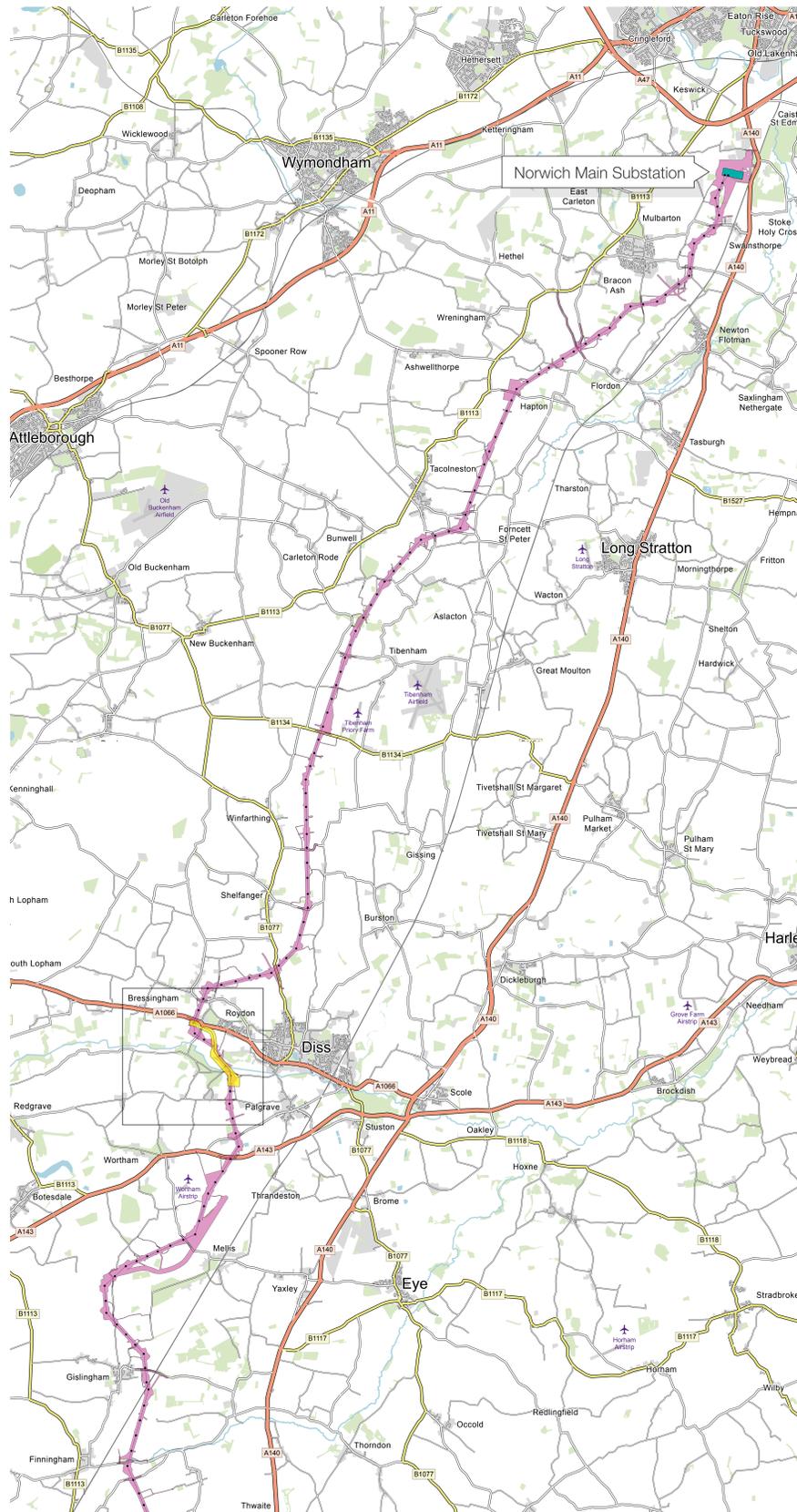
## The Waveney Valley

In response to feedback from the 2023 consultation, we are considering proposals for a section of underground cables, known as the Waveney Valley Alternative.

