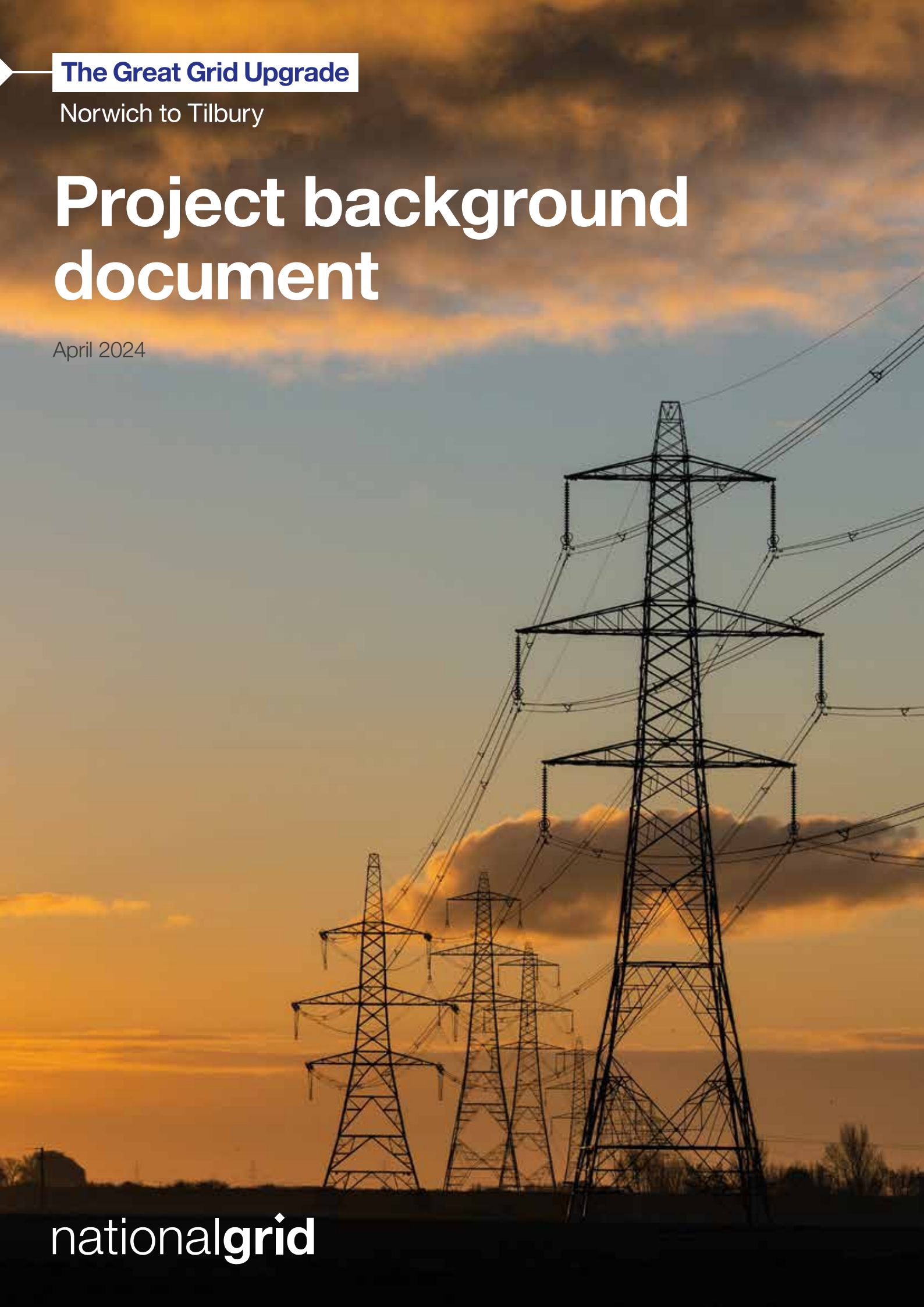
The Great Grid Upgrade

Norwich to Tilbury

Project background document

April 2024



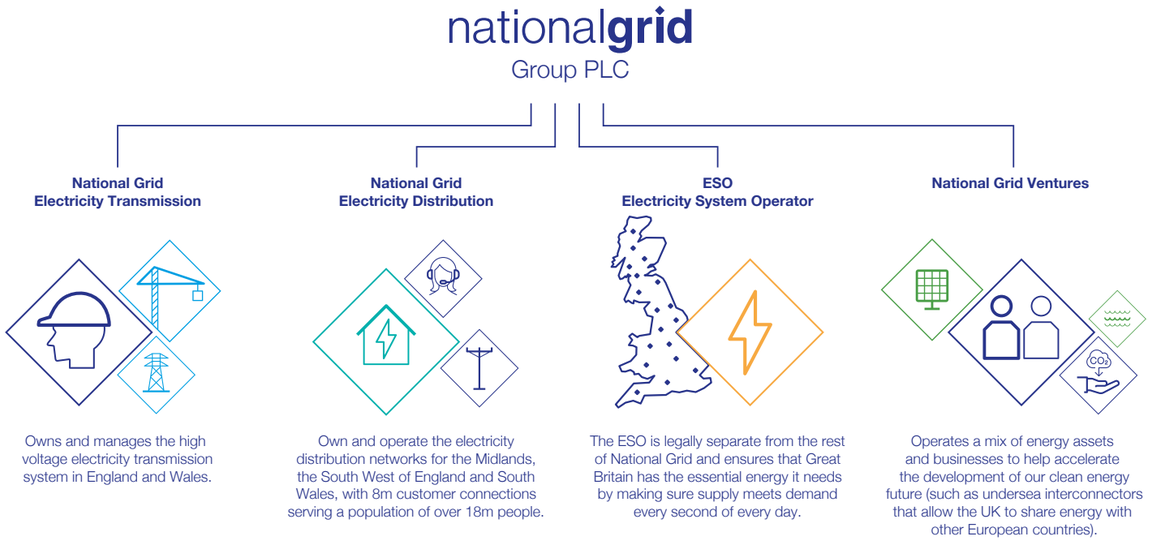
nationalgrid

About National Grid

National Grid delivers electricity safely, reliably and efficiently to the customers and communities we serve – all while working towards building a cleaner, fairer and more affordable energy system for the future.

The parts of National Grid involved in ensuring we all have the essential electricity supplies we need are shown in the diagram below.

Each is a separate legal entity with its own role and responsibilities across England and Wales.



National Grid Electricity Transmission (NGET), referred to in this document as National Grid, sits at the heart of Britain's energy system, connecting millions of people and businesses to the energy they use every day. Every time a phone is plugged in, or a switch is turned on, we have played a part, connecting you to the electricity you need.

National Grid is developing the proposals set out in this document. It must, under the Electricity Act 1989, do so in an efficient, coordinated, and economical way which also considers people, places and the environment.

To find out more about how we develop our proposals, please see our video[1] explaining how we work.

[1] National Grid Electricity Transmission, 'How we work' video players.brightcove.net/867903724001/default_default/index.html?videoId=6329276694112

Foreword

The UK Government has committed to reaching net zero emissions by 2050. This means achieving a balance between the greenhouse gases put into the atmosphere and those taken out. Decarbonising the energy system is vital to achieving net zero.

At National Grid, we are investing around £1.3 billion each year to adapt and develop our network to connect new sources of low carbon energy to homes and businesses.

We are investing for the future, connecting more and more low carbon electricity to our network and playing a crucial role in turning the UK's net zero ambitions into reality.

By the end of the decade, there could be as much as 18 gigawatts (GW) of new, cleaner electricity – enough to power around 18 million homes – connected into the East Anglian network. Ensuring this energy can reach homes and businesses means we need to improve our onshore energy infrastructure, much of which was built to accommodate less demand.

The Norwich to Tilbury proposals would reinforce the electricity transmission network in East Anglia, adding much needed capacity to the network. These proposals are part of The Great Grid Upgrade, the largest overhaul of the grid in generations.

I am pleased to share our latest proposals for Norwich to Tilbury with you. We are now seeking feedback on these proposals in our third consultation, which runs from 10 April to 18 June 2024. I encourage you to share your views on our proposals for where the new infrastructure could be built as well as any comments on preliminary environmental studies.

All documents published as part of this consultation, including this Project Background Document, can be found at **nationalgrid.com/norwich-to-tilbury** and are available on request by contacting the Project team at **contact@n-t.nationalgrid.com** or 0800 915 2497.

I encourage everyone to take time to review our proposals and respond by **18 June 2024**.

Liam Walker
Project Director,
Norwich to Tilbury

Contents

1. The consultation

We are now consulting on our proposals for Norwich to Tilbury, which include a new 400 kilovolt (kV) electricity transmission line, work at existing substations and a new substation that would connect the energy generated by offshore windfarms and interconnectors to the transmission network.

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

This is our third public consultation on proposals for Norwich to Tilbury (The Project). It is called a statutory consultation because it is being carried out in line with the formal requirements of the Planning Act 2008. It follows two previous non-statutory consultations on our draft proposals which were held in 2022 and 2023.

As our current plans propose more than 2 kilometres (km) of overhead line, we expect the Project would be classified as a nationally significant infrastructure project (NSIP) under the Planning Act 2008. This means we need to apply for a type of planning consent called a Development Consent Order (DCO) to build and operate it.

Consultation is an important part of the DCO process as it enables everyone to comment on the proposals, with feedback helping inform their development – along with technical assessments and environmental surveys – before we submit our DCO application to the Planning Inspectorate.

Once the DCO application is submitted, the Planning Inspectorate on behalf of the Secretary of State (SoS), has up to 28 days to decide whether or not the application meets the standards required to be accepted for examination.

If the application is accepted, it will go through a six-month examination period. Careful consideration is given by the Examining Authority, including to all relevant and written representations, and supporting evidence. The Examining Authority is the Inspector or the Panel of Inspectors appointed to conduct the Examination of the application for the DCO.

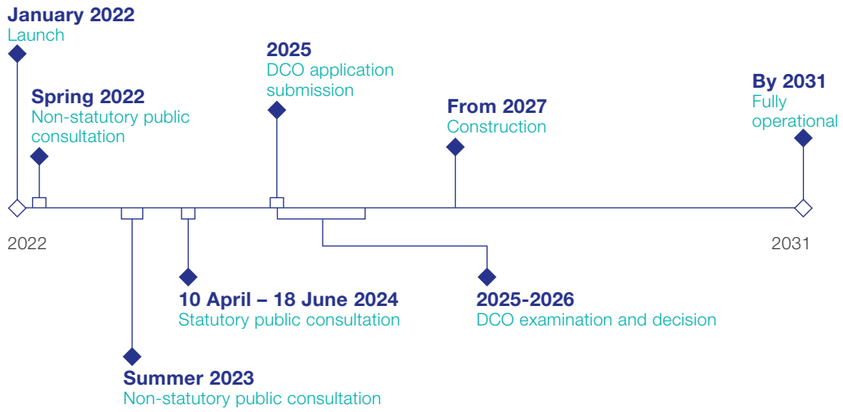
The Examining Authority must prepare a report on the application and submit this to the SoS, including a recommendation, within three months of the close of Examination. The SoS has a further three months to make a decision on whether to grant or refuse development consent. To find out more about the DCO process[2], please see the Planning Inspectorate website.

All feedback we receive as part of this consultation will be carefully considered as we finalise our proposals before submitting our DCO application.

We have published a Statement of Community Consultation (SoCC), which sets out how we are carrying out this consultation. The SoCC was developed in consultation with relevant local authorities and is available on the Project website.

[2] National Infrastructure Planning, The process infrastructure.planninginspectorate.gov.uk/application-process/the-process/

Project timeline



During this consultation we are asking for feedback on our latest proposals for Norwich to Tilbury, which include:

- approximately 159 km of new overhead line supported on approximately 510 steel lattice pylons (typically 50 metres (m) in height) some of which are gantries (typically up to 15 m in height) within proposed CSE compounds, or existing or proposed substations
- approximately 25 km of 400 kV underground cabling some of which is located through the Dedham Vale National Landscape (formerly known as Dedham Vale AONB)
- six new CSE compounds, each with a permanent access, to connect the overhead lines to the underground cables
- a new 400 kV East Anglia Connection Node (EACN) substation, with a new permanent access, on the Tendring Peninsula. This is proposed to be an air insulated switchgear (AIS) substation
- substation extension works at the existing Norwich Main and Bramford substations, and works within the existing Tilbury Substation to connect and support operation of the new transmission connection; and
- temporary works associated with construction of the Project.

