

ENGINEERING / PROJECT

**THE NATIONAL GRID ELECTRICITY TRANSMISSION PLC (SCOTLAND TO
ENGLAND GREEN LINK 2) COMPULSORY PURCHASE ORDER 2023**

STATEMENT OF EVIDENCE

**Richard Gott
National Grid Electricity Transmission plc**

1. QUALIFICATIONS AND EXPERIENCE

- 1.1 My name is Richard Gott and I am a Senior Project Manager with National Grid Electricity Transmission Plc (NGET). I hold a 1st Cl. BSc (Hons) degree in Project Management for Construction, from University College London (UCL); as well as an ONC and HNC in Civil Engineering (Exeter Collage).
- 1.2 I am a full member of the Association of Project Management (APM), and therefore I am permitted to use the post-nominal MAPM after my name. As such I am mandated to follow the APM's Code of Professional Conduct.
- 1.3 The Code sets out the elements of professional standards and ethical behaviour which the Association requires from Members and it shall be binding on them. Both professionalism and ethics relate to proper, acceptable conduct. Professionalism is demonstrable awareness and application of competences and qualities, including knowledge, and appropriate skills. Ethics covers the conduct and behaviours recognised by the Association as appropriate for the profession.
- 1.4 This conduct includes, that I act with due skill, care and diligence, that I act honestly and promptly and in such a manner to ensure that my client is not misled, offering appropriate professional advice and guidance, whilst, exercising sound judgement and professional discretion to ensure the public interests are safeguarded.
- 1.5 In my role with NGET I am responsible for the Development and Delivery of the Onshore 525kV DC (Direct Current) Cable between Landfall and Wren Hall. My role within National Grid is Senior Project Manager, NGET Strategic Infrastructure, SEGL2 (Scotland to England Green Link 2 – this Project). This forms part of the SEGL2 end-to-end project, incorporating two DC converters, onshore cable and 436km of subsea cable.
- 1.6 I have over 15 years of experience working within major infrastructure and transmission projects, with a further 5 years in Engineering. I have experience in similar NGET Capital Delivery Projects, including Hinkley Point Connection Project (DCO – Development Consent Order) and development of Visual Impact Provision (VIP) schemes (projects that involve the undergrounding (cabling) of existing OHL (Overhead Line) routes, or sections thereof, for visual impact reasons e.g. sections of OHL that go through an AONB). I have also developed and delivered numerous other High Voltage (HV) linear cable and OHL projects for the NGET and Electricity Alliances prior to this. Prior to working for National Grid, I have worked in project management on Nuclear Decommissioning, Health and Residential construction projects, as well as Local Authority Highways engineering and construction projects.
- 1.7 As Senior Project Manager NGET, I am accountable for the management of the development and ultimately the delivery of the southern Onshore 525kv DC Cable. Employed by NGET working within the Joint Venture of SEGL2. I moved to SEGL2 (from National Grid VIP and Cables Unit) working on the project in March 2022. My primary responsibilities as SPM Onshore include, application for funding (externally through OFGEM), sanctioning (internal governance) and the procurement of the project, as well as leading planning, consents and project delivery.

2. INTRODUCTION AND SCOPE OF EVIDENCE

- 2.1 The purpose of my evidence is to explain the wider need for and benefits of the Scotland to England Green Link 2 (the **Project**), including the alternatives for the Project, and how the Project will be delivered and funded. The overriding test with which the Secretary of State must be satisfied in order to confirm the Order is whether there is a compelling case in the public interest to justify the proposed interference with the private rights of those who have interests in the Order Land (paragraph 12 of the Ministry of Housing, Communities and Local Government's Guidance on Compulsory purchase process and The Crichel Down Rules (Updated February 2018)) (the **CPO Guidance**) (**CD B.6**). Other considerations that need to be demonstrated to the satisfaction of the Secretary of State are set out in the CPO Guidance and considered further in my evidence, below.
- 2.2 My statement of evidence is structured as follows:
- 2.2.1 Section 3 provides an overview of the Project.
 - 2.2.2 Section 4 sets out the alternatives for the Project.
 - 2.2.3 Section 5 sets out the need for and benefits of the Project.
 - 2.2.4 Section 6 explains how the Project will be delivered and funded.
 - 2.2.5 Section 7 comments on objections made to the Order.
 - 2.2.6 Section 8 contains my conclusions.

3. OVERVIEW OF THE PROJECT

- 3.1 NGET owns and maintains the high voltage electricity transmission network in England and Wales. In England and Wales, the high voltage electricity transmission system operates at 275,000 volts (275kV) and 400,000 volts (400kV), comprises some 7,000 route kilometres of overhead lines, over 600km of underground cable and over 320 substations. At the substations generation is connected to the system and the primary transmission voltage of 400kV or 275kV is transformed to lower voltages. The lower voltage electricity is taken by regional electricity companies who supply it to industrial, commercial and domestic users across the UK.
- 3.2 NGET is the holder of an electricity transmission licence (the Transmission Licence) (**CD F.1**), granted pursuant to section 6(1)(b) of the Electricity Act 1989 (the **1989 Act**) (**CD A.7**)
- 3.3 The Order has been made pursuant to section 10 and schedule 3 to the 1989 Act.
- 3.4 NGET is promoting and developing proposals for a High Voltage Direct Current Link (**HVDC**) between Peterhead in Aberdeenshire and Drax in North Yorkshire (**Project**). The Project has been proposed in partnership with Scottish and Southern Electricity Networks (**SSEN**) which is the transmission owner for northern Scotland and responsible for the onshore and offshore aspects of the project in Scotland.
- 3.5 The primary objective of the Project is to reinforce the electricity network and increase transmission network capability between Scotland and northern England by 2029 in order to enable the efficient and economic transmission of electricity. The benefits of the Project are that it provides this reinforcement and provides resilience to the electricity network,

addressing the current boundary constraints and transmitting renewable energy produced in Scotland to the English national electricity system.