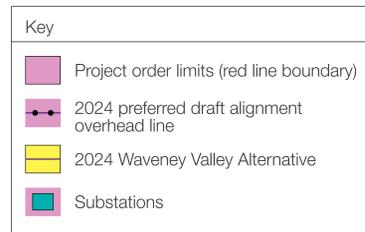
Our proposals here include:

- the installation of approximately 2 km of underground cabling (with 2 km of overhead line being removed from our proposals); and
- two CSE compounds (to join the high-voltage underground cables to the overhead line) with associated access roads. This would increase the number of CSE compounds from six to eight.

While underground cabling would reduce the effects on the area's landscape, recreational amenity and heritage, it would have an impact on ecology, archaeology and peat soils, and come at an additional cost. We're looking for feedback on both alternatives.



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# Our proposals in Mid Suffolk

### Our plans in this section

We are proposing that the route would run south, passing to the west of Mellis and to the east of Gislingham, before crossing the railway. It would then continue south past Stowupland and Needham Market, before crossing back over the railway and turning eastwards at Offton, running north of Flowton and connecting into Bramford Substation. From here, the line would run south-east for a short distance to the border with Babergh District.

We are proposing works at the Bramford Substation to allow the new overhead line to connect into it. This includes extension work at the substation and the replacement of sections of existing 132 kV overhead lines which run north and south of the substation with an underground cable.