An alternative design at the Waveney Valley (referred to as the Waveney Valley Alternative) is also being considered and is the subject of consultation and ongoing assessment. This design alternative, if taken forward, would result in changes to those elements of the proposed Project listed to the left. This would instead comprise of the:

- installation of approximately 157 km of new 400 kV overhead line
- installation of approximately 27 km of 400 kV underground cabling, some of which is located through the Dedham Vale National Landscape
- eight new CSE compounds (each with a permanent access) to connect the overhead lines to the underground cables.

If the Waveney Valley Alternative is taken forward there would be approximately 2 km less of new 400 kV overhead line, approximately 2 km more 400 kV underground cabling and two additional new CSE compounds. Each CSE compound would require permanent access, to connect the overhead lines to the underground cables.

All other works listed in the earlier bullet points would remain consistent within the Waveney Valley Alternative.

In addition, third party utilities diversions and / or modifications would be required for construction. There would also be land required for mitigation, compensation and enhancement of the environment including for biodiversity net gain (BNG).

Additional land would also be required temporarily for construction activities including, for example, working areas for construction equipment and machinery, site offices, welfare, storage, and temporary construction access.

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

Our current proposals are outlined in this **Project Background Document**, along with information about where to find out more and get involved in the consultation. As part of this consultation, we have also published:

Preliminary Environmental Information Report (PEIR): setting out the preliminary findings from the environmental studies and assessments we are carrying out to develop our proposals.

Non-Technical Summary (NTS) of the PEIR: a summary of the PEIR in non-technical language.

Design Development Report 2024: detailing the design work we have undertaken to date, including since the 2023 consultation.

Community Newsletter: summarising details of the Project and public consultation. This has been mailed to over 77,000 addresses in the areas around the preferred draft alignment.

2023 Non-Statutory Consultation Feedback Report: summarising the feedback we received during the 2023 consultation and how it has been considered.

Strategic Options Backcheck and Review 2024: an overview of the appraisal approach we have used to date to consider strategic options. These are reviewed and backchecked as part of the ongoing strategic options assessment and decision-making process.

Maps of our proposals 2024: showing the updated preferred draft alignment.

Feedback questionnaire: to gather consultation comments and feedback.

Statement of Community Consultation (SoCC): setting out how we are carrying out this consultation. The SoCC was developed in consultation with relevant local authorities.

All of these documents are available to download from our Project website **nationalgrid.com/norwich-to-tilbury**. Printed copies of consultation documents are available on request. Technical documents and large plans may be subject to a reasonable charge to cover printing and postage fees.

Printed copies of consultation documents will also be available to view at our public information events (see page 9 for details) and at inspection location (see pages 10-12 for details).

Documents are available on request by contacting the Project team by email at **contact@n-t.nationalgrid.com** or by calling 0800 915 2497.

Environmental Impact Assessment

Norwich to Tilbury is classed as development requiring assessment of likely significant effects on the environment under the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.

We are carrying out an Environmental Impact Assessment (EIA) and will submit a full Environmental Statement (ES) and Non-Technical Summary (NTS) as part of our application for development consent.

This consultation includes the preliminary environmental information that has been collected and assessed to date, along with the measures that may need to be put in place to avoid, prevent, reduce and mitigate any residual environmental effects. Please see the PEIR and NTS of the PEIR for more information.

How to find out more

This consultation will run for ten weeks from 12.00 noon on Wednesday 10 April to 11.59pm on Tuesday 18 June 2024, and is open to anyone with an interest in our proposals.

All consultation information is available on our website **nationalgrid.com/norwich-to-tilbury**. Printed copies of consultation documents are available to view at public information events and inspection points.

During the consultation we are holding a series of public information events (see Table one). These events will include information about our proposals, with copies of maps and technical documents available to view. Members of the Project team will be available to answer questions about our proposals.

We are holding six online webinar sessions, two of which will cover a general overview of our proposals. The other four will be section specific. You can attend the webinar most relevant to you. A recording of the general overview webinar will be available to view on our website once available.

Details on how to sign up for a webinar are available on our website, by contacting us on 0800 915 2497 or by email at **contact@n-t.nationalgrid.com**.

We recognise that some people require documents in alternative formats, need supported access to information or may not have access to the internet. If you or anyone you know has difficulty accessing information or providing feedback, please contact us. We are aiming to make our consultation as inclusive as possible and our community relations team will be pleased to help.

Table one: Public information events

We have selected event venues that are close to the proposed route. Larger event venues are highlighted with an '*' where there will be more space to view displays and digital materials.

Date and time	Venue
Wednesday 24 April 2024 12-5pm	Towngate Theatre, St Martin's Square, Basildon, Essex SS14 1DL
Thursday 25 April 2024 2-7pm	The Brentwood Centre, Doddinghurst Road, Pilgrims Hatch, Brentwood CM15 9NN *
Saturday 27 April 2024 11am-4pm	Chelmsford City Racecourse, Chelmsford CM3 1QP *
Tuesday 30 April 2024 12-5pm	Gislingham Village Hall, Mill Street, Gislingham IP23 8JT
Wednesday 1 May 2024 11am-4pm	Copdock Village Hall, Old London Road, Copdock IP8 3JN
Friday 3 May 2024 1-6pm	Needham Market Community Centre, School St, Needham Market, Ipswich IP6 8BB
Saturday 4 May 2024 11am-4pm	Lawford Venture Centre 2000, Bromley Road, Lawford, Manningtree CO11 2JE
Wednesday 8 May 2-7pm	The Civic Hall, Blackshots Lane, Grays RM16 2JU *
Thursday 9 May 2024 1-6pm	Thorpe Hall, Ashwell Thorpe and Fundenhall Community Centre, Muskett Road, Ashwellthorpe NR16 1FD
Friday 10 May 2024 1-6pm	Tibenham Community Hall, Pristow Green Lane, Tibenham, Norwich NR16 1PX
Tuesday 14 May 2024 11am-4pm	Witham Public Hall, Collingwood Road, Witham CM8 2DY
Wednesday 15 May 2024 1-6pm	Diss Town Football Club, Diss IP22 4QP
Thursday 16 May 2024 2-7pm	Langham Community Centre, School Road, Langham, Colchester CO4 5PA
Friday 17 May 2024 1-6pm	Great Bromley Village Hall, Parsons Hill, Great Bromley, Colchester CO7 7JA

Table two: Webinars

Date and time	Topic
Wednesday 17 April 6-7pm	Project Overview One †
Wednesday 29 May 6-7pm	Section A and B – South Norfolk and Mid Suffolk
Thursday 30 May 6-7pm	Section C and D – Babergh, Tendring and Colchester
Wednesday 5 June 6-7pm	Section E and F – Braintree and Chelmsford
Thursday 6 June 6-7pm	Section G and H – Basildon, Brentwood and Thurrock
Wednesday 12 June 6-7pm	Project Overview Two

† A British Sign Language interpreter will be available

You can register for a webinar by signing up on our Project website
nationalgrid.com/norwich-to-tilbury

Table three: Inspection points:

Information about Norwich to Tilbury is available to view and collect from the following locations from **Wednesday 10 April 2024**.

Location	Address	Opening hours	
Long Stratton Library	The Street, Long Stratton NR15 2XJ	Monday Tuesday Wednesday Thursday Friday Saturday Sunday	11am-7pm 1pm-7pm 8am-7pm (unstaffed) 1pm-7pm 8am-7pm (unstaffed) 11am-4pm 10am-4pm (unstaffed)
Norwich Library	Unit 3, The Forum, Millenium Plain, Norwich NR2 1AW	Monday - Friday Saturday	10am-7pm 9am-5pm
Tuckswood Library	Robin Hood Road, Eaton NR4 6BX	Monday Tuesday Wednesday Thursday Friday Saturday Sunday	8am-7pm (unstaffed) 11am-7pm 8am-7pm (unstaffed) 8am-7pm (unstaffed) 11am-7pm 10am-4pm 10am-4pm (unstaffed)
Diss Library	Church Street, Diss IP22 4DD	Monday Tuesday Wednesday Thursday Friday Saturday Sunday	10am-7pm 8am-7pm 10am-7pm 10am-7pm 10am-7pm 10am-7pm 10am-4pm

Location	Address	Opening hours	
Stowmarket Library	Milton Road, Stowmarket IP14 1EX	Monday Tuesday Wednesday Thursday Friday Saturday Sunday	Closed 8:30am-6:45pm 8:30am-5:45pm 8:30am-5:45pm 8:30am-6:30pm 8:30am-4pm 10am-4pm
Capel St Mary Library	Village Hall, The Street, Capel St Mary IP9 2EF	Monday Tuesday Wednesday and Thursday Friday Saturday Sunday	Closed 9am-12:30pm, 2-5:30pm 9am-12:30pm 2-5:30pm 9am-3pm 10am-3pm
Coggeshall Library	The Friends Meeting House, Stoneham Street, Coggeshall CO6 1UH	Monday Tuesday Wednesday Thursday Friday Saturday Sunday	Closed 2-5:30pm Closed 9am-5:30pm Closed 9am-5pm Closed
Chelmsford Library	Market Road, Chelmsford CM1 1QH	Monday Tuesday Wednesday Thursday Friday Saturday Sunday	9am-5:30pm 9am-5:30pm 9am-5:30pm 9am-7pm 9am-5.30pm 9am-5pm 10:30am-1:30pm
Colchester Library	Trinity Square, Colchester CO1 1JB	Monday Tuesday Wednesday Thursday Friday Saturday Sunday	9am-5:30pm 9am-5:30pm 9am-7pm 9am-5:30pm 9am-5:30pm 9am-5pm 1-4pm
Tilbury Library	Civic Square, Tilbury RM18 8AD	Monday Tuesday Wednesday Thursday - Sunday	10am-1pm and 2-5pm Closed 10am-1pm and 2-5pm Closed
Greenstead Library	Hawthorn Avenue, Colchester CO4 3QE	Monday Tuesday Wednesday Thursday Friday Saturday Sunday	9am-5:30pm 9am-5:30pm Closed 9am-5:30pm Closed 9am-5pm Closed

Location	Address	Opening hours	
Stanway Library	10 Villa Road, Stanway CO3 0RH	Monday Tuesday Wednesday Thursday Friday Saturday Sunday	Closed 2-7pm Closed 9am-1pm Closed 9am-1pm Closed
Prettygate Library	Prettygate Road, Colchester CO3 4EQ	Monday Tuesday Wednesday Thursday Friday Saturday Sunday	Closed 9am-7pm 9am-5:30pm Closed 9am-5:30pm 9am-5pm Closed
Wivenhoe Library	104/6 High Street, Wivenhoe CO7 9AB	Monday Tuesday Wednesday Thursday Friday Saturday Sunday	Closed 2-7pm Closed 9am-5:30pm Closed 9am-5pm Closed

Inspection point opening hours can be subject to change. Please check with the relevant venue for the most up to date opening hours. Unstaffed hours require a library card for entry.

To learn more about our proposals:

- Read this Project Background Document
- Visit an inspection point (see Table three)
- Visit our website at: nationalgrid.com/norwich-to-tilbury
- Sign up to receive project update emails (visit our website)
- Come to a public information event (see Table one)
- Call our freephone 0800 915 2497 between 9am and 5:30pm
- Join an online webinar session (see Table two)
- Email us: contact@n-t.nationalgrid.com

To respond to the Norwich to Tilbury consultation:

- Complete the feedback questionnaire on our website nationalgrid.com/norwich-to-tilbury
- Post your written responses (no stamp required) to: FREEPOST N TO T
- Email your comments to: contact@n-t.nationalgrid.com
- Complete a printed feedback questionnaire and return it using the freepost address

Your comments must be received by 11:59 pm on 18 June 2024.

2. The need

The UK has set a world-leading target for tackling climate change: to achieve net zero carbon emissions by 2050. This means that we will remove the same amount of greenhouse gases from the atmosphere as we produce. The Great Grid Upgrade will connect clean energy that's produced right here in the UK, increasing the self-sufficiency of our energy supplies.

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[3] (December 2020) outlines a plan to increase energy from offshore wind to 40 GW by 2030 (this Government target was increased in April 2022 to 50 GW).

Recent years have been record-breaking for renewables on our electricity transmission network. Summer 2020 saw the longest run without burning coal since the industrial revolution, stretching almost 68 days. Solar power has set new records too, with 10.1 GW being produced in April 2023. Finally, the first three months of 2023 saw wind power rank as the biggest single source of electricity in the UK for the first time ever.

While the way electricity is generated is changing, demand is also set to significantly increase as the way we power our homes, businesses, industry and transport changes. 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.

Meeting government targets will be a major step towards decarbonising our economy and, providing customers with clean, secure, and affordable energy.