- 3.6 SEGL2 is a 2GW high voltage direct current (HVDC) electrical ‘superhighway’ cable link to be built between Peterhead in Aberdeenshire, Scotland and Drax in North Yorkshire, England. As shown in Figure 1

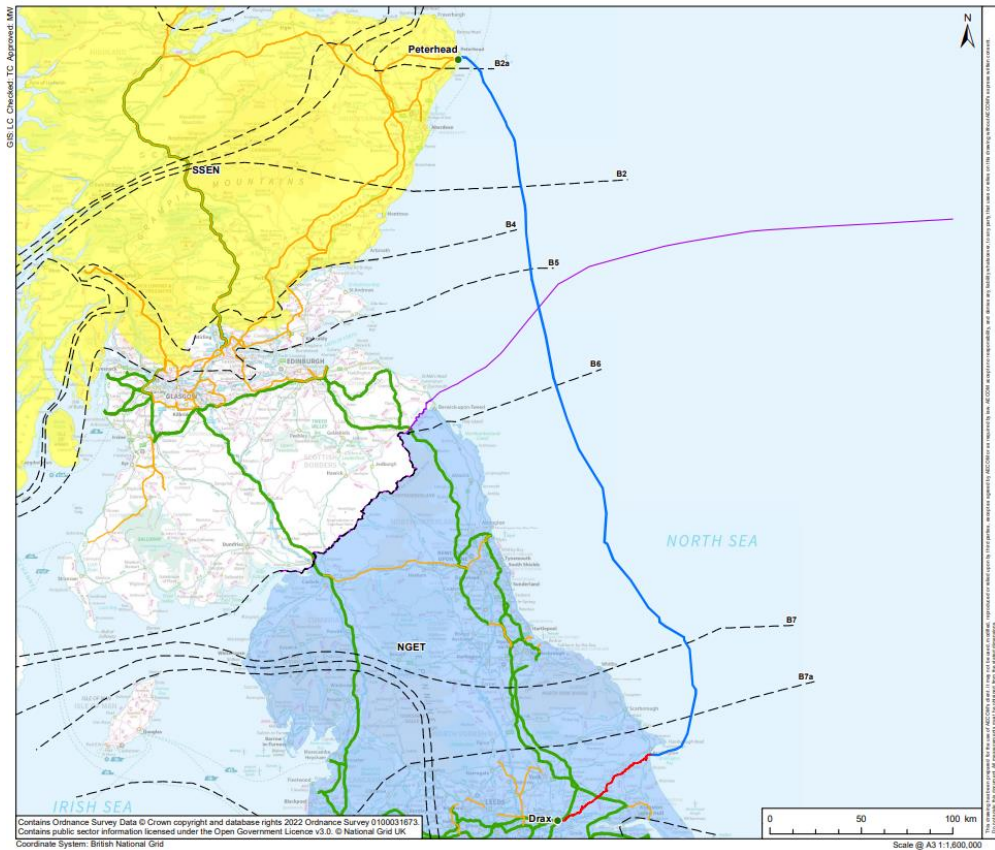


Figure 1 - SEGL2 Overview

- 3.7 The project is being jointly developed by Scottish and Southern Electricity Networks Transmission (SSEN) and National Grid Electricity Transmission (NGET). Construction work is planned to commence in 2024/5 with the new connection due to be operational in 2029.
- 3.8 SEGL2 will unlock the rich renewable energy capacity of Scotland and significantly increase the UK’s capacity to deliver clean energy for around two million homes in the UK.
- 3.9 The Project comprises the following components:

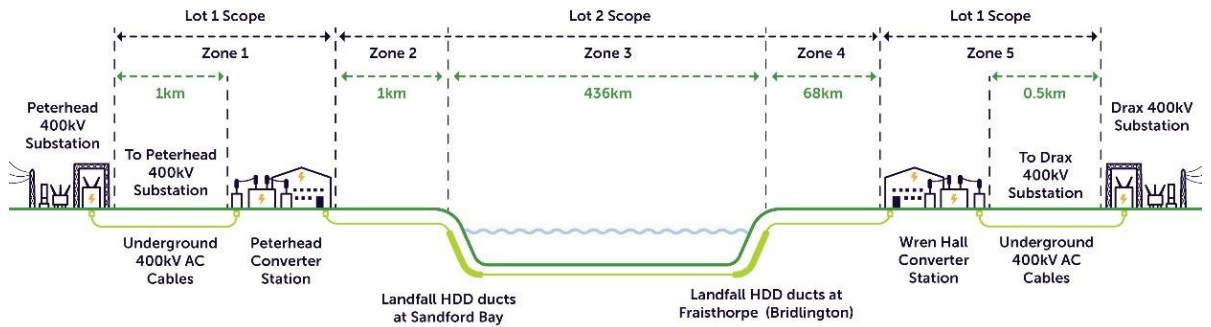


Figure 2 - Project Arrangement

- 3.9.1 **Scottish Onshore Scheme:** A converter station located to the south of Peterhead, Aberdeenshire (Zone 1 in Figure 2). There will be approximately 1 km of buried HVDC cable between the converter station and a landfall at Sandford Bay at Peterhead (Zone 2 in Figure 2). The converter station will be connected to an adjacent substation by approximately 1 km of High Voltage Alternating Current (HVAC) cable. The substation connects the Project to the existing transmission system;
- 3.9.2 **Marine Scheme:** Approximately 436 km of subsea HVDC cable (Zone 3 in Figure 2) from Sandford Bay at Peterhead to the East Riding of Yorkshire coast at Barmston Sands, near Fraisthorpe of which 150 km is located in Scottish waters before entering English waters for the remainder of the Project. The Marine Scheme has been developed jointly by NGET and SSEN who have submitted marine licence applications to the Marine Scotland Licensing Operations Team (MS-LOT) and the Marine Management Organisation (MMO); and
- 3.9.3 **English Onshore Scheme:** Approximately 69 km of underground HVDC cable (Zone 4 in Figure 2) from the landfall at Fraisthorpe through East Riding of Yorkshire, across the River Ouse into Selby District to a converter station at Wren Hall, adjacent to the Drax Power Station. The converter station (Zone 5 in Figure 2) will be connected to the existing substation at Drax, the Drax Power Station. The existing substation at Drax Power Station will be connected to the converter station by approximately 500m of High Voltage Alternating Current (HVAC) cable. The substation connects the Project to the existing transmission system., Figure 3 provides a high level route diagram of the southern route.