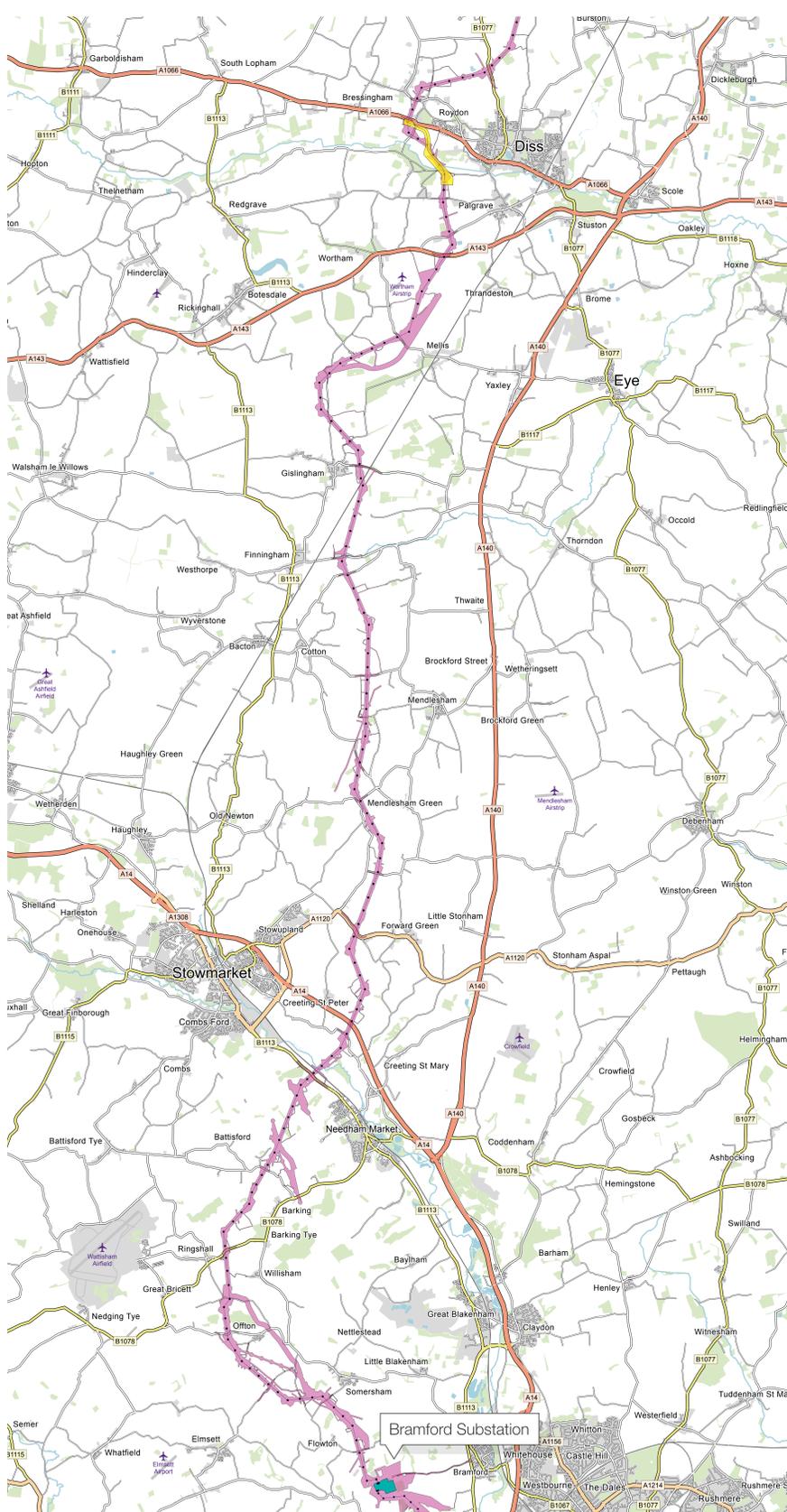
### Changes since our 2023 consultation

To the east of Wortham, we're proposing to move pylons further east to avoid Brook Farm airstrip and reduce interaction with solar farm developments.

Further south, we are proposing to follow the alignment of the existing 132 kV line to the north of Mellis before passing further west of Mellis, which will reduce effects on the conservation area and place the route further from heritage assets and Mellis Common.

Between Gislingham and Offton, we will be moving pylons so they are situated closer to field boundaries, and to move others further from Hempnalls Hall. We will also move pylons to reduce effects on heritage assets near Badley Hill.

Between Offton and Bramford, we will be moving pylons to avoid crossing over a business and to reduce the impacts on residential amenity. We are also proposing to replace part of the existing 132 kV overhead line with underground cable from the north side of Offton Middle Wood through to the Bramford Substation.



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Key	
	Project order limits (red line boundary)
	2024 preferred draft alignment overhead line
	2024 Waveney Valley Alternative
	Substations

# Our proposals in Babergh, Tendring and Colchester

Our preferred draft alignment would cross into Babergh district from Bramford Substation. It would then run south-east past Washbrook and Copdock and north of Little Wenham and Raydon Airfield where we are proposing an underground cable between Notley Enterprise Park and Wenham Grove.

The underground cable would cross into Colchester district to cross the A12 east of Langham. From here the underground cable would enter the Tendring district running north of Ardleigh to the East Anglian Connection Node (EACN) substation.