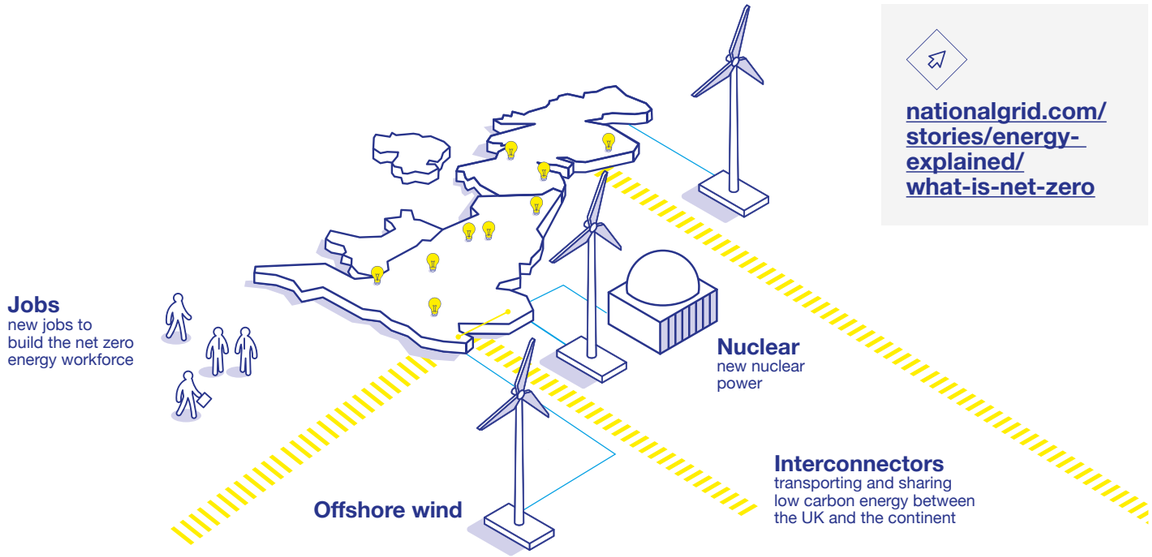
To deliver more clean power to homes and businesses and increase our energy security, we must also upgrade the transmission system – 'the grid' – at an unprecedented scale and pace (see the Government's 'Powering up Britain'[4] report).

Delivering the infrastructure needed to achieve this ambition will boost local economies, provide jobs and opportunities to learn new skills and bring vital investment to towns right across the country.

Norwich to Tilbury is a vital part of the transition to net zero. 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 – connected into the East Anglian network. Ensuring this energy can reach homes and businesses means we need to significantly improve our onshore electricity infrastructure, much of which was built to accommodate less demand.

[3] Energy white paper: Powering our Net Zero future, 18 December 2020
www.gov.uk/government/publications/energy-white-paper-powering-our-net-zero-future/energy-white-paper-powering-our-net-zero-future-accessible-html-version

[4] Powering up Britain, Department for Energy Security and Net Zero, March 2023
assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1147340/powering-up-britain-joint-overview.pdf



nationalgrid.com/stories/energy-explained/what-is-net-zero

Why here?

Like much of the high voltage electricity transmission network across the country, the network in East Anglia was largely developed in the 1960s. It was built to supply regional demand, centred around Norwich and Ipswich, and fed from our Bramford Substation.

A large loop runs from Walpole in the north of the region to Pelham and Rayleigh/Tilbury in the south via Norwich and Bramford. Two 400 kilovolt (kV) overhead lines connect Sizewell B.

Growth in offshore wind generation and interconnectors to Europe has seen a significant number of connections planned in the East Anglian and south-east coastal areas of England.

The existing transmission network infrastructure in the East Anglian and south-east areas was not originally designed to accommodate such large volumes of generation capacity.

As such the network will require significant reinforcements both in the form of new substations and transmission circuits to provide connections for these new customers and to ensure that power can be transferred securely to the onshore demand centres to meet the needs of electricity consumers in Britain.

Norwich to Tilbury, along with other projects, is a priority because the Midlands, South and East of England – which cover areas spanning from the Humber in the North to East Anglia and the Thames Estuary in the south – have been identified as needing network reinforcement to enable the connection of more offshore wind on the east coast.

National Grid Electricity System Operator (ESO) is responsible for considering how much energy needs to be carried on the network in the future and where network capability needs to be improved to accommodate supply. More information on the way it reviews how the network needs to adapt is available at **nationalgrideso.com/future-energy**.

Current generation and demand in East Anglia

To understand current and future demands on the electricity network, the concept of network boundaries is used.

A boundary splits the system into sections and shows where there are high power flows between parts of the network. When flows across a network boundary are forecast to be above the capability of the network, there are two options to manage this:

1. Pay electricity generators on one side of the boundary to reduce the energy they produce (and in turn pay generators on the other side of the boundary to compensate for the shortfall). This then reduces the flows of electricity across the boundary.

   When National Grid ESO pays generators to do this, these are called ‘constraint payments’.

2. Increase the capability of the network to allow more electricity to flow.

Management of constraint costs in the short term may be in the interests of consumers, but ultimately the Security and Quality of Supply Standard (SQSS) requires the capability of boundaries to be reinforced to accommodate power flows and prevent constraint costs being incurred on a long-term basis. Details of generation connected in the region are available in the 2024 Strategic Options Backcheck and Review.

The Security and Quality of Supply Standard (SQSS)

The network is planned and operated under a set of standards designed to ensure there are no widespread electricity supply interruptions, even if two circuits are out of service.

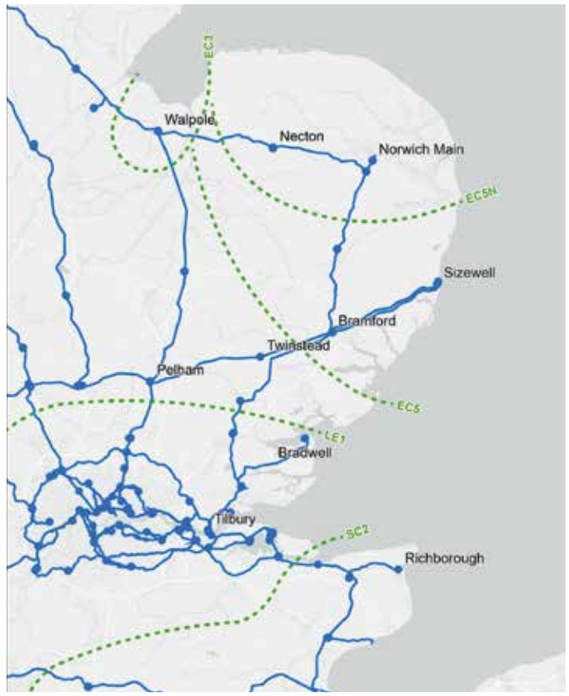
Each line of pylons on the network carries two electrical circuits.

For example, if one circuit is switched out for planned maintenance and another is impacted by a fault at the same time, the SQSS is designed to ensure that:

- the electricity system frequency is maintained within statutory limits
- no part of the network is overloaded beyond its capability
- voltage performance stays within acceptable statutory limits
- the system remains electrically stable.

National Grid ESO oversees the standards and they are approved by Ofgem.

The relevant boundaries in East Anglia and the South East are illustrated in the network diagram below. This includes the proposed Bramford to Twinstead project, for which National Grid submitted an application for development consent in April 2023.



East Anglia and South East region transmission system and system boundaries (figure from 2024 Strategic Options Backcheck and Review).

Future generation and demand

Although the network in East Anglia can accommodate the level of generation and demand that there is today, this situation will change over the next decade.

New connections for new offshore wind and nuclear power generation projects, and for interconnectors, are expected into East Anglia by 2030. These are being constructed or are expected to connect into substations at Necton, Norwich Main, Bramford, Friston and Sizewell.

Additionally, agreements are in place with Tarchon Energy for a 1400 megawatt (MW) interconnector between the UK and Germany, along with the North Falls and Five Estuaries offshore wind farms for connection into the new East Anglia Connection Node (EACN) Substation.

National Grid ESO assessments have concluded that the existing high voltage electricity network in East Anglia requires reinforcement to ensure the network continues to meet the SQSS.

Increasing the capability of the existing network

Before we consider building new parts of the network, we first must consider whether we can achieve more capability by upgrading and strengthening the existing network.

This can involve changing the conductors/wires on some of our existing overhead lines and adding smart power control devices to control the flow of electricity on parts of the network to transport it to where it is needed.

In East Anglia we are:

- installing power control devices at main substations in the region – at Pelham, Rye House and Waltham-Cross, to make more use of an existing route to the west of the region
- increasing the voltage of a section of line from Waltham-Cross south into London to 400 kV to increase the capability of that part of the network into the capital
- rewiring existing overhead lines with conductors that can carry more power – for example, on the existing overhead lines from Bramford to Braintree, Rayleigh to Tilbury, Twinstead and Pelham, and between Norwich and Bramford.

In addition to Norwich to Tilbury, we are developing two new reinforcements in East Anglia:

- Bramford to Twinstead Reinforcement – a new 400 kV double circuit overhead line between Bramford in Suffolk and Twinstead Tee in Essex
- Sea Link – a new offshore high voltage direct current (DC) link between Suffolk and Kent

Making these improvements will increase the capability of the existing network, but it is still insufficient to deliver the capability required under SQSS and as advised by National Grid ESO.

A number of studies continue to consider the drivers for network reinforcements in East Anglia, alongside the specific considerations that need to be taken into account for Norwich to Tilbury.

Since our last consultation in 2023, there have been updates from an independent report commissioned by local authorities (Hiorns Smart Energy Networks Report) as well as the Government's Offshore Coordination Support Scheme (OCSS) and a study undertaken by ESO.

We welcome all feedback on our Norwich to Tilbury proposals. At each key stage of the development process, we undertake checks – described as backchecks – to ensure our proposals take account of factors that may arise, as appropriate.

East Anglia Transmission Network Reinforcement Report by Hiorns Smart Energy Networks

An independent review of the strategic options appraisal by National Grid for the Project was carried out by Hiorns Smart Energy Networks.

The report was commissioned by Essex County Council, Norfolk County Council and Suffolk County Council, and reviewed the need and timing for additional electricity transmission capacity out of the East Anglia region by 2030.

The report supports National Grid's position that there is a need for additional electricity transmission capacity to facilitate renewable and low carbon energy generation development in the East Anglia region. It did not support National Grid's programme delivery date of 2030 and argued that that the need for additional transmission capacity would more likely be closer to 2035 and that National Grid could delay progressing the Project for at least five years.

We have carefully reviewed the report and its appraisals, and we note that the report is a significant and independent study of our proposals. We welcome the report's support of the need for improvements to the transmission network and recognition that an offshore solution would result in significantly higher costs and provide lower capacity than the Norwich to Tilbury onshore proposals.

However, we do not accept the report's conclusions around the timing of need for additional capacity being closer to 2035 than 2030. National Grid is legally obliged (under our Transmission Owner Licence) to provide capacity at the dates formally agreed in contracts with energy generators (or customers). Contract dates are set out by ESO independent of National Grid.

We have undertaken backchecks to ensure the capacity required in the contracts is consistent with our understanding of need (see our Strategic Options Backcheck Report 2024 for details). These backchecks also review the progress energy generators are making with planning consents for their projects.

At the time of writing, there is a significant pipeline of energy generation schemes connecting in East Anglia after 2026 including several that have already been granted development consent and are committing to contracts with their suppliers.

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.

The consortium will now undertake a series of studies and assessments to determine the feasibility, challenges and solutions of a coordinated offshore connection.

This work will consider the economics, engineering and regulatory challenges as well as the logistics and programme delivery aspects.

The consortium members are continuing to develop each of their onshore DCO proposals in parallel with the coordination studies. Until we know the outcome of those studies, it is important that we continue to develop our proposals for Norwich to Tilbury to meet our statutory duties and responsibilities to deliver the new renewable sources of energy to homes and business across the UK.

ESO East Anglia Network Study (March 2024)

We welcome the independent assessment which the Electricity System Operator (ESO) has delivered, to consider the consequential infrastructure impacts should the Government decide to take the OCSS forward.

The ESO study took a fresh look at the drivers for network reinforcement in East Anglia, alongside the various considerations that need to be taken into account. This includes the requirement for us to develop proposals that represent value for money to consumers, while being in line with current planning policy, environmental legislation and our licence obligations.

We remain committed to carefully considering the findings from the ESO Study and we await the Government's decision on the outcome of the OCSS. We will backcheck and review our proposals for Norwich to Tilbury to reflect these within the ongoing development of our East Anglian projects.