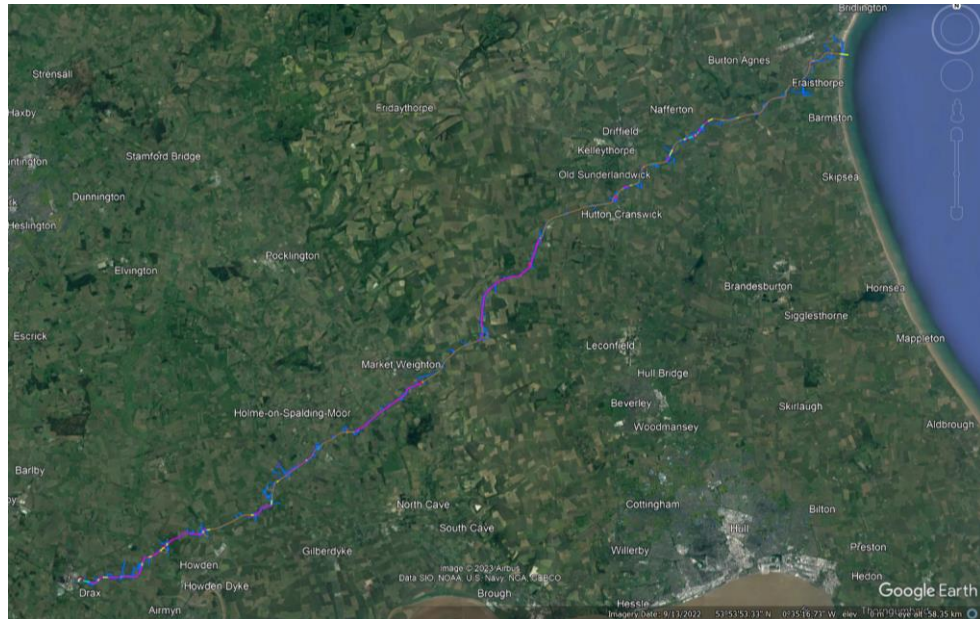


Figure 3

3.10 The English Onshore Scheme components of the infrastructure required to deliver the Project will comprise the following:

- 3.10.1 **Landfall:** A Transition Joint Pit (**TJP**), which will connect the marine HVDC cables forming part of the Marine Scheme to the onshore HVDC cables forming part of the English Onshore Scheme, at a landfall located at Fraisthorpe, East Riding (the **Landfall**) and including the cables from the low water mark to the TJP;
- 3.10.2 **HVDC Cables:** Approximately 69 km of two underground HVDC cables (with a fibre optic cable for performance monitoring) between the TJP and the converter station at Drax, Selby and including the cables from the low water mark to the TJP (the **HVDC Cables**);
- 3.10.3 **Converter Station:** Converter station buildings and outdoor electrical equipment together with formation of internal roads and erection of security fencing and provision of landscaping (the **Converter Station**). Visualisation of the Wren Hall Converter station are supplied at the end of this document;
- 3.10.4 **Substation:** minor works to the existing substation at Drax comprising modifications within the footprint of existing substation to facilitate connection of the HVAC Cables to the electricity transmission network (the **Substation**);
- 3.10.5 **HVAC Cables:** approximately 500m of six underground HVAC cables connecting the new converter station (the **HVAC Cables**);
- 3.10.6 **New Permanent Access:** formation of new accesses (the **New Accesses at Wren Hall Converter Station**);
- 3.10.7 **New Permanent Access Rights:** provision for the rights of access post-construction, for inspection and emergency works. No installation/formation works required for Construction.

- 3.10.8 **Temporary Construction Accesses:** formation of temporary accesses for use during construction and commissioning;
 - 3.10.9 **Temporary Advanced Accesses:** provision for early access for certain activities, including environmental surveys, archaeological works, fencing and demarcation, and to access both sides of certain obstacles (installation of culverts for example)
 - 3.10.10 **Drainage:** construction and installation of drainage solutions outside of the HVDC Cable Route (the **Drainage**);
 - 3.10.11 **Temporary Compounds:** construction of associated temporary construction compounds, temporary work areas, and temporary vehicle access arrangements (the **Temporary Compounds**);
 - 3.10.12 **Converter Station Compound:** construction of a construction compound for the converter station site (the **Converter Station Compound**). See diagrams (currently at end of doc)
- 3.11 The English Onshore Scheme is best reviewed wholistically from the air, I therefore offer to present a drone survey of the route from Land Fall to Wren Hall.

4. ALTERNATIVES TO THE SCHEME

- 4.1 NGET's regulatory duties in relation to developing and maintaining an efficient, coordinated and economical National Electricity Transmission System are set out in Section 9 of the Electricity Act 1989 (**CD A.7**).
- 4.2 In developing the English Onshore Scheme, NGET also has a duty under Schedule 9 of the Electricity Act 1989 (**CD A.7**) to consider amenity and to have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest.
- 4.3 NGET's 'Approach to Options Appraisal' (**CD F.3**) describes a framework and references a list of topics that allows NGET to identify and balance technical, socio-economic, environmental, and cost considerations to help inform decisions around Project options.
- 4.4 As explained in more detail in section 7 of the Statement of Case (**CD D.6**), NGET undertook a detailed optioneering exercise in designing the Project and arriving at the final form of the English Onshore Scheme. NGET's approach to assessing alternatives is set out in the Environmental Appraisal Report: Volume 2: Chapter 02: Project Alternatives dated May 2022 prepared by NGET (the **Alternatives Report**) (**CD C.8**). For present purposes I provide only a brief summary.
- 4.5 As set out in Camilla Horsfall 's proof of evidence, NGET has undertaken a number of studies and public consultation events in arriving at the final form of the English Onshore Scheme.
- 4.6 As set out in Camilla Horsfall 's proof of evidence, NGET has engaged and continues to engage with relevant landowners over the substantive form of the English Onshore Scheme.
- 4.7 When considering siting and routeing options, in line with its statutory duties, NGET have carried out environmental and engineering studies as well as consultation with key statutory

consultees including East Riding of Yorkshire and Selby District Councils, Natural England, the Environment Agency and Historic England.

- 4.8 Table 2-1 of the Alternatives Report provides description and detail of all the environmental considerations carried out in the siting and corridor routeing assessment.
- 4.9 This resulted in the identification of a preferred scheme, the English Onshore Scheme which was then subject to public consultation.

Converter Station Site Selection

- 4.10 The project assessed a number of potential converter sites, summarised in table 2-2, and displayed in fig 2-4 of the Alternatives Report (**CD C.8**) each of these sites were within 5km of the existing Drax Substation. These were each assessed in relation to environmental and engineering considerations, including potential impacts on landscape, visual amenity, ecology and cultural heritage as well as routeing to/ from the site and access from the road network.
- 4.11 Table 2-2 (Alternatives Report) (**CD C.8**) details the issues relating to each of the sites considered. Two sites (CS17 and CS42) were considered most favourable, however, CS42 was considered to have less landscape and visual impact due to the proximity to Drax Power station. CS42 became the proposed site that has been progressed and has since received Planning Permission from North Yorkshire Planning Authority and forms part of this project.