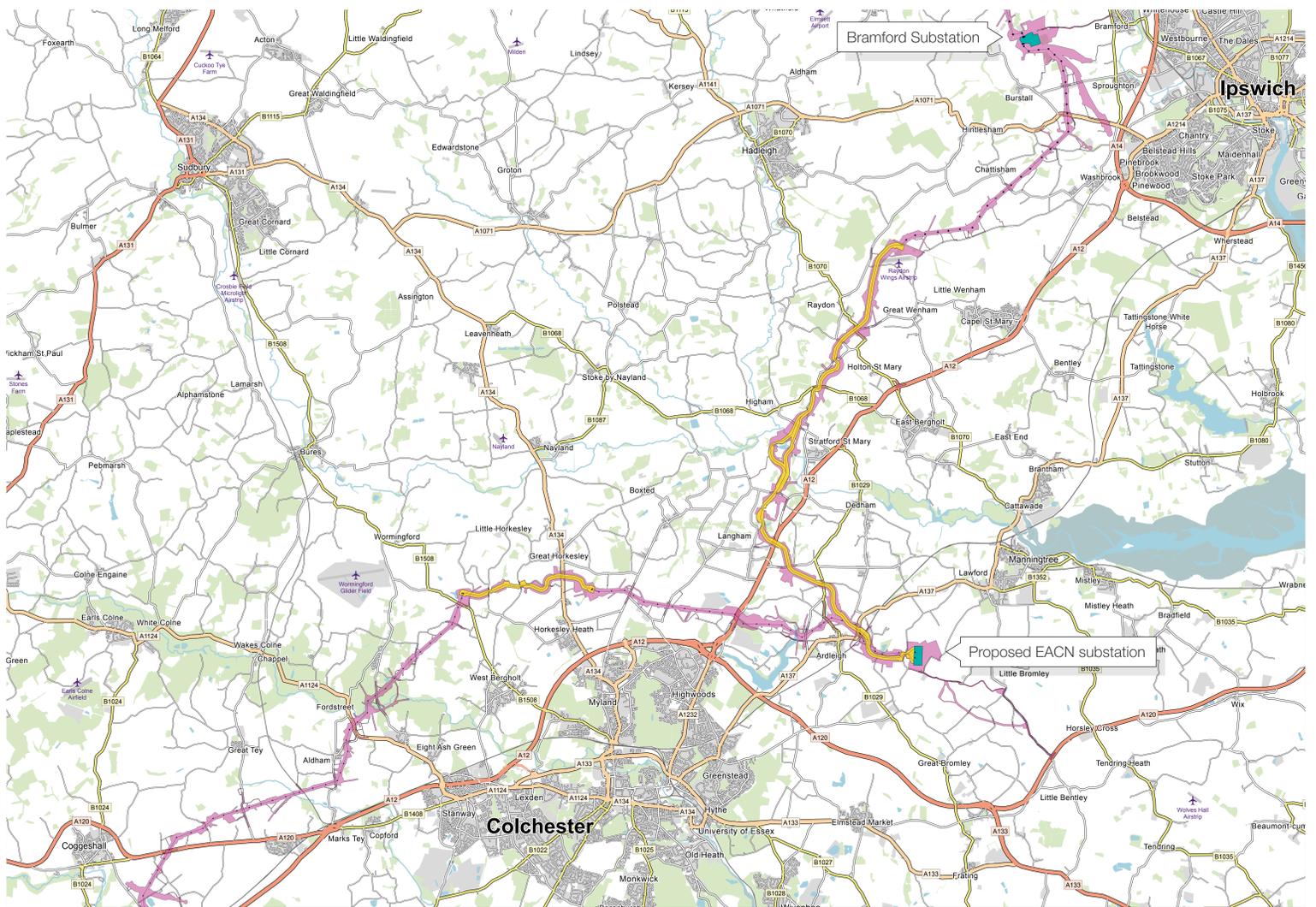
From the substation, the line would run overhead towards Great Horkesley where it would transition to underground cable at a Cable Sealing End (CSE) compound north-east of Great Horkesley plantation. The cable would continue to another CSE compound near the junction of the B1508 and Crabtree Lane.

The route would then continue as an overhead line west of West Bergholt before crossing the A12 north of Marks Tey into Braintree district.

## Changes since our 2023 consultation

We are proposing that the CSE compound north of Dedham Vale National Landscape is moved to the north of Raydon Airfield to allow continued safe flights from the airstrip and reduce potential effects on heritage assets. This would extend the underground cable length by approximately 1.5 km.

Following feedback from our 2023 consultation, we have also removed the split corridor near Great Horkesley by moving the alignment further south and restricting the cable installation working area.



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Key	
	Project order limits (red line boundary)
	2024 preferred draft alignment overhead line
	2024 preferred draft alignment underground cable
	Substations