In the meantime, to ensure we remain compliant with our legal obligations to connect customers and aligned with the OCSS guidance, we are continuing to progress the development of the existing East Anglian network projects, including Norwich to Tilbury.

3. Our proposals

This section describes our proposals which include a new 400 kilovolt (kV) electricity transmission line, work at existing substations and a new substation that would connect the energy generated by offshore windfarms and interconnectors to the transmission network.

We have held two non-statutory consultations, the first in 2022, followed by another in summer 2023.

Following each consultation we have carefully considered all the feedback we have received and have used it to help us develop and make changes to our proposals.

The main changes we have made to the preferred draft alignment are summarised in this section. We are also proposing smaller adjustments to the proposed locations of pylons, overhead line and underground cabling across the route which can be found in the Design Development Report 2024, and consultation plans are available on our project website **nationalgrid.com/norwich-to-tilbury**.

Overhead lines

We are proposing a new 400 kV electricity transmission connection of approximately 184 km running from Norwich Main Substation to Tilbury Substation via Bramford Substation.

Approximately 159 km of this would be new overhead line supported by approximately 510 steel lattice pylons, some of which would be gantries.

Standard steel lattice pylons are being considered for the Project. This pylon design is common across the electricity system in the UK.

These would typically be around 50 m high with three sets of cross arms, and each pylon would be designed for its location.

The suitability of other pylon designs, including T-pylons, is being reviewed and considered, with an initial assessment indicating that T-pylons would not be suitable. You can read more about this in the **2024 Design Development Report**.

Underground cables

We are proposing approximately 25 km of new 400 kV underground cabling in four sections of the route including around 20 km through and in the vicinity of the Dedham Vale National Landscape.

An alternative design at the Waveney Valley (referred to as the Waveney Valley Alternative) is also being considered and is the subject of consultation and ongoing assessment. See page 27 for more information.

We are also proposing a section of underground cable near Fairstead when crossing the existing 400 kV overhead line.

Proposed underground cable sections of the route.

Cable Sealing End (CSE) compounds

New CSE compounds would be needed to connect the overhead lines to the underground cables.

We are proposing a total of six CSE compounds with associated permanent access at the following locations:

- one north of the Dedham Vale National Landscape
- two near Great Horkesley
- two near Fairstead
- one near Tilbury.

The potential alternative at Waveney Valley (see page 27) would introduce a further section of underground cabling and two additional CSE compounds.

East Anglia Connection Node (EACN) substation

We are proposing a new 400 kV EACN substation on the Tendring Peninsula at a site close to the existing Lawford Substation, owned and operated by UKPN, to connect clean energy from offshore wind generation and a proposed interconnector with Germany to be transported to homes and businesses.

The EACN substation would contain high-voltage electrical equipment such as transformers, circuit breakers and shunt reactors, support structures and control buildings. It would be fenced and include a permanent access road and parking areas.

At this stage, we are proposing that the EACN substation would use air – rather than gas – insulation technology. Air-insulated switchgear (AIS) substations are the most common type, accounting for more than 70 per cent of substations all over the world.

Permanent access roads

Permanent access roads are required at CSEs and substations for operational and maintenance requirements.

More information on access roads can be found in the **construction section**.

Why not build an offshore connection?

Feedback from both the 2022 and 2023 consultations suggested we should consider an offshore connection.

There is no fully offshore solution to connect offshore wind to the grid and 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 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. This would mean significant extra cost to consumers, which would not meet the requirements placed on us.

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

Proposals by location

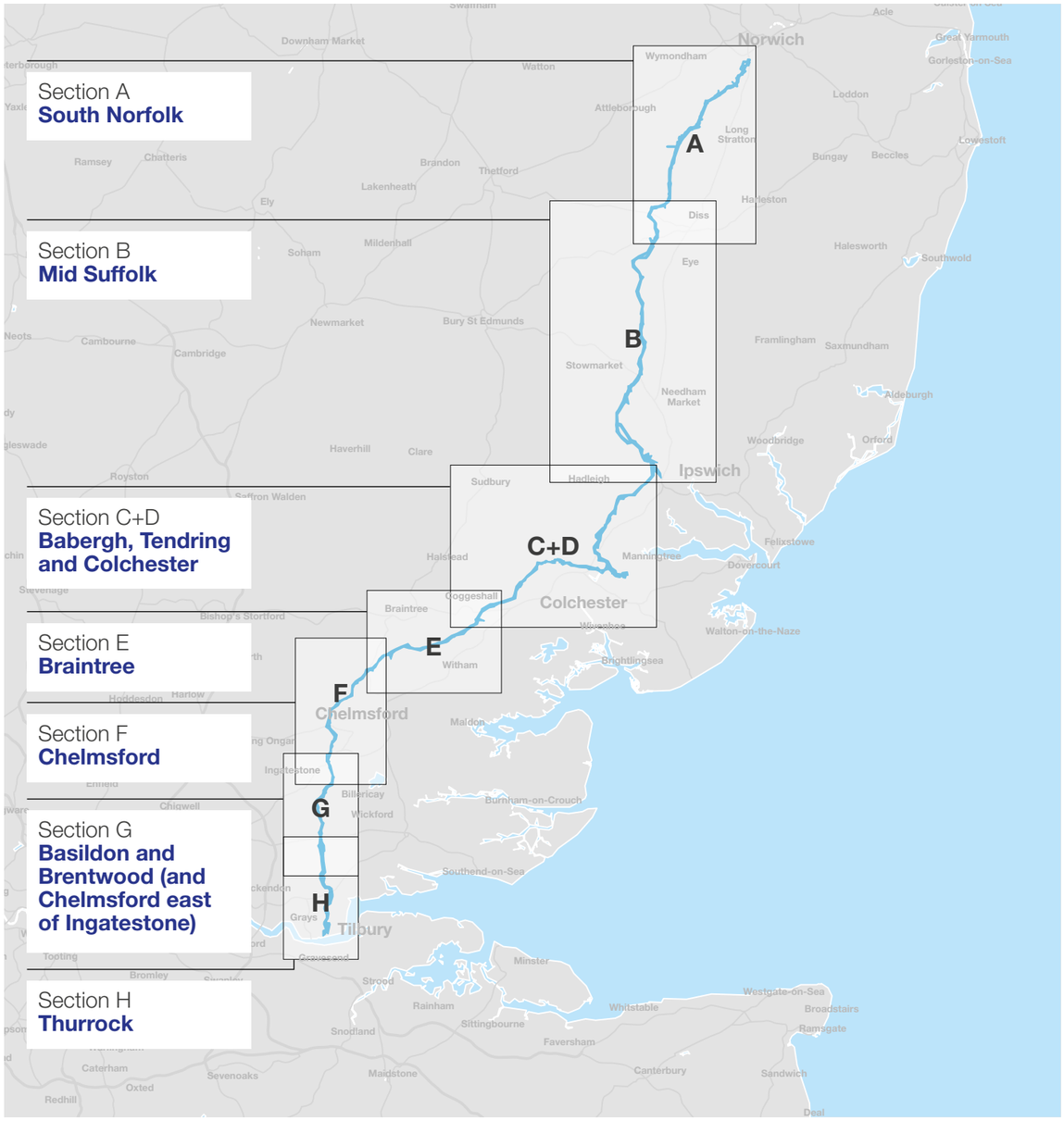
Summaries of the proposals for Sections A to H, including maps, key issues and constraints, are included on the following pages.

These sections also outline changes to the indicative locations of some proposed pylons.

Each pylon proposed for Norwich to Tilbury has been given a unique reference number in the format RG000/ JC000 (pylons in the northern route section) or TB000 (pylons in the southern route section).

The first pylon on the route at Norwich Main Substation is RG001 and the final pylon at Tilbury is TB263.

To view all indicative pylon locations, you can use our interactive map available on the Project website – **nationalgrid.com/norwich-to-tilbury**, the 2024 Design Development Report, and our Project maps / Project area maps.



Map showing sections A-H of Norwich to Tilbury.

Section A
South Norfolk

Section A 2024 preferred draft alignment

We are proposing to build an overhead line heading south out of Norwich Main Substation (the start point of Norwich to Tilbury), and running to the east of Mulbarton, Tacolneston and Shelfanger and then to the west of Roydon on the Mid Suffolk border.

Norwich Main Substation

National Grid is currently developing proposals for extensions to the existing substation at Norwich Main, which is located approximately 5 km south of Norwich. The planned extensions are to enable new sources of electricity – including the Hornsea 3 offshore wind farm and Sheringham Shoal and Dudgeon wind farm extensions – to connect into the grid. With Norwich to Tilbury, that energy could then be transported to homes and businesses.

The western extension would include extending the site by around five hectares and building new equipment (similar to the existing substation), which would make space for Norwich to Tilbury connection as well as other future connections.

We are applying to South Norfolk Council for planning permission for the western extension and will also include this within Norwich to Tilbury's application for a Development Consent Order.

Main changes in section A since the last consultation

South of Norwich Main Substation

A separate developer is proposing battery storage immediately south of Norwich Main Substation. In response to this we have adjusted the preferred draft alignment so pylons RG001 to RG007 (RG1 to RG6 in the 2023 preferred draft alignment) are now positioned to the west of Sprow's Pits Woodland.

Our proposals avoid positioning pylons in the development area for Bloy's Grove Solar Farm which is located between Swainsthorpe and Mulbarton. We have also moved the position of RG12 (now RG13) slightly north to avoid an archaeological site.

We are proposing a minor realignment of overhead line near South Norfolk Model Flying Club to move some pylons in line with landowner requests and to increase separation from the flying club to over 200 m.

We have moved pylon RG44 away from the centre of an open view to the north-west and are proposing to reposition RG43 to facilitate this. The new locations of both pylons benefit from additional screening from existing woodland.

We are also proposing a change between pylons RG046 and RG050. This moves the 2023 preferred draft alignment further east to reduce effects on woodland. Another change in Section A is an adjustment between RG070 and RG073 which removes the single angle pylon at RG72, replacing it with two angle pylons each with smaller direction changes to increase separation from residential properties.

In the Waveney Valley

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

The Waveney Valley Alternative proposals would would include the:

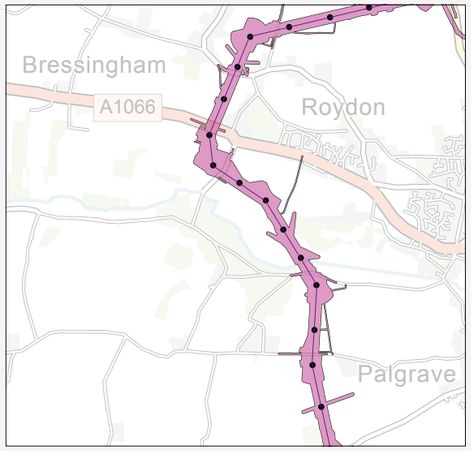
- installation of approximately 2 km of underground cabling (with 2 km of overhead line being removed from our proposals); and
- two CSE compounds (to join the high-voltage underground cables to the overhead line) with associated access roads. This would increase the number of CSE compounds from six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

All other works not listed above would be the same for both the overhead line or underground cable designs in this area.

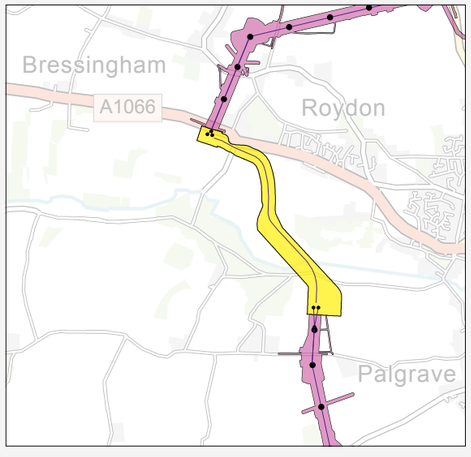
While underground cabling would reduce landscape, recreational amenity and heritage effects in the area, it would have an impact on ecology, archaeology and peat soils, and come at an additional cost.

We are asking for feedback on both alternatives (overhead lines and underground cables) at this consultation.

Please refer to the Design Development Report 2024 for more information on our proposals in this section.