Cable Routeing

- 4.12 As detailed in section 2.6.4 (Alternatives Report) (**CD C.8**) the underground cable routeing of the DC cable route, followed a similar appraisal process, initially identifying broad route corridors and then considering all potential route alignments within those corridors.
- 4.13 This approach needed to account for the alternative landfall and converter sites which were being considered as well as key constraints within the wider area such as towns and villages, sites designated/ protected for ecological, heritage and landscape reasons, land use and other natural and built features such as woodland, rivers and roads as well as engineering constraints for example crossings, topography and ground conditions.
- 4.14 The objective of routeing was to identify a preferred route which was technically feasible whilst minimising impacts on the environment and people.
- 4.15 Fig. 2-5 displays the preliminary corridor within which route alignments were considered. This stage further considered construction requirements and more localised environmental constraints. The outcome was the 69km route proposed which is predominately through agricultural land from the proposed Converter site at Drax to the Landfall near Fraisthorpe.
- 4.16 The subsea cable routeing does not form part of this CPO, however details on the appraisal and assessment are within section 2.6.5 of Alternatives Report.
- 4.17 In identifying the English Onshore Scheme, NGET has assessed a range of alternatives at both strategic and project-specific levels.

- 4.18 NGET has considered technical, environmental and economic factors consistent with its statutory duties and feedback received consultation with statutory and non-statutory consultees, landowners and members of the public.
- 4.19 There has and continues to be discussions with affected landowners and tenants along the entire route to understand any specific local issues and where possible minor changes to the proposals have been carried out to mitigate against these.
- 4.20 NGET has identified the English Onshore Scheme, as presented in the CPO application, which is considered to best balance technical, environmental and economic factors consistent with its statutory duties with feedback received from consultation with statutory and non-statutory consultees, landowners and members of the public.

5. NEED FOR THE PROJECT

- 5.1 The public benefit of the Project is set out at section 8 of the Statement of Case (**CD D.6**).
- 5.2 David Ritchie's evidence, (section 4), will set out in detail national and local policy and how this supports the SEGL2 project. This section shall provide background information in relation to; the National Grid Electricity System Operator's planning scenarios, Network Reinforcement, Ofgem interactions and the Great Grid Upgrade.
- 5.3 The decarbonisation and drive to Net Zero, by transitioning to green energy sources, is of critical importance to the Transmission Operators (NGET and SSEN), NGENSO and Ofgem in determining the future shape of the transmission system. Aspirations for a clean energy future form a key part of government policies, most notably legislated net zero targets, and are supported by wider stakeholders and consumers.
- 5.4 Low carbon generation, such as offshore wind, is required to play a vital role in reaching these targets. The UK Government announced in October 2020 its commitment to make the UK a world leader in green energy and boosted the UK Government's previous 30GW target for offshore wind to 40GW by 2030 (increased to 50GW in April 2022). This commitment was further strengthened in 2021 by the UK Government's announced ambition of 100% green energy by 2035. The Scottish Government target is for 11GW of offshore wind for Scotland by 2030. Further commitments to decarbonise the UK power system by 2035, by the UK Government in October 2021, supports the requirement for reinforcements on the existing system to enable access to the required renewable generation.
- 5.5 The need to reinforce the network to accommodate increased north to south power transfers has been continually monitored by the TOs since 2009, when options were considered as part of the Electricity Networks Strategy Group (ENSG) report, "A Vision for 2020" 5. A subsequent report issued in February 2012 gave an updated view from the ENSG on how the electricity network might need to be reinforced to facilitate the Government's 2020 renewable targets.
- 5.6 Network Options Assessment (NOA) 2020/21 published in January 2021 (**CD F.10**) further supported the recommendation of the INC (Initial Needs Case) to progress the Peterhead to Drax HVDC Link.

- 5.7 The National Grid Electricity System Operator (**NGESO**) is the electricity system operator for Great Britain. The NGESO annually reviews the network capabilities requirements which includes the following notable activities and publications:
- 5.7.1 Future Energy Scenarios (**FES**) – are developed annually by NGESO with input from industry and other stakeholders. The FES represent a range of different, credible ways in which the energy could evolve taking account of policy and legislation, including net zero targets.
 - 5.7.2 Electricity Ten Year Statement (**ETYS**) – using data from the FES, NGESO undertakes an annual assessment to identify points on the transmission system where more network capability is needed to ensure that energy is delivered efficiently and reliably to where it is needed.
 - 5.7.3 Network Options Assessment (**NOA**) – The NOA sets out NGESO’s recommendation for which reinforcement projects should receive investment during the coming year. These are assessed by NGESO so that the most economic and efficient solutions are recommended to proceed, and others told to hold or stop. The NOA uses the latest methodology approved by Ofgem, and outputs from the FES and ETYS.
- 5.8 Scotland and the north of England is characteristically an ‘exporting’ region where installed generation capacity is more than enough to supply the local demand. Larger demand areas lie in central and south of England and so the energy flows across the southern Scottish and northern English boundaries are predominantly north-to-south, which is the main driver for reinforcements. The FES, ETYS and NOA have identified that Scotland has significant quantities of green energy and there is a need to increase the cross-border capabilities of the existing electricity transmission network. Analysis from NGESO forecasts that unless the electricity transmission network is upgraded, there would be significant constraints across the network, and in particular across the Scottish-English border throughout the next decade. The Project will deliver part of the required upgrade.
- 5.9 The Eastern Link (which includes this Project, and SEGL1) achieved approval to proceed in the NOA published in 2015/2016.
- 5.10 For information, SEGL 1 (Scotland to England Green Link 1), is a similar project, a HVDC link project between Torness (Scotland) and Hawthorn Pit (England) being delivered by a separate JV consisting of National Grid and Scottish Power Networks.
- 5.11 The requirement for reinforcement has increased as the volume of renewable energy generation connecting to, or forecast to connect to, this part of the network has increased. In the 2019/2020 and the 2020/2021 NOA, proceed signals have been given to two cross border reinforcements which includes the Project. The ESO’s annual NOA process, has consistently shown the need for investment across multiple northern transmission boundaries of the GB network. The Project will deliver part of this need.
- 5.12 Fig 4 depicts the boundary in the North of England and Scotland. The Scottish transmission network is owned by two TOs, SSENT in the north and SPT in the south of Scotland, with the network in England and Wales owned by NGET. The boundaries within and between these licence areas are:

- 5.12.1 B0 to B3b are within the SSENT area,
- 5.12.2 B4 splits the SSENT and SPT licence areas,
- 5.12.3 B5 is within the SPT area,
- 5.12.4 B6 boundary splits SPT and NGET licence areas and also broadly coincides with the border between England and Scotland,
- 5.12.5 B7a, B8 and B9 are the boundaries in the north of England area relevant to this FNC.