# Our proposals in Braintree

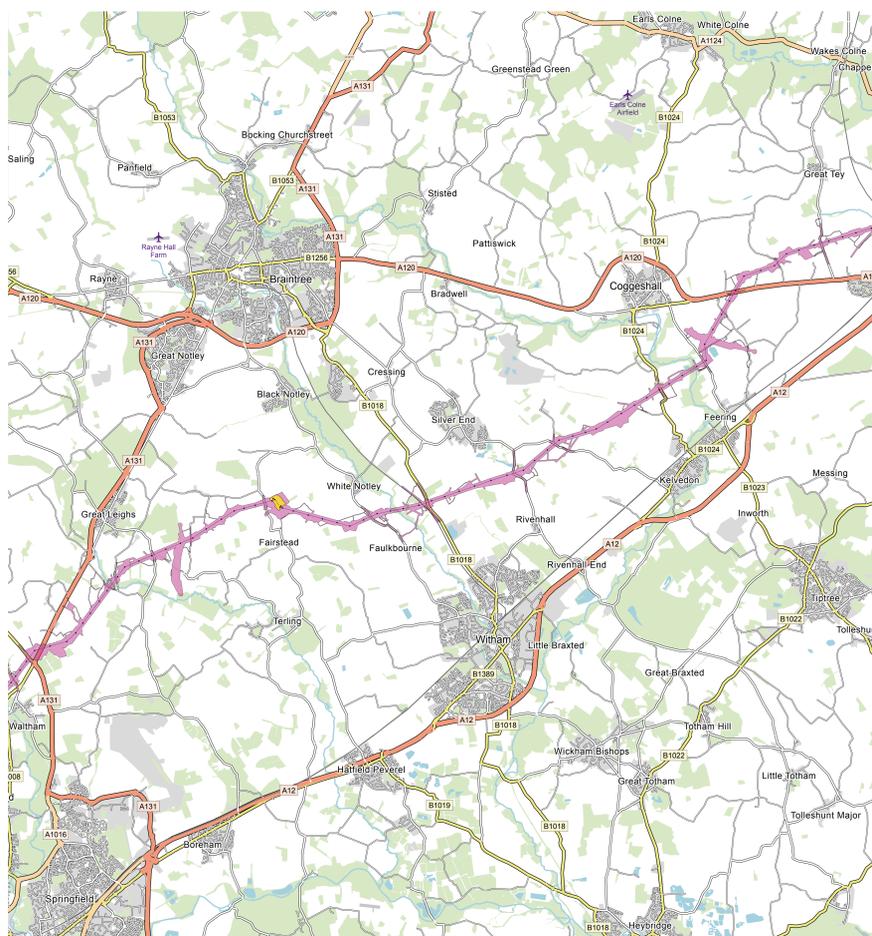
From the Braintree district boundary, the preferred draft alignment would continue south-westerly to the north of Witham and south of Silver End before crossing the railway and heading into Chelmsford district.

## Changes since our 2023 consultation

We are proposing to move pylon TB075 further west to accommodate a fishing reservoir and have straightened the alignment to avoid residential properties. We have also widened the order limits to allow for routing changes around a mineral extraction site.

At Fairstead, we are proposing to move the CSE compounds closer together to reduce the amount of underground cable required for crossing the existing 400 kV line.

The section of 132 kV overhead line which needs to be undergrounded to allow the crossing of the 400 kV alignment has been extended to the south of Fuller Street to reduce visual effects.



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Key	
	Project order limits (red line boundary)
	2024 preferred draft alignment overhead line
	2024 preferred draft alignment underground cable (where the Project crosses an existing overhead line)
	Substations