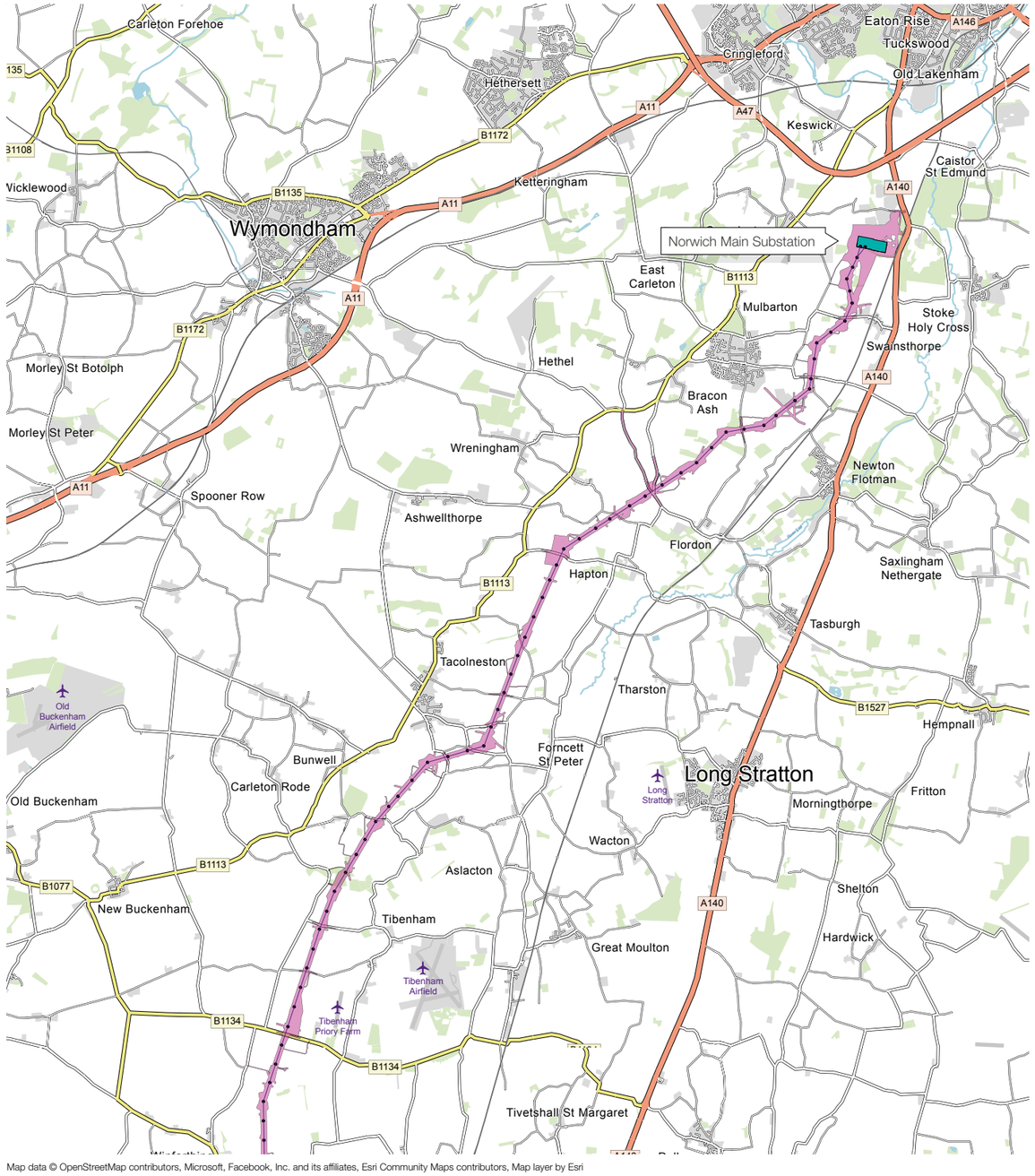


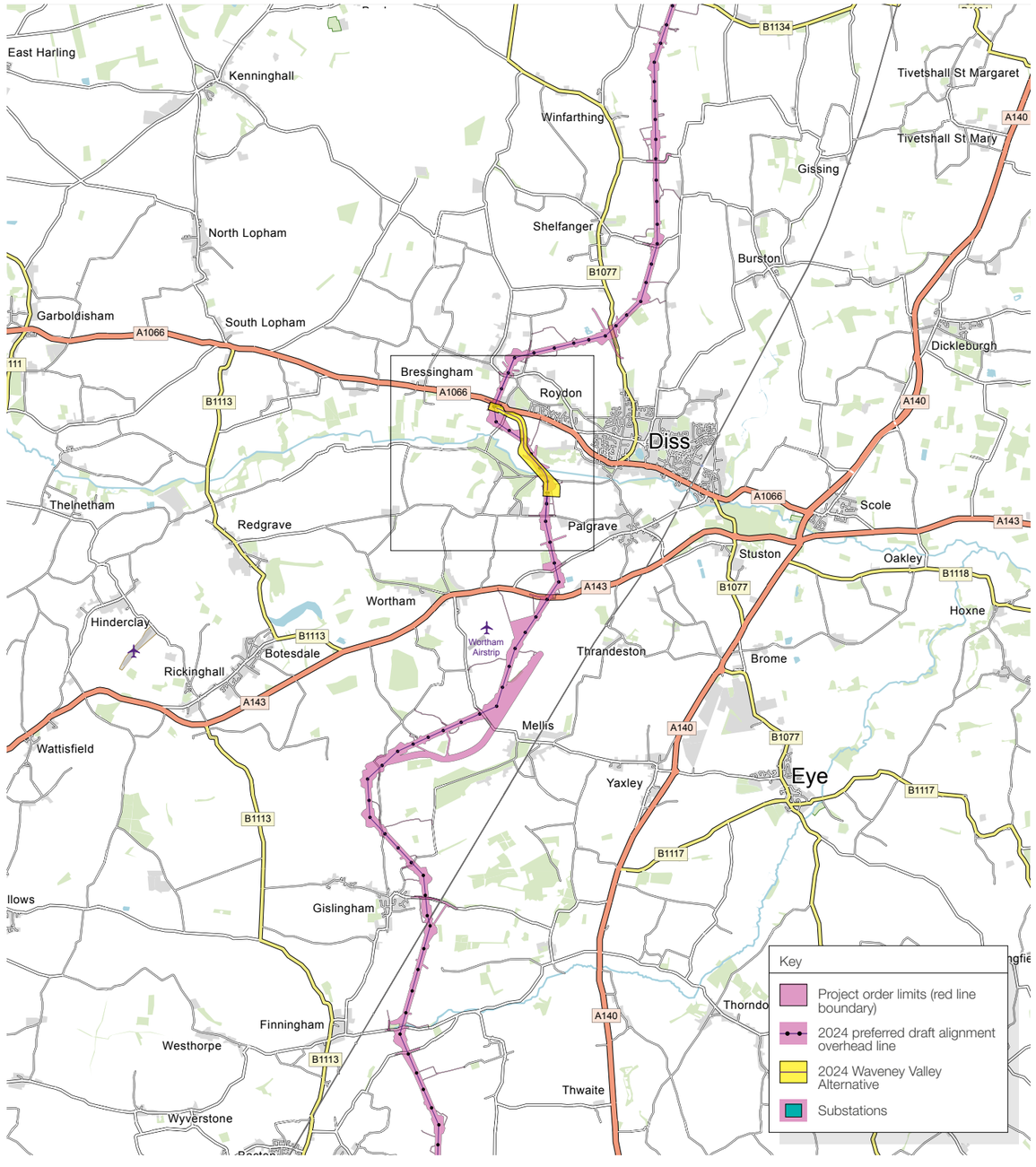
Overhead line proposal



Waveney Valley Alternative

Section A
South Norfolk





Section B
Mid Suffolk

Section B 2024 preferred draft alignment

From the county boundary between South Norfolk and Mid Suffolk, we are proposing that the preferred draft alignment 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 overhead 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 and the replacement of sections of existing 132 kV overhead lines north of south of the substation with underground cable.

Main changes in section B since our last consultation

In the Waveney Valley

A section of the Waveney Valley Alternative is also routed through section B. See section A for more details.

East of Wortham near Brook Farm Airstrip

We are proposing to move the preferred draft alignment further east at pylons RG90 and RG100 (now RG99) to move further from Brook airstrip and reduce interaction with solar farm developments.

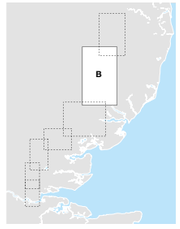
The proposed change also moves pylons RG91, RG92, RG93 and RG94 further east and further away from properties.

This would reduce the effects on views to the north for some of these residential properties.

North and west of Mellis Common

We are proposing to follow the alignment of the existing 132 kV lattice pylon line to the north of Mellis before passing further west of Mellis. The proposed change reduces effects on the conservation area and places the preferred draft alignment further from heritage assets.

This change would move the draft alignment further away from Mellis Common to the north of Great Wood.



Gislingham to Offton

We are proposing a change between RG118 and RG123 (now RG119 and RG124) moving the 2023 preferred draft alignment to the west to position pylons closer to field boundaries.

Another change between RG123 and RG130 would move the preferred draft alignment to the east and further away from the Grade II listed Hempnalls Hall and nearby residential properties.

We are proposing a series of changes between RG145 and RG161 to respond, where practicable, to landowner feedback on siting preferences which also reduce effects on heritage assets near to Badley Hill.

We are proposing to move RG161 (now RG162) to the south-west by approximately 50 m, positioning the pylon closer to the corner of a field.

Offton to Bramford

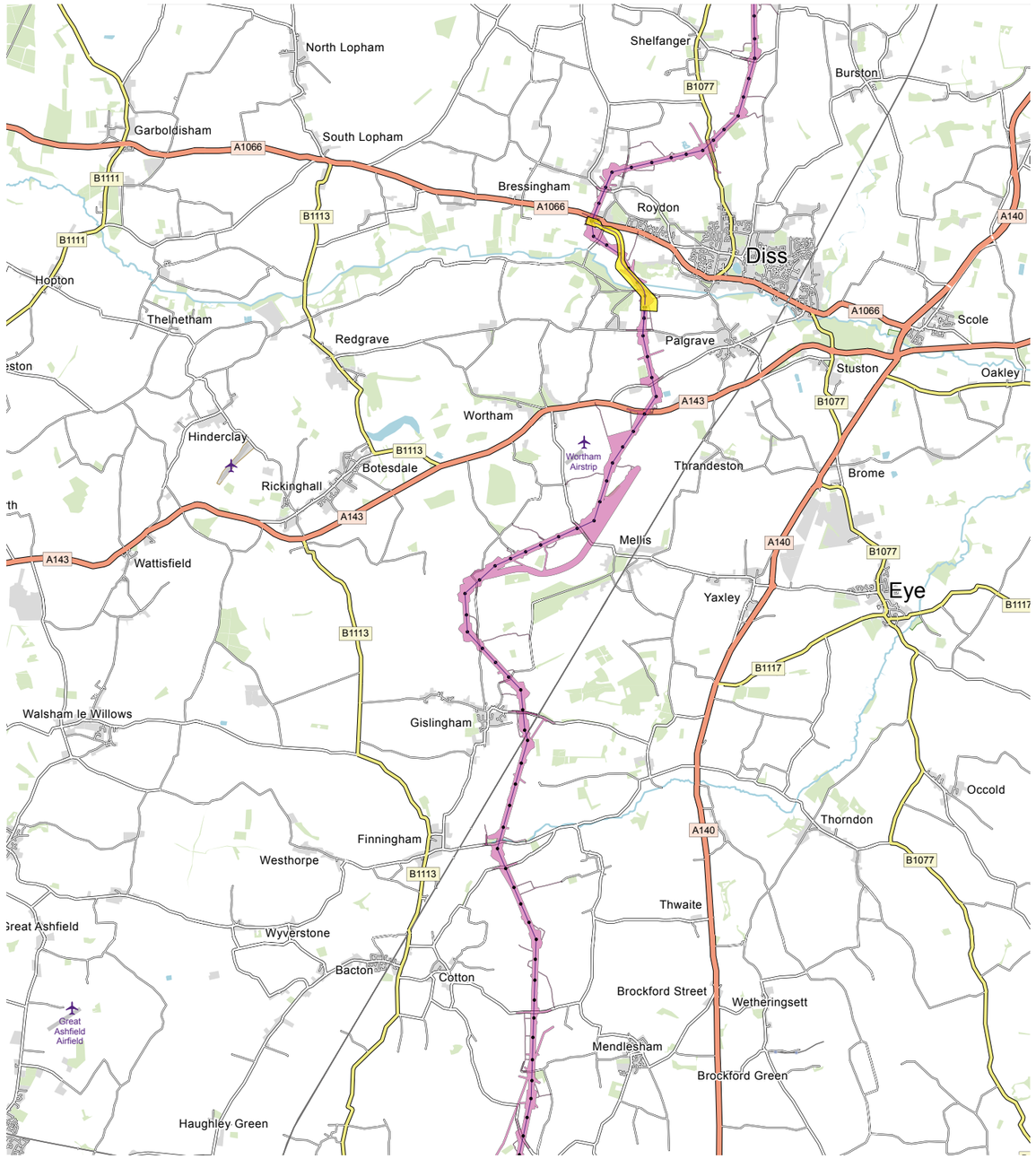
We are proposing a change to the 2023 preferred draft alignment between RG195 and RG200 to avoid oversail of a business and respond to feedback to reduce effects on residential amenity.