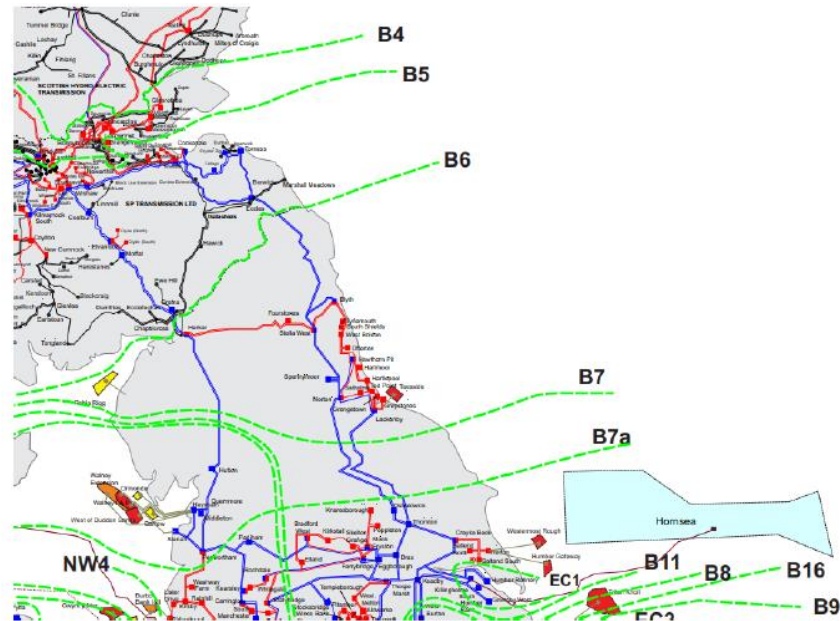


Figure 4

- 5.13 The boundaries of relevance to this project are B6 and B8. The diagram in Figure 5, taken from ETYS 2020, shows a heatmap of which boundaries are constrained up to 2030. This heatmap shows that if no reinforcements are made to the system (i.e., the system transfer capability remains as it is today, over the next 10 years), the network boundaries would lead to incurring significant network constraints due to high flows from the increased generation

capacity. The grey numbered areas 1 and 2 are where the Eastern HVDC Links recommended reinforcements are scheduled to provide relief.

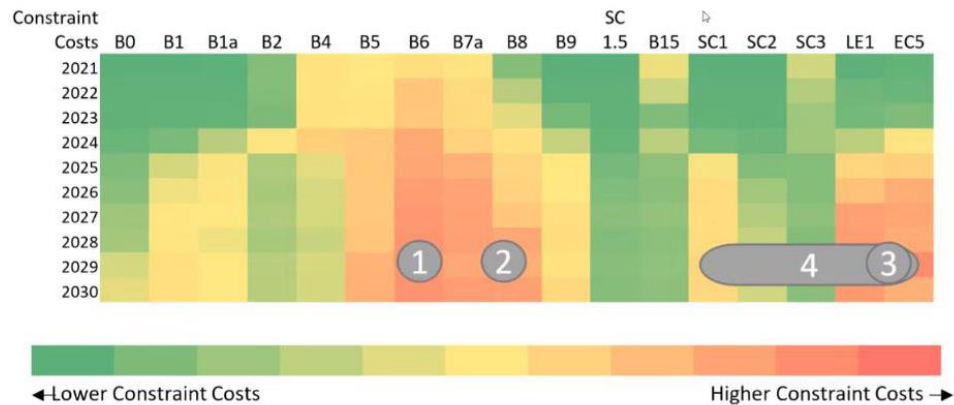


Figure 5

- 5.14 In 2021 Ofgem published, “Eastern HVDC - Consultation on the project’s Initial Needs Case and initial thinking on its suitability for competition”. Stating¹;
- 5.15 *“The LOTI CBA [Cost Benefit Analysis] results clearly demonstrate that transmission reinforcement works between Scotland and the North of England region would result in significantly reduced constraints costs, bringing large savings to GB consumers. The CBA show that there is a clear and significant benefit from delivering two HVDC links on the east coast between Scotland and north-east England”.*
- 5.16 The NOA published in January 2022 (**January 2022 NOA**) (**CD F.10**) gave a “proceed” signal to three east coast reinforcements including the Project, and the NOA published in July 2022 (**July 2022 NOA**) (**CD F.11**) continues to support east coast reinforcement including the Project. The July 2022 NOA identifies the Project as a Holistic Network Design (**HND**) essential option, being a reinforcement that is essential to deliver the Pathway to 2030.
- 5.17 This demonstrates the national need for the Project. This is further supported by the national energy policy set out at section 8 of the Statement of Case, the national planning policy set out at section 8 of the Statement of Case (**CD D.6**) and further evidence to be supplied by David Ritchie within his evidence.
- 5.18 At a Project specific level, NGET is obliged to seek the approval of the Initial Needs Case and the Final Needs Case for the Project from Ofgem under the regulatory regime.
- 5.19 Ofgem has approved the Initial Needs Case and the Final Needs Case for the Project, with the Final Needs Case approved in the Eastern HVDC – Conditional Decision: Final Needs Case dated 8 July 2022 (the **Ofgem FNC Decision**) (**CD F.17**).
- 5.20 In the Ofgem FNC Decision, Ofgem confirmed that the Project is necessary and will deliver significant benefits for consumers by allowing additional renewable generation to connect to the network and reduce constraint costs. Ofgem have also confirmed that the technical options are clear and demonstrable with robust cost benefit analysis, and that through appropriate

¹ [ehvdc inc consultation final.pdf \(ofgem.gov.uk\)](#) page 19

technical consideration NGET has come to the preferred option for the Project. The Ofgem FNC Decision reflects the national need for the Project.