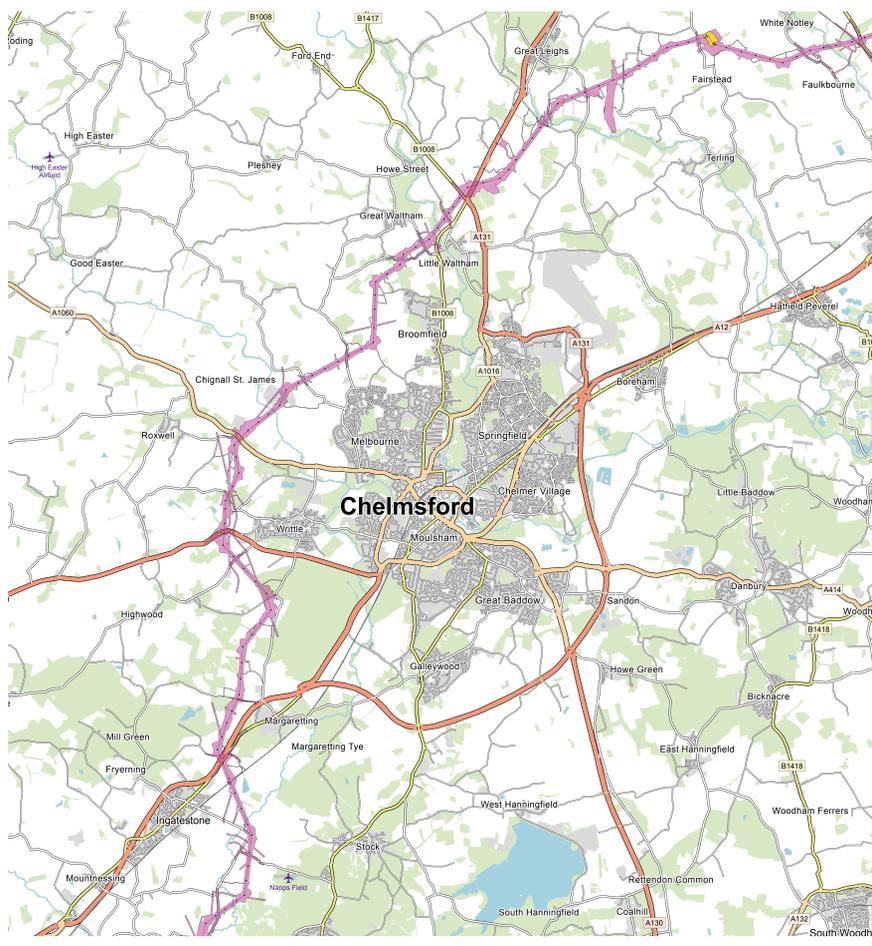
# Our proposals in Chelmsford

Our preferred draft alignment enters the district north of Chelmsford and would continue south on the western side of the town and to the west of Writtle and Margaretting, crossing the A12 north of Ingatestone. Here it will enter Brentwood district and will cross briefly back into Chelmsford near Buttsbury church.

## Changes since our 2023 consultation

We are proposing to move the preferred draft alignment to the north of Little Waltham and south away from residential properties. We are also proposing to straighten the route near Broomfield which will move the alignment further north and away from Mashbury Road.

To the west of Margaretting, we are also making various adjustments to move pylons to field boundaries to avoid other constraints.



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Key	
	Project order limits (red line boundary)
	2024 preferred draft alignment overhead line
	2024 preferred draft alignment underground cable
	Substations

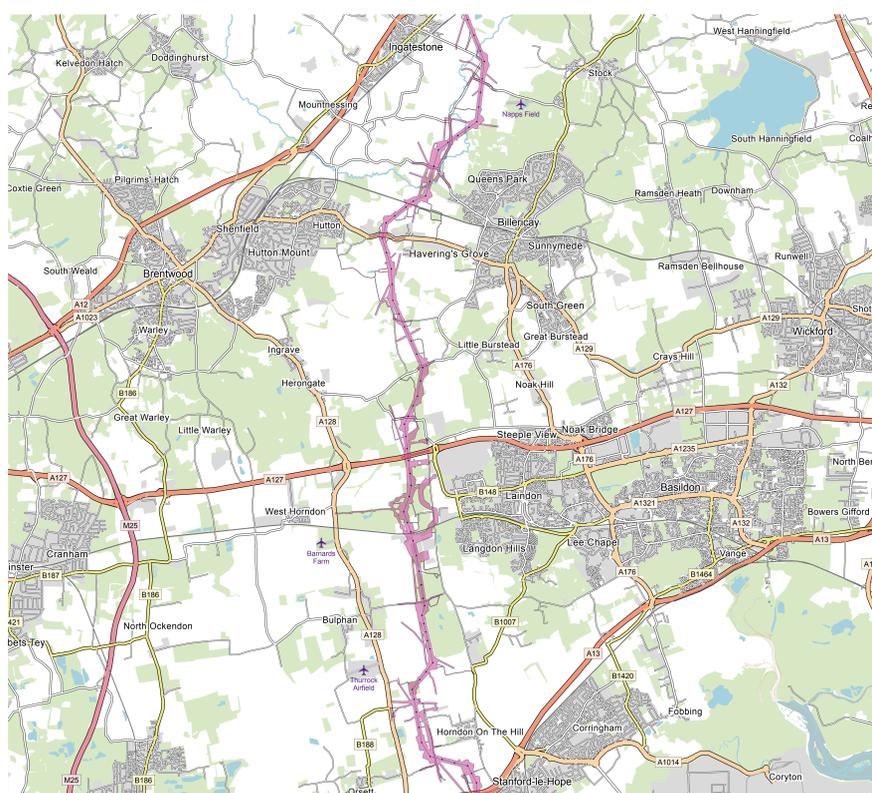
# Our proposals in Basildon and Brentwood

The overhead line would pass to the north-east of Ingatestone and travel south crossing between the Chelmsford, Brentwood, and Basildon districts. It will then pass between Brentwood and Billericay and cross the A127 into Thurrock.