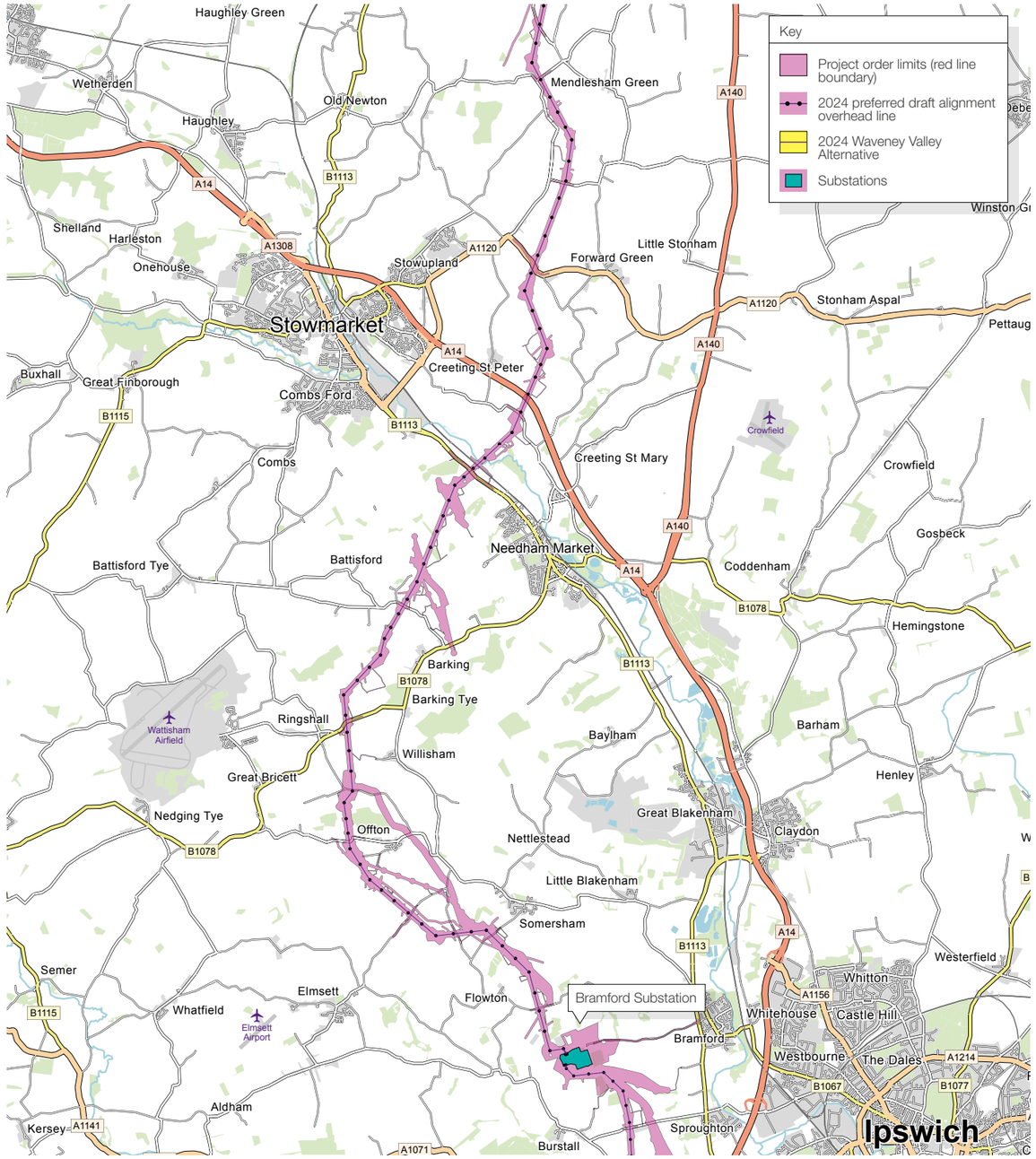
The overhead line is now proposed to continue south-east from RG191 before turning east crossing Blood Lane to the north of Bleak Hall before it rejoins the 2023 preferred draft alignment at RG200.

As a result of this change, we are also now proposing to replace part of the existing 132 kV overhead line from the north side of Offton Middle Wood through to the Bramford Substation with underground cable.

This would remove the need for multiple crossings of the existing 132 kV overhead line between Offton and Bramford and reduce the potential for cumulative effects.

Section B
Mid Suffolk





Section C and D
Babergh, Tendring and Colchester

Section C and D 2024 preferred draft alignment

From Bramford Substation, the preferred draft alignment would cross immediately into the district of Babergh.

It would then run south-easterly, passing to the west of Washbrook and Copdock and north of Little Wenham and passing the north side of Raydon Airfield, where a change from overhead line to underground cable is made at a CSE compound moved from the edge of Notley Enterprise Park to a location with greater screening by woodland at Wenham Grove.

The underground cable would run to the east of Raydon and west of Holton St Mary as it enters the Dedham Vale National Landscape.

It would briefly cross the border into the Colchester district, running to the east of Langham and crossing the A12.

From here, the underground cable alignment would cross into the Tendring district, turning eastwards into the Tendring Peninsula, running north of Ardleigh and crossing the railway to the site of the East Anglia Connection Node (EACN) substation.

From the EACN substation, an overhead line would head west, crossing past Ardleigh and over the Ardleigh Reservoir and A12 towards Great Horkesley, where it would transition to underground cable at a CSE compound proposed to the north-east of Horkesley plantation. Cable continues to the west of Great Horkesley to a CSE compound near the junction of the B1508 and Crabtree Lane.

From here, the preferred draft alignment would continue south-west as an overhead line, passing to the west of West Bergholt, to the east of Fordham and Aldham, before crossing the A12, running north of Marks Tey and into the Braintree district.

Main changes in section C since the last consultation

Bramford to the Dedham Vale National Landscape

Following feedback to move the alignment away from residential properties and to reduce socio-economic effects, we are proposing a change to the 2023 preferred draft alignment.

This moves the alignment east of fishing lakes, with JC16 moving further to the west increasing the separation between the closest property around the Pigeons Lane and Spring Road junction from approximately 90 m to approximately 180 m.

North of the Dedham Vale National Landscape

Near Chattisham, we are proposing to move JC21 and JC22 to the north-east, moving JC22 further away from a public footpath and JC21 away from a field entry point.

To allow continued safe flight activities from Raydon airstrip and following additional information on potential effects on heritage assets at Little Wenham, we are now proposing that the CSE compound is moved to the north of Raydon Airfield where there is existing screening from woodland.

This change would move the preferred draft alignment further north away from Little Wenham and Great Wenham, extending the underground cable length by approximately 1.5 km.

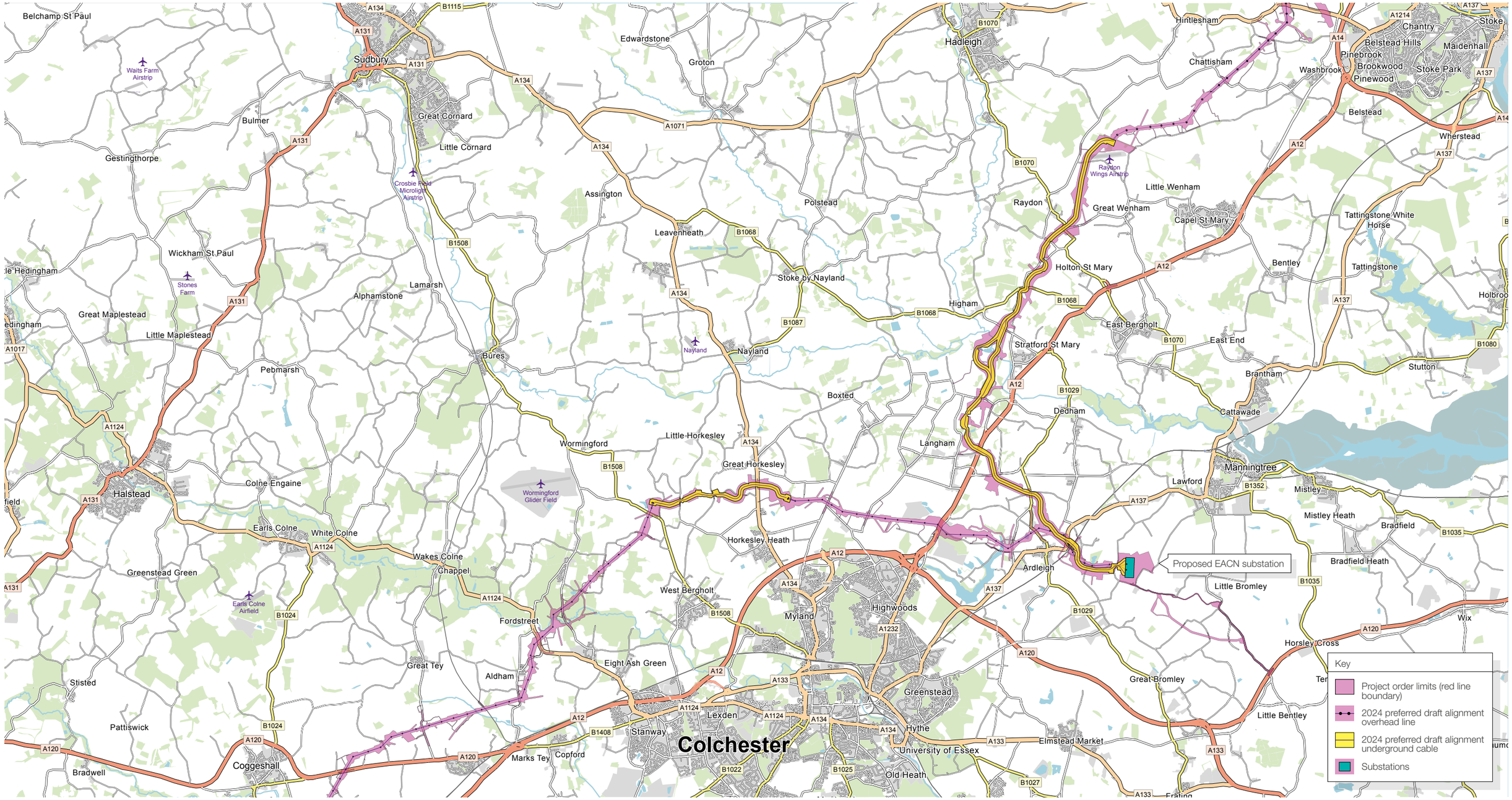
At the 2023 consultation we presented a split corridor for underground cable in the section near to Great Horkesley. Following feedback we have removed this split by restricting the working area for cable installation to reduce the potential for loss of woodland and interaction with a private garden. This moves the 2024 preferred draft alignment further south.

At Aldham we are also proposing a small change to move pylon positions around TB054, TB055 and TB056 to increase separation to residential properties.

Minor changes around Broad Green have been made in response to landowner feedback to position pylons at field edges where practicable.

Section C and D

Babergh, Tendring and Colchester



Section E
Braintree

Section E 2024 preferred route alignment

After crossing into Braintree District, the preferred draft alignment would continue south-west, passing to the north of Witham and the south of Silver End before crossing the railway and heading south-west into Chelmsford district.

Main changes in section E since the last consultation

Little Tey to Fairstead

We are proposing a change at TB075, moving the pylon west to avoid a reservoir used for fishing. We have straightened the alignment and are proposing other changes to respond to landowner requests to position pylons at field edges and increase separation to residential properties.

We have also widened the order limits in this area to allow for routeing changes to respond to a possible allocation for mineral extraction that could be confirmed in 2024.

We are proposing a change from pylons TB89 (now TB88) to TB95 (now TB93) to move the preferred draft alignment to the western edge of the field.

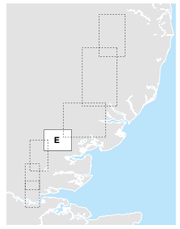
This change would also move the alignment further towards the western edge of Ruffian's Wood which, in combination with the positioning of a haul road to the east, would reduce effects on a business based at this woodland.