- 5.21 Ofgem have also identified the Project as an Accelerated Strategic Transmission Investment (ASTI) project. ASTI projects will form part of a new regulatory framework which is aimed at providing earlier access to project funding in order to accelerate the delivery of ASTI projects and achieve the Government's 2030 objectives.
- 5.22 Ofgem's analysis suggests that, if all ASTI projects are delivered by their optimal delivery dates, consumers will see a net benefit of up to £2.1bn in terms of reduced constraint costs and carbon savings. Ofgem are clear that this consumer benefit is contingent upon timely project delivery.
- 5.23 At a local level, North Yorkshire Council has recognised this need in its Committee Report (CD C.3) where it concludes in respect of the Planning Application that: *"it is considered that the development would deliver very substantial benefits, contributing to net zero targets and facilitating the role out of increasing use of renewable energy resources in the country"* and that *"the proposal would support the transition to a low carbon future in a changing climate through supporting renewable and low carbon energy and associated infrastructure in accordance with paragraph 152 of the NPPF"*.
- 5.24 Furthermore, ERYC stated that: *"Whilst this proposal will not generate electricity it is part of the infrastructure required to transport it that is supported in principle by the East Riding Local Plan and National Policy Statement for Energy as well as the NPPF"*.
- 5.25 Finally, but no less importantly, SEGL2 forms part of The Great Grid Upgrade, which is the largest overhaul of the electricity grid in generations.
- 5.25.1 These infrastructure projects across England and Wales are helping to connect more renewable energy to UK homes and businesses.
- 5.25.2 The Great Grid Upgrade delivers the needs of the NOA and will play a big part in the UK government's plan to boost homegrown power. It will help the UK switch to clean energy and make sure our electricity network is fit for the future; carrying more clean, secure energy from where it's generated to where you need it.
- 5.25.3 It 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. Energy that's produced in the UK, increasing the self-sufficiency of our energy supplies.
- 5.25.4 Upgrading the grid today makes for a better tomorrow. Having access to more clean energy will be good for our economy, our planet and our peace of mind.
- 5.25.5 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 this extra electricity to wherever we might need it.
- 5.25.6 Additionally, the Great Grid Upgrade as a whole, as well as helping to reach net zero, the UK government suggests² that investment in onshore network

² [Electricity Networks Strategic Framework: Enabling a secure, net zero energy system \(publishing.service.gov.uk\)](https://www.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/90442/electricity-networks-strategic-framework-enabling-a-secure-net-zero-energy-system.pdf); page 13

infrastructure could support up to 130,000 jobs and contribute an estimated £4-11bn of GVA (gross value added) to Great Britain's economy in 2050.

5.26 The need for the Project, and the associated public benefits, is that it meets an identified urgent national need for new electricity transmission infrastructure. It meets the primary objective of boundary reinforcement.

6. PROJECT DELIVERY AND FUNDING

6.1 NGET and SSEN have jointly developed the Project including onshore and offshore route selection, and substation and converter station locations. The Project development has included intrusive and non-intrusive site surveys. Further surveys will be carried out then Detailed Designs will be completed by contractors. There are two main contracts (currently at Preferred Bidder Stage):

- Converter stations north and south, including southern HVAC cable; and
- 525kv HVDC cable supply and installation – onshore and offshore.

6.2 Additionally, there are associated 'Enabling Works' packages affecting the existing infrastructure (for example work within the existing Substation at Drax)

6.3 Key Project milestones are:

- Early 24 – Ofgem Consult on the Project Assessment (PA) and provide Determination;
- Feb 24 – Converter Station (Lot 1) and DC Cable (Lot 2) contract award;
- March/April 24 Surveys commence.
- Sept 24 – First site access for (for Construction) Converter Station contractor;
- Jan 25 – First site access (for construction) Cable contractor;
- June 29 – Converter Station energisation complete; and
- Dec 29 – HVDC link fully operational.

Successful Delivery of Projects

6.4 As recently as December 2023, NGET successfully delivered and connected to the system a similar project in the Viking Link. This was a 1400 MW high voltage direct current (DC) electricity link between the British and Danish transmission systems connecting at Bicker Fen substation in Lincolnshire and Revsing substation in southern Jutland, Denmark.

6.5 Although an interconnector project (between nations) the project has many similarities to SEGL2. The project involved the construction of converter sites and installation of onshore and offshore cable in each country. These are then connected to the existing substations.

6.6 Viking Link project was slightly longer at approximately 765 km (currently the world's longest land and subsea interconnector), however, a similar length of onshore HVDC cable so is a good example of a very similar successfully delivered project.

Planning Permission

- 6.7 As explained in section 6 of the evidence of David Ritchie, two separate planning permissions have been granted for the English Onshore Scheme element of the Project on the basis that the Project boundary spans two administrative areas.
- 6.8 Planning permission was granted on 3 March 2023 with reference 22/01990/STPLFE by East Riding of Yorkshire Council for the construction of sub-surface cable route from Drax Power Station to Fraisthorpe Coastline with associated accesses and temporary construction compounds in association with the Project (“**ERYC Decision Notice**”) (**CD C.4**).
- 6.9 Planning permission was granted on 11 August 2023 with reference 2022/0711/EIA by North Yorkshire Council (“**NYC Decision Notice**”) (**CD C.5**). It is a hybrid planning permission comprising two parts. Part 1 is an outline planning permission (all matters reserved) for the construction of a converter station at Drax, Selby. Part 2 is a full planning permission for the installation of HVDC underground cables from the River Ouse to the converter station and HVAC underground cables from the converter station to the existing Drax Substation as well as all associated temporary works including compounds, accesses and bellmouths as part of the construction of the Project.
- 6.10 The ERYC Decision Notice and the NYC Decision Notice are together referred to as the Decision Notices.

Contractor Status

- 6.11 We have successfully concluded a compliant tender process, with a comprehensive set of Employer’s Requirements issued to (and considered by) the market.
- 6.12 The Request For Proposal (RFP) was issued to market on 12 August 2022 with the first tender returns received on 19 January 2023.
- 6.13 The works were split into two Lots; Lot 1 consisting of the Converter Station and associated AC works, and Lot 2 the DC Cable (onshore and Subsea).
- 6.14 We received the second / Best and Final Offer (BAFO) tender returns (on 15 May 2023), with two bids subsequently evaluated for Lot 1 (Converter) and for Lot 2 (Cable).
- 6.15 Best and Final Offers (BAFO) were subject to a detailed tender evaluation based on pre-determined assessment criteria. The project advanced to Preferred Bidder (PB) stage following a robust competitive process, which was confirmed on the 23rd May 2023.
- 6.16 Both successful Preferred Bidders for Lots 1 and 2 have a proven track record on similar value and scale contracts and have established working relationships with SSENT and NGET in the UK. Each contract was subject to an extensive negotiation process during the competitive procurement event with the purpose of achieving the most efficient outcome in the interests of the consumers.
- 6.17 Following award of Preferred Bidders, the project has engaged (and continues to engage) extensively with the contractors through factory visits, technical and delivery workshops, independent third-party assessments and due diligence exercises.