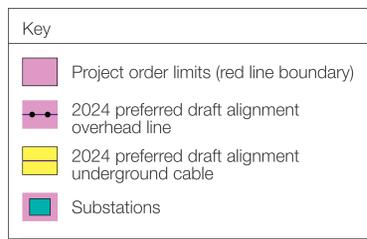
## Changes since our 2023 consultation

East of Ingatestone, we are proposing to move pylon TB193 to avoid a flood zone, which allows several pylons to be moved to field boundaries (where possible) to account for the size and manoeuvrability of modern farm machinery.

We are also proposing changes to the east of Basildon to accommodate housing development proposals. This would move the route north to follow the gas pipeline, reducing the effects on both proposed housing in Brentwood and Basildon and existing residential properties. This change would also require the installation of 132 kV cables and the removal of the existing 132 kV overhead line to the south of the railway.



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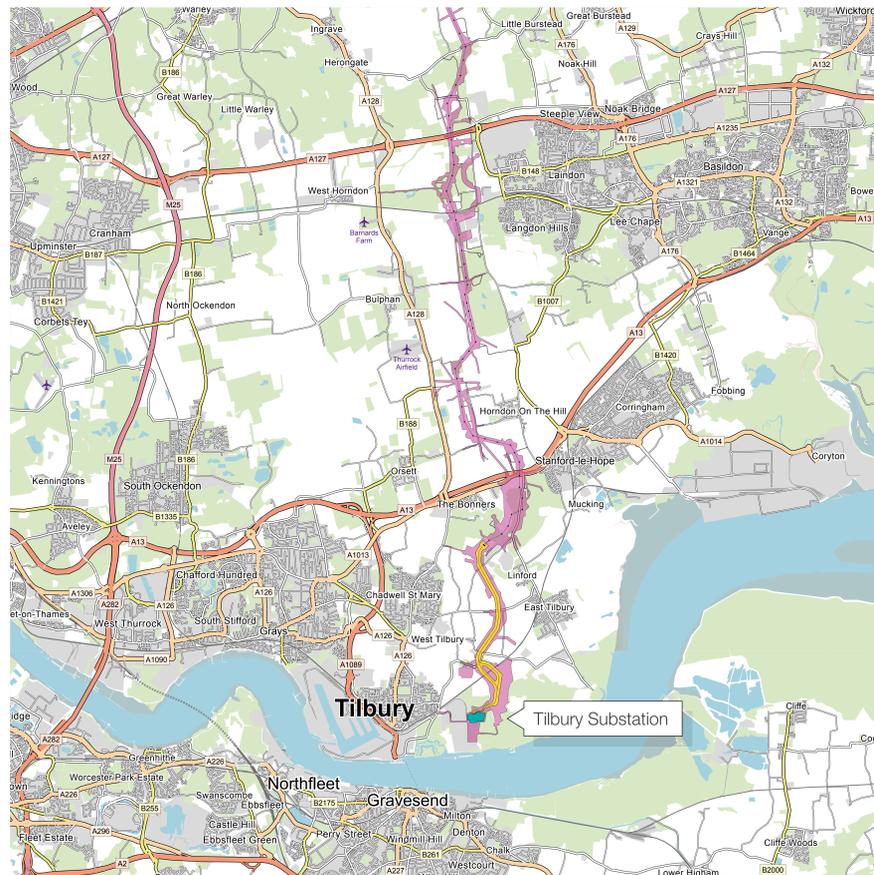


# Our proposals in Thurrock

Our proposed draft alignment would run south past Bulphan to the west and would cross the A13 to the north-east of Southfields. The overhead line would transition to underground cable at a proposed CSE compound north of where the Lower Thames Crossing would be sited. This underground cable would run south to Tilbury Substation. At the substation we would need to build new infrastructure on the western half of the existing National Grid operational land.