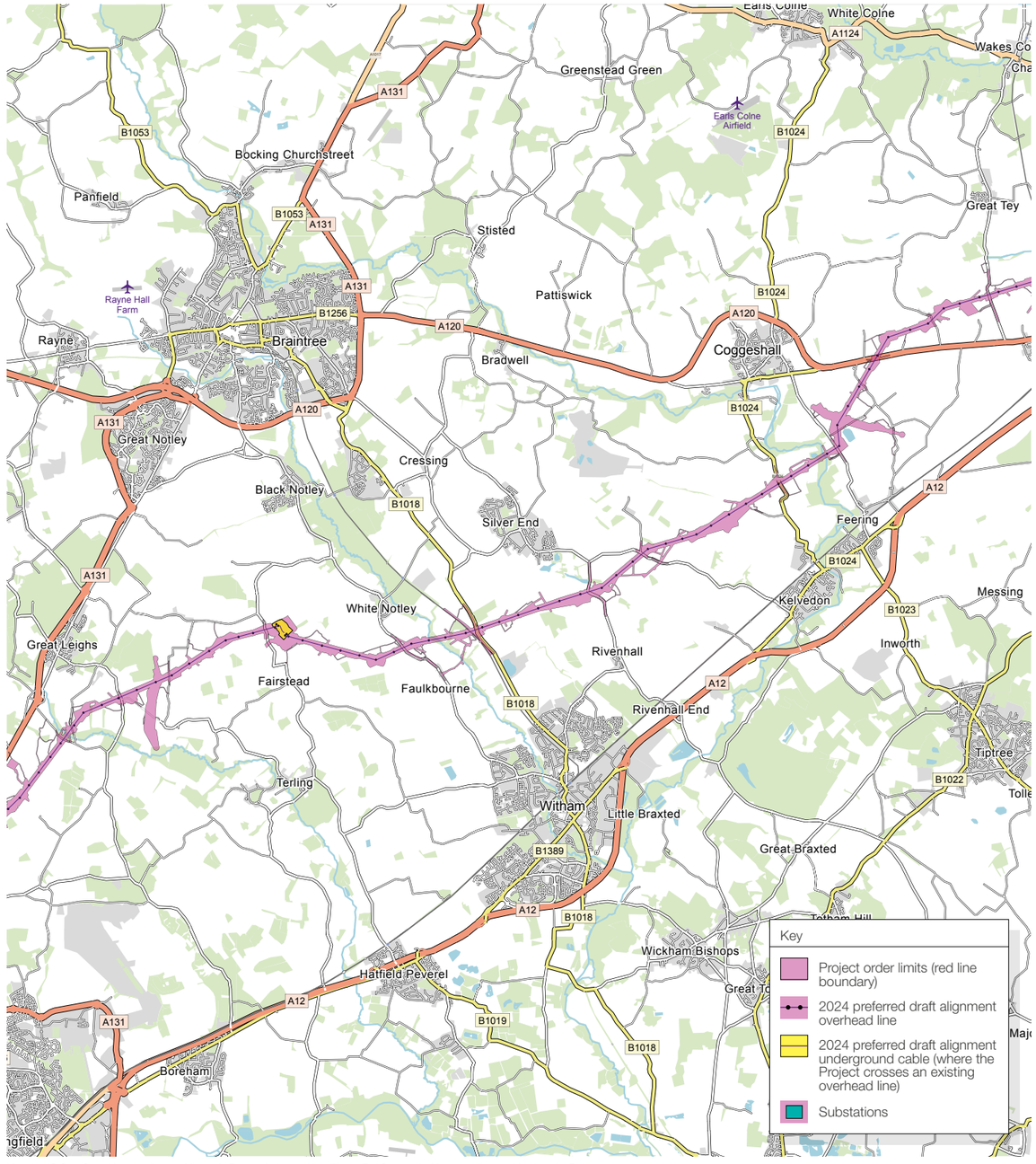
This change also allows the alignment and pylon positions to be positioned further away from a number of residential properties to the south of Silver End, some of which are listed.

At Fairstead

We are proposing to move the alignment further north with the CSE compounds located closer together within the same field. This would reduce the amount of underground cable required for the crossing of the existing 400 kV overhead line, reducing impacts on some trees. As a result of the repositioning of the western CSE compound, pylons TB111 to TB119 would be moved slightly further north and east and to the edges of fields where practicable.

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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Section F
Chelmsford

Section F 2024 preferred alignment

The preferred draft alignment would enter the district from the north-east and run to the north of Chelmsford. From there it would head south on the western side of the town and to the west of Writtle before continuing south, passing to the west of Margaretting, and crossing over the A12 to the north of Ingatestone on the Brentwood district border.

Having crossed into Brentwood it would briefly cross back into Chelmsford in the vicinity of Buttsbury church.

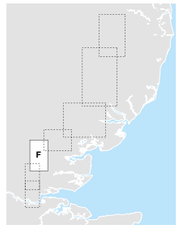
Main changes in section F since the last consultation

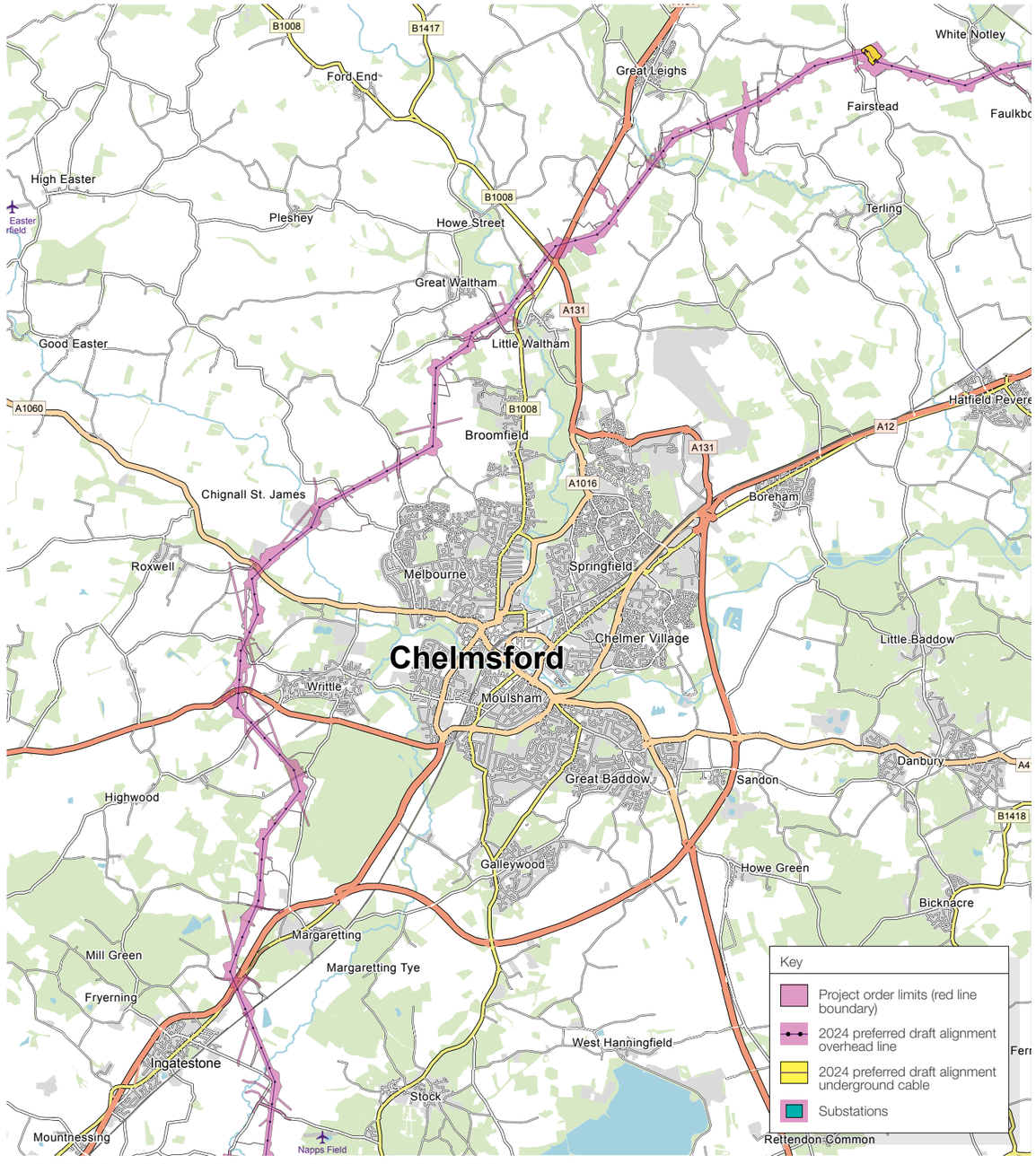
North of Little Waltham, we are proposing a change to the 2023 preferred draft alignment between TB130 and TB132 (now TB131 and TB133) which would move the alignment, including an angle pylon further south, away from residential properties.

We are also proposing a change to the 2023 preferred draft alignment near Broomfield between TB147 (now TB148) and TB154 (now TB155). This change is proposed to straighten the draft alignment and remove the angle pylon at TB150 and TB153.

The change moves TB152 to the north and east of its previous location further away from properties on Mashbury Road.

Other proposed changes in this section include moving TB160 further from residential properties and other pylons to field boundaries where practicable. Meanwhile, to the west of Margaretting, various adjustments are proposed to move pylons to field boundaries and avoid other constraints.





Section G

Basildon and Brentwood (and Chelmsford east of Ingatestone)

Section G 2024 preferred draft alignment

Passing to the north and east of Ingatestone, the preferred draft alignment would cross the A12 and the railway in the north of the Brentwood district.

It would then travel directly south, crossing multiple times between the Chelmsford, Basildon and Brentwood districts. Passing to the east of Brentwood and the west of Billericay, the alignment would continue south, crossing the A127 and railway on the border of Thurrock District.

Main changes in section G since the last consultation

East of Ingatestone, a slight adjustment of TB193 to avoid a flood zone moves the pylon positions in the alignment slightly to the north and south and reduces the oversail at an animal rescue centre.

This also allows pylons to move to field boundaries (where practicable) responding to feedback to account for the size of modern farm machinery.

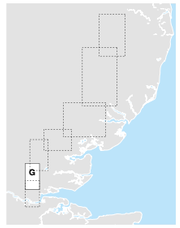
At Dunton Hills

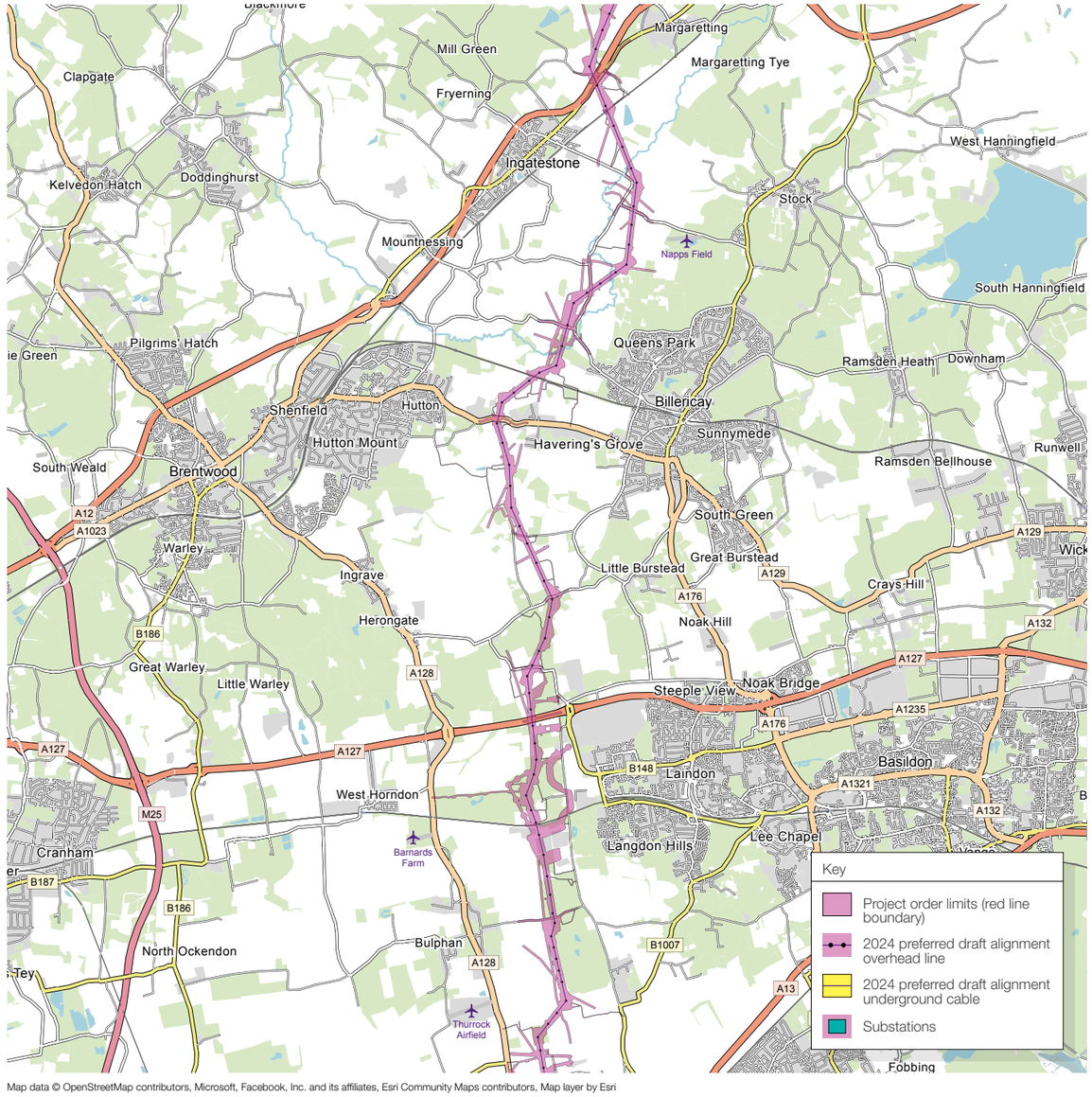
We are proposing changes to the east of Basildon to accommodate housing development proposals. This would reposition the route northwards from TB225 to more closely follow the gas pipeline.