- 6.18 The project is scheduled to award the full contracts to both bidders prior to the CPO hearing. An update will be provided during the inquiry.
- 6.19 Non-intrusive surveys are to commence in in March/April 2024 under voluntary access arrangements, and if required, under section 172 of the Housing and Planning Act 2016. Likewise, voluntary access agreements, and intrusive surveys are currently planned to commence in September 2024. Archaeological surveys may be an exception to this, potentially starting from Spring 2024
- 6.20 Construction works, following dischargement of the associated planning conditions are scheduled to start in January 2025, and is likely to take the form of bell-mouth installation from the public highway.

Funding

- 6.21 NGET has taken expert advice on the likely costs of implementing the Project, including the cost of construction and the funding of the acquisition of the interests in land described in the Order.
- 6.22 An assessment of the required funding has taken into account the total cost of payments for acquiring both freehold land and rights over land. This total cost has included the estimated value of compensation payable in relation to disturbance, severance and injurious affection, third party professional fees, blight and claims arising under both Section 10 of the Compulsory Purchase Act 1965 and Part 1 of the Land Compensation Act 1973.
- 6.23 The estimated land costs for delivery of the English Onshore Scheme are £12.5 million. This has been included in the project budget in the construction phase and will be available when powers pursuant to the Order are exercised.
- 6.24 The land acquisition costs and potential compensation claims for blight will be fully met as and when they are required under the provisions of the CPO, and this would include any “early payments” under the blight provisions of the Town and Country Planning Act 1990. The Project has a contingency for lands activities which would meet any valid claims which may be made in future.
- 6.25 NGET has significant financial standing. NGET publishes its full accounts as required by its licence conditions on an annual basis. The financial results set out in the ‘Annual Report and Accounts 2022/2023 show that NGET has underlying operating profits of £1,107 million. NGET also has a regulatory asset value of £15,486 million.
- 6.26 NGET is regulated by its economic regulator, the Office for Gas and Electricity Markets (Ofgem), which carries out price control reviews to set NGET’s permitted revenues. These reviews limit the amount of money that can be earned by NGET from charges to use the transmission network. Therefore, NGET is incentivised to be more efficient in managing its infrastructure.
- 6.27 Each price control is set for a particular period, after which a new one replaces it. The current price control period is known as ‘RIIO-T2’. This took effect on 1 April 2021 and will run for five years.

- 6.28 The RIIO model (Revenue = Incentives + Innovation + Outputs) places a greater focus on incentives to drive the innovation that is necessary to deliver a sustainable energy network, combined with value for money for consumers, now and in the future.
- 6.29 Ofgem has confirmed that the Project is to be delivered by NGET pursuant to the LOTI process. The LOTI process is a regulatory license framework in which NGET provide the necessary substantiation for any project that constitutes an investment in the transmission network that:
- is expected to cost £100m or more of capital expenditure; and
 - is in whole or in part, either load-related; or
 - related to a shared-use or sole-use generator connection project.
- 6.30 The LOTI process comprises three stages of approval by Ofgem: 1) initial needs case; 2) final needs case; and 3) project assessment. Ofgem has approved the initial needs case and the final needs case for the Project.
- 6.31 Funding under LOTI is only approved by Ofgem at the Project Assessment stage, which is designed to be aligned with the procurement process for each LOTI project. Ofgem does not provide for the funding of construction activity ahead of the Project Assessment stage for any LOTI project.
- 6.32 In August 2022, Ofgem proposed a package of measures aiming to facilitate accelerated delivery by the Transmission Owners (**TOs**) including NGET. In December 2022, Ofgem subsequently decided to implement a new Accelerated Strategic Transmission Investment (**ASTI**) regulatory framework to fund the large strategic onshore transmission projects required to deliver the Government's 2030 ambitions. Ofgem has subsequently consulted on proposed changes to the electricity transmission owner's RIIO-ET2 licence conditions required to implement the ASTI framework in order to allow for earlier access to project funding in order to accelerate the delivery of ASTI projects. This consultation closed on 28 March 2023.
- 6.33 The pivot from LOTI to ASTI started to take effect during 2023 and investments "in flight" such as this Project were to "port" over to the ASTI framework. NGET were to go through the Project Assessment phase with Ofgem pursuant to ASTI once it is introduced.
- 6.34 However, it was agreed that the project assessment stage for SEGL2, due to size, complexity and programme importance, would be split into phases. The final phased submission (Phase 2B) was submitted in November 2023 for Ofgem review.
- 6.35 We have been engaging closely with Ofgem on the SEGL2 Project Assessment (PA) and understand their consultation (setting out their minded to position) is due to be published early in 2024, with a final decision published imminently thereafter.
- 6.36 The Project Assessment value for the SEGL2 project is inclusive of Lot 1 (Converters), and the Lot 2 (Cables) Contracts, all NGET/SEN Project Management costs, Regulatory and Consents costs, Engineering, Equipment Procurement, Construction, Insurance, and a robust Risk budget.
- 6.37 The risks budget includes allowances for those items/areas where it is known further surveys and data is required. For example, for the trenchless crossing at Wansford (see the evidence

of Martin Perkins), the exact design has not finalised at this time, therefore a risk item has been added with a calculated risk allowance to ensure time and costs are in place should a more complex solution (eg. Auger or micro tunnel) be required. This is just an example of multitude of risk scenarios that have been considered and budgeted.

- 6.38 Whilst final funding is awaited the project continue to work closely with Ofgem and as per the above evidence; (section 5.8) the project achieved approval in the NOA 2015/2016, Ofgem themselves have acknowledge the clear benefits of the project (section 5.12), and the approval of both the Initial & conditional Final Needs (section 5.16)
- 6.39 Therefore, funding will be available by the time that the Order enables the exercise of powers of compulsory acquisition. This will be in place in respect of both construction costs and land compensation costs. National Grid would expect the funding required to meet the estimated implementation costs will be made available. This funding will be subject to the appropriate internal governance and approval.

Conclusion on project delivery and funding

- 6.40 As per section 6.8 above, Planning permission was granted for the Project on 3 March 2023 and 11 August 2023.
- 6.41 I am therefore confident there is no legal or physical impediment to the implementation of the Project as required by paragraph 15 of the CPO Guidance (**CD B.6**).
- 6.42 NGET has assessed the costs of implementing the Project and the costs of acquiring the necessary land and rights over land required for the Project and has ensured there is an appropriate and robust risk budget to mitigate any further findings.
- 6.43 Ofgem have also identified the Project as an Accelerated Strategic Transmission Investment (**ASTI**) project. ASTI projects will form part of a new regulatory framework which is aimed at providing earlier access to project funding in order to accelerate the delivery of ASTI projects and achieve the Government's 2030 objectives. Funding will therefore be available by the time that the Order enables the exercise of powers of compulsory acquisition in respect of both construction costs and land compensation costs.
- 6.44 Given National Grid's strong credit rating, the requisite funding is available to meet the implementation and land acquisition/compulsory purchase compensation costs associated with the Project as and when required (including any advance payments).
- 6.45 Therefore, I consider that the criteria in paragraphs 13 and 14 of the CPO Guidance are satisfied.