## Changes since our 2023 consultation

We have added an additional pylon near Thurrock airfield to keep the height of the pylons low. This will support the continuation of flight activities from the airfield.



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Key	
	Project order limits (red line boundary)
	2024 preferred draft alignment overhead line
	2024 preferred draft alignment underground cable
	Substations

# Assessing the environment

**Norwich to Tilbury is an Environmental Impact Assessment (EIA) development and we have made efforts to avoid, reduce and/or mitigate any environmental impacts as far as possible.**

As a part of our Environmental Impact Assessment, we have produced a Preliminary Environmental Information Report (PEIR) which presents preliminary findings on the following environmental topics:

- agriculture and soils
- air quality
- ecology and biodiversity
- contaminated land, geology and hydrogeology
- health and wellbeing
- historic environment
- hydrology and flood risk
- landscape and visual
- noise and vibration
- socio-economics, recreation and tourism
- traffic and transport.

Survey work to inform the environmental assessment is ongoing and due to be complete in 2024.

Preliminary mitigation measures are presented within the PEIR. Mitigation will be refined as the design evolves and detailed proposals will be presented within the Environmental Statement.

National Grid has committed to achieving a minimum of 10 per cent Biodiversity Net Gain on the Project. Preliminary environmental areas have been identified as the focus for landscape and ecological enhancement and this is presented within the consultation materials.

**You can find out more about our environmental assessments in the PEIR and in the Non-Technical Summary (NTS) of the PEIR.**



## The Great Grid Upgrade

Norwich to Tilbury

nationalgrid

# Grid in the community

**National Grid puts communities at the heart of everything we do, we are committed to working in collaboration with the local community to develop a project that benefits everyone and leaves a lasting positive legacy on the area.**

### Opportunities for young people

Looking for an exciting way into an industry that is secure, innovative, practical and purposeful? Find out more about careers, apprenticeships and student placements with National Grid.



### Events for young people

As part of our statutory consultation, we want to engage with young people to hear your thoughts on our project and provide an opportunity to influence our proposals. During the consultation period we are holding focused events for young people and students. Go to our website for more details.

### Grid for Good

Grid for Good is our flagship programme that helps increase access to training and employment opportunities for young people. We support students with career coaching and masterclasses. We've reached over 300 students from four schools across Norfolk, Suffolk and Essex already this year, with more activities to come. Find out more about the Grid for Good scheme:



# What happens next?

**Your feedback will help us develop and refine our proposals for Norwich to Tilbury. Following this statutory consultation we'll review all the feedback we receive as we continue to develop the Project.**

We expect Norwich to Tilbury to be classified as a Nationally Significant Infrastructure Project (NSIP) which will require a Development Consent Order (DCO) to be built.

As part of our DCO application, we will produce a Consultation Report which will demonstrate how we considered your feedback. Once ready, we will submit our DCO application to The Planning Inspectorate which will independently examine our proposals before a recommendation is made to the Secretary of State for Energy Security & Net Zero (DESNZ), who makes the final decision.



# Have your say

**We want to hear your views on our proposals, so please get in contact and let us know your feedback.**

You can do this in a number of ways:

## Find out more



### Online

View all our consultation materials on our Project website at [nationalgrid.com/norwich-to-tilbury](https://nationalgrid.com/norwich-to-tilbury)



### Events

Attend one of our public information events



### Webinars

Sign up to one of our webinars

## Provide feedback

**The deadline for providing feedback is 11.59pm on Tuesday 18 June 2024.**

You can provide your feedback by:



Complete the feedback questionnaire on our website [nationalgrid.com/norwich-to-tilbury](https://nationalgrid.com/norwich-to-tilbury)



Sending a completed paper copy of the feedback questionnaire or a letter to Freepost N to T (no stamp or further address needed)



Emailing your comments to [contact@n-t.nationalgrid.com](mailto:contact@n-t.nationalgrid.com)



You can also call us on 0800 915 2497