This reduces effects on proposed housing developments in Brentwood and Basildon as well as on existing residential properties and listed buildings in the Dunton Wayletts area.

This change introduces some effect on a consented solar farm development. This could be reduced through detailed work to carefully position individual pylons (subject to certain technical considerations).

Associated with this change is the installation of a 132 kV cable connection to allow for the removal of the existing 132 kV overhead line from the Friern Manor Hotel to the south of the railway.





Section H
Thurrock

Section H 2024 preferred draft alignment

The preferred draft alignment would continue south, passing Bulphan to the west and Horndon on the Hill to the east.

The overhead line would then head east, before going south to cross the A13 to the north-east of Southfields.

It would then head south to the west of Linford where it would transition to underground cable at a proposed CSE compound to the north of where the Lower Thames Crossing would be.

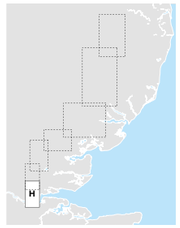
The underground cable alignment would then run south into Tilbury Substation.

We are proposing works at Tilbury Substation to connect Norwich to Tilbury into the substation, including building new infrastructure on the western half of the site on existing National Grid operational land.

Main changes in section H since the last consultation

Thurrock Airfield

Near Thurrock Airfield we have reduced pylon separations by introducing an additional pylon to keep pylon heights low. This change and maintaining positioning closer to Langdon Hills Golf and Country Club supports the continuation of flight activities at this airfield.



4. Construction

Building Norwich to Tilbury would involve a range of construction activities, including preparing land and creating temporary haul roads to access work areas, as well as providing temporary areas to store materials, vehicles and staff welfare facilities.

Permanent access roads are also proposed in some areas for operation and maintenance requirements.

Building overhead lines

The first step in building overhead lines is to set up a working area where each new pylon will be built.

Foundations are laid, then the pylons are assembled in sections on the ground and craned into position. The number of sections for each pylon would vary according to the size and type of pylon being built.

Once the pylons are built, we hang the wires – or conductors – that carry the electricity. This is known as 'stringing'. We string a section of approximately ten pylons at a time. The conductor is pulled from one end to the other using large machinery.

The size, height, and spacing of pylons is determined by safety, topographical, operational and environmental considerations.

Installing underground cables

Most underground cables would be laid using open trench installation.

Underground cables are installed using ducts which protect and organise cables. Installing ducts means that trenches can be backfilled sooner and underground cables pulled into the ducts at a later date.

In some cases, other trenchless techniques such as micro-tunnelling, boring or Horizontal Directional Drilling (HDD) would be used where open trench installation is not appropriate. For example, when crossing features such as heavily trafficked highways, rivers or railways.

We are proposing to use an underground (trenchless) construction method in some areas of Norwich to Tilbury to install the underground cable. Trenchless crossing techniques allow us to install our underground cable while minimising interaction with the land surface, which reduces the impact on wildlife, traffic and local communities.

Temporary construction compounds

We need to set up temporary construction compounds to support construction activities.

These activities include material loading and unloading, material storage, vehicle parking, siting of welfare facilities, siting of construction cabins and modular offices.

We are proposing two main compounds and four smaller satellite compounds to support the overhead line construction.

A further twenty four compounds would support the installation of substations and underground cables, with further compounds required for the Waveney Valley Alternative. These would be located at each of the substation sites (Norwich Main, Bramford, EACN, and Tilbury), at each CSE compound location and spaced along the underground cable alignment itself.

The proposed siting of our compounds is designed to be close to primary access routes to reduce travel distances and the potential for environmental impacts. Once construction is completed, the temporary construction compounds would be removed and the ground reinstated.

As well as compounds, construction laydown areas and highway mitigation laydown areas would be required to store materials to support construction.

For more information on construction compounds, see the Preliminary Environmental Information Report (PEIR).

Primary access routes (PAR) and haul roads

PARs are public roads which have been identified to route construction vehicles and HGVs.

They have been identified considering existing highway constraints and avoiding settlements or other sensitive locations where practicable. PARs would connect to a trunk road network along the preferred draft alignment by new site access points which would then connect to haul roads.

Haul roads would be needed to transport all the machinery and materials safely from the public roads to the sites where we would be carrying out construction activities.

Where a haul road connects to the existing public highway, we would need to build a site access point known as a bellmouth junction. These are normally built from the side of fields to minimise disruption to highways.

In most cases for Norwich to Tilbury, haul roads would run alongside the proposed route alignment and in some locations we are proposing use of existing tracks and field boundaries. Where there are environmentally sensitive locations and businesses, we are proposing to divert haul road routes around them wherever practicable. In places we may be seeking highway powers to regulate the movement of vehicles.

East Anglia Connection Node (EACN) substation access

We would require temporary and permanent access roads for the proposed new EACN substation.

Temporary roads would be required for construction purposes. We are working closely with North Falls and Five Estuaries to consider both projects' substations and underground cable connections, and to explore options for a shared temporary access road, which would involve widening parts of Bentley Road and Ardleigh Road. We are also engaging with local authorities as part of this process.

A permanent private access road is also proposed for maintenance and operation requirements. This would connect widened parts of Bentley Road and Ardleigh Road to the south west of Little Bromley.

Cable Sealing End (CSE) Compound access

Each CSE compound would require temporary access roads for construction and permanent access for operation and maintenance requirements.

Find out more

We have produced 'Best Practice' guides which show how National Grid constructs overhead lines and underground cables.

You can view these guides on the Project website. While we would adopt the best practice as set out in these documents wherever it is possible and reasonably practical, there will be some instances where we cannot do this.

The Preliminary Environmental Information Report (PEIR) considers the likely significant effects of our proposals on the environment, along with the measures we are proposing to mitigate these impacts.

5. Managing and mitigating effects

Norwich to Tilbury is an Environmental Impact Assessment (EIA) development, as defined by the EIA Regulations. As part of the consultation, we are asking for feedback on the potential environmental effects of the proposals and if consultees have suggestions for reducing these effects (for example, through mitigation measures).

Some specific mitigation measures we are proposing include:

- planting for ecological and landscape screening around the EACN Substation and CSE compound sites
- adopting existing overhead line alignment near Mellis
- extending the removal of overhead line between three crossings of an existing line from Offton to Bramford substation
- extending the removal of two overhead lines to the south-east of Bramford Substation
- extending removal at a crossing of an existing overhead line near Fuller Street.

Biodiversity Net Gain

We will also be required to ensure a 10 per cent biodiversity Net Gain (known as BNG).

This means our work needs to result in more, or better quality, natural environment than before development.

This opens up real opportunities to use development to enhance our wild spaces and provide new habitats.

Where to find out more?

More information on managing and mitigating effects is detailed in the Preliminary Environmental Information Report (PEIR), Non-Technical Summary (NTS) of the PEIR and the Design Development Report 2024.

An Environmental Statement will be prepared in accordance with the EIA Regulations and will accompany the application for development consent.

Cumulative impacts

We are aware that National Grid and other organisations are developing energy and network proposals in the area.

Wherever possible we work collaboratively with other developers to consider their proposals and adjust our plans accordingly.

We are also aware of the impacts that multiple projects coming forward can have for local communities, and this collaborative working aims to reduce impacts where practicable and lead to more efficient ways of working.

6. Other information

Information for landowners

To enable Norwich to Tilbury to go ahead, we would need to temporarily make use of some land for construction activities or for permanent infrastructure.

We are committed to developing successful working relationships with landowners to acquire the rights to use this land through private negotiations. We have identified the land we would wish to use for our current proposals and have written to the owners.

Should it not be possible to reach agreement to acquire land by private treaty, we will apply for powers of compulsory purchase or rights of access as part of our application for development consent. If you believe you have a legal interest in any of the land required for our proposals and have not been approached by our agents, please contact us.

Surveys

As we work to develop our proposals, we have undertaken surveys in areas close to the route.

This includes ecology and habitat surveys, as well as Ground Investigation (GI) studies, which include borehole drilling, trial pit digging and monitoring activities.

Some of these surveys will continue as we work to finalise our application for development consent for the Project and assess conditions for construction.

We encourage landowners to contact us if they have any queries about how their land may be affected.

Since the consultation in 2023, our land referencing company TerraQuest has been making enquiries to identify and confirm all relevant land interests. TerraQuest has issued a Landowner Interest Questionnaire (LIQ) to people with an interest in land, to ensure the correct information is held relating to each parcel of land.

Contact our Lands Team

If you feel your land may be affected by the proposals, please contact the Norwich to Tilbury Lands Team at Fisher German by emailing **Norwich-Tilbury@fishergerman.co.uk** or by calling us on Freephone **0808 175 3314**.

Alternatively, you can write to **Norwich to Tilbury Lands Team at Fisher German, The Atrium, Risby Business Park, Newmarket Road, Risby, Bury St Edmunds, IP28 6RD**.

More detailed information for landowners, along with contact information can be found on the **Landowner page** of our Project website.

7. Next steps

The feedback we receive at this stage of consultation, along with outputs from technical assessments and environmental surveys, will shape the development of our proposals for Norwich to Tilbury.

Following this consultation, we will:

- consider all consultation feedback as we refine our proposals
- continue our discussions with landowners and people with an interest in land which interacts with the Project
- continue briefing local elected representatives
- continue working with communities, local authorities and other stakeholders
- continue carrying out environmental impact assessment work and undertaking surveys along the proposed route
- provide further updates to the local community and to those who have asked to be kept updated on our proposals via a community newsletter
- continue to refine our proposals in response to feedback and results from technical studies and surveys.

Following further development to finalise our detailed proposals, we propose to submit our DCO application, including a Consultation Report showing how we have taken account of feedback, to the Planning Inspectorate. The Planning Inspectorate will appoint an independent Examining Authority to examine our proposals and make a recommendation on the application to the Secretary of State for the Department of Energy Security and Net Zero, who will make the final decision on whether or not to grant development consent.

To learn more about our proposals:

- Read this Project Background Document
- Visit an inspection point (see Table three)
- Visit our website at: nationalgrid.com/norwich-to-tilbury
- Sign up to receive project update emails (visit our website)
- Come to a public information event (see Table one)
- Call our freephone 0800 915 2497 between 9am and 5:30pm
- Join an online webinar session (see Table two)
- Email us: contact@n-t.nationalgrid.com

To respond to the Norwich to Tilbury consultation:

- Complete the feedback questionnaire on our website nationalgrid.com/norwich-to-tilbury
- Post your written responses (no stamp required) to: FREEPOST N TO T
- Email your comments to: contact@n-t.nationalgrid.com
- Complete a printed feedback questionnaire and return it using the freepost address

Your comments must be received by 11:59 pm on 18 June 2024.

Contact us

If you would like to contact the Community Relations team, please get in touch via:

0800 915 2497
FREEPOST N TO T
contact@n-t.nationalgrid.com
nationalgrid.com/norwich-to-tilbury