7. OBJECTIONS MADE TO THE ORDER

- 7.1 No objections have been submitted in relation to the need for the Project.
- 7.2 A number of objections have been made that relate to the level of design available at the early project stages and the primacy of the project.
- 7.3 These include OBJ6, OBJ7, OBJ8(1), OBJ13, OBJ18 and OBJ19.
- 7.4 Damian Spurr, within section 4.5 his Witness Statement, will provide further commentary on the current level of targeted surveys and design carried out to date.

- 7.5 However, as detailed above, under the procurement and planning update sections, we have demonstrated we are at the appropriate level of understanding of the works to have been granted Planning Permission and to be able to engage Principal Contractor – who will carry out further investigations taking the designs forward to detailed design and ultimately onward to construction.
- 7.6 Objection 10 also raises concern over the timing of the CPO, considering the CPO to be premature. Camilla Horsfall will provide evidence in relation to the CPO guidance and timings, however, as detailed in section 6.3 (Key Dates) the project has a contractor’s programme of works, which provides a FSA (first site access) to meet the energisation dates.
- 7.7 The maturity of the design and route is fit for purpose, with Planning achieved, and a competitive tender event taken place. As stated in my evidence the Contractor will take the proposal forward, carrying out further investigation and detailed design, to produce a final design that satisfies the planning boundary and conditions.

8. SUMMARY AND CONCLUSION

- 8.1 In my statement of evidence I have described the physical components of the Project, namely the converter station, the HVDC cables, and construction compound works, together with the works that are required to construct and/or install those physical components, with reference to the illustrative drawings and photographs embedded within.
- 8.2 I consider that the engineering design and construction methodology of the above elements of the Project is appropriate, feasible, and compliant with the relevant standards, codes, and guidance.
- 8.3 In my statement of evidence I have also set out the need for the Project, the primary objective of the Project and the funding position in respect of the Project. I conclude that there is an urgent need for the Project and that the English Onshore Scheme meets that need for the Project and achieves the primary objective.
- 8.4 No more land than is necessary for the purposes of the safe construction, operation and maintenance of the Project has been included in the Order (**CD A.1**).

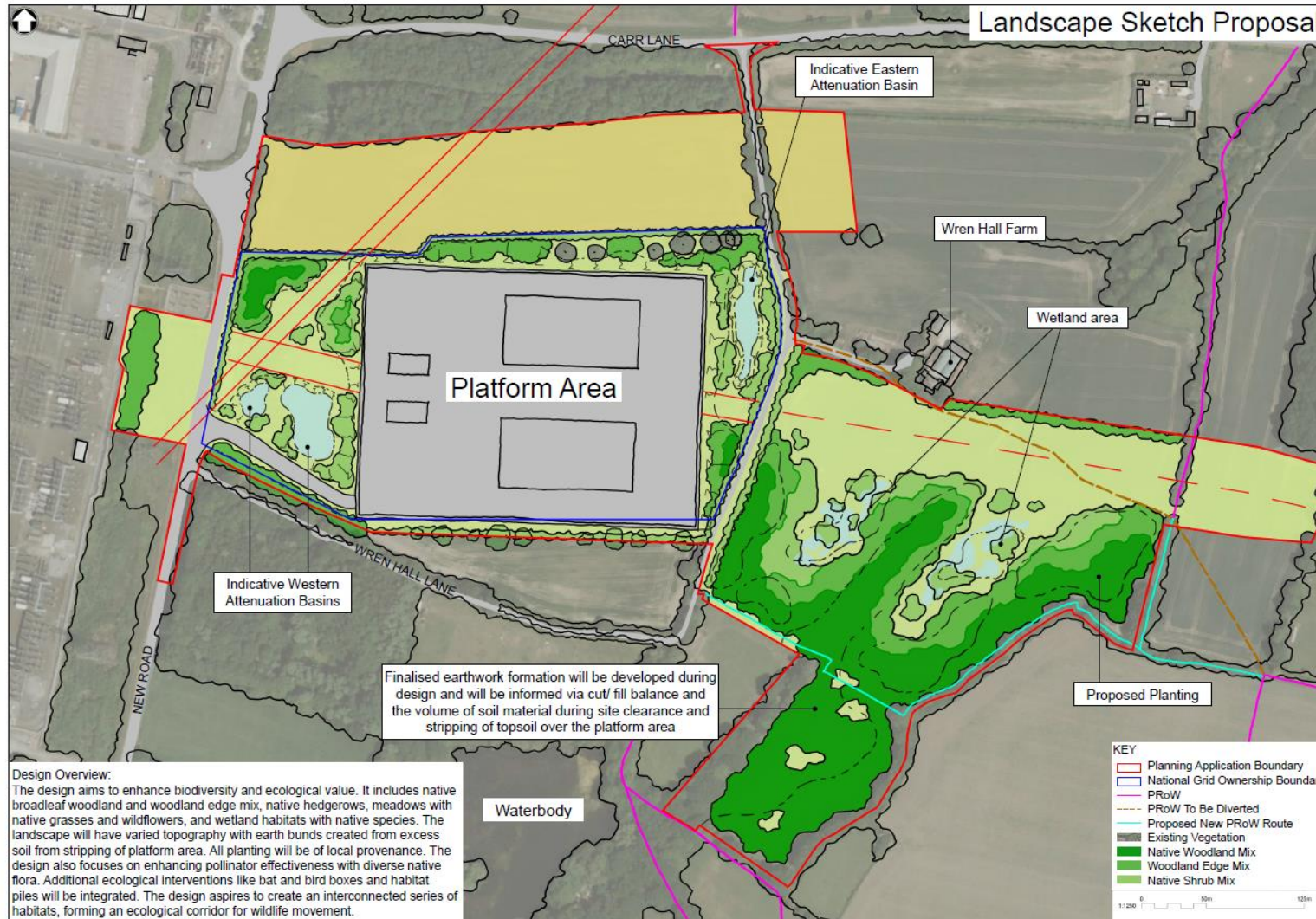
9. DECLARATION

- 9.1 I confirm that the opinions expressed in this proof of evidence are my true and professional opinions.

Richard Gott

16th February 2024

Converter Landscaping Layout



Converter Visualisation:



3D Visualisation of Wren Hall Converter Station:

