Viking Link: UK Onshore Scheme

Planning Appeal

Core Document Reference 5.2

Planning Statement

VikingLink

nationalgrid

UK Onshore Scheme

Planning Statement

VKL-08-39-G500-029

August 2017

Co-financed by the European Union
Connecting Europe Facility

Contents

List of Tables

List of Figures

1 Introduction

1.1 Purpose and Structure of the Planning Statement

1.1.1 This Planning Statement (PS) has been prepared in support of full planning permission sought for the UK Onshore Scheme ("The Scheme") which comprises the UK Onshore elements of the Viking Link interconnector project, ("the Project") which comprises the entirety of the development between Great Britain and Denmark.

1.1.2 The submission is accompanied by an Environmental Statement (ES) and a number of supporting documents which are listed in full in Section 2.2.

1.1.3 This statement sets out the overall case for development and identifies the context and need for the proposed development, provides a description of the UK Onshore Scheme components and includes an assessment of how the Scheme complies with relevant national and local level planning policies.

1.1.4 The Planning Statement is a single volume document which is structured as follows:

- Section 1: provides an introduction to the Viking Link project and the UK Onshore Scheme elements for which planning permission is sought as well as the needs case associated with the proposed development and a project timeline;
- Section 2: sets out the context of the UK Onshore Scheme including the Scheme description, as well as identifying alternatives considered and consultation undertaken;
- Section 3: sets out the consenting requirements associated with the Project;
- Section 4: summarises the relevant planning policy context at the national and local levels against which the proposals must be considered;
- Section 5: sets out how the Scheme complies with the planning policy framework identified within section 4 focusing on national and strategic policy compliance including an assessment of policy compliance in respect of the crossing the Lincolnshire Wolds Area of Outstanding Natural Beauty (AONB);
- Section 6: draws from the ES to set out project compliance with more detailed local level policies; and
- Section 7: provides an overall summary and conclusions.

1.2 About Viking Link

1.2.1 Viking Link is a proposed 1400 megawatt (MW) high voltage DC electricity link or interconnector between the British and Danish electricity transmission networks. The Project will enable Great Britain and Denmark to trade energy as a commodity within the European Energy Market. This will strengthen Great Britain's and Denmark's economies, improve the security of their electricity

supplies and reduce wholesale electricity prices providing British and Danish consumers with access to more affordable low carbon energy.

1.2.2 Figure 1 provides a schematic overview of the project. It comprises approximately 762 kilometres (km) of DC onshore and submarine electricity transmission cables between new converter stations which are in turn connected to the high voltage electricity transmission networks at existing substations at Revsing, Jutland in Denmark and at Bicker Fen, Lincolnshire in Great Britain.

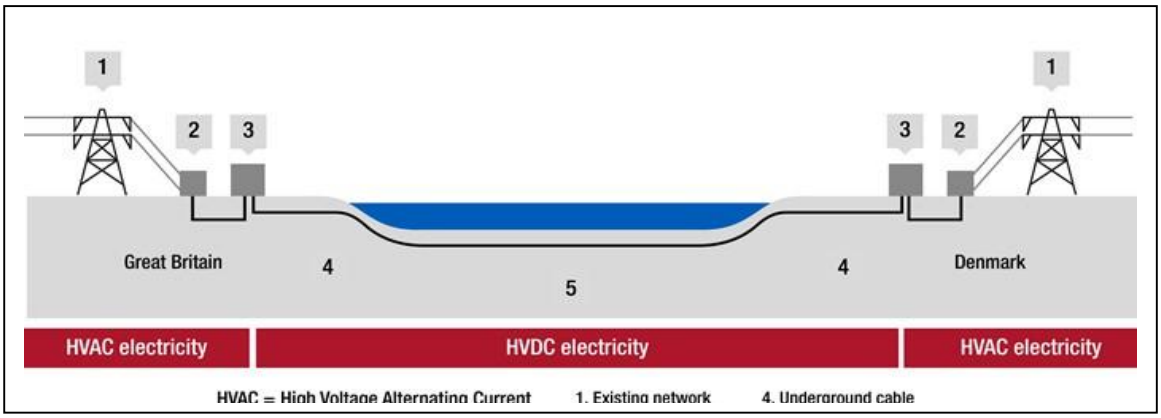


Figure 1 Viking Link: Schematic Overview

1.3 Viking Link Consenting Overview

1.3.1 Due its long linear transboundary nature the Project requires different consents, licences or permissions in different jurisdictions. For the purposes of seeking all necessary consents, licences or permissions, the Project has been split as shown in Figure 2 and is described as follows:

- The Danish (DK) Onshore Scheme comprising all works onshore in Denmark approximately 75 km of onshore DC cables, a converter station and less than 1 km of onshore AC cables connecting the Project to the existing substation at Revsing.
- The Offshore Scheme comprising approximately 620 km of submarine DC cables from Denmark to Great Britain crossing the Exclusive Economic Zones (EEZ) of Denmark, Germany, the Netherlands and the United Kingdom.
- The UK Onshore Scheme: comprising all works onshore (above Mean Low Water Springs (MLWS) in the UK including approximately 67.16 km onshore DC cables, a converter station and approximately 2.34 km of onshore AC cables connecting the Project to the existing Bicker Fen 400 kV Substation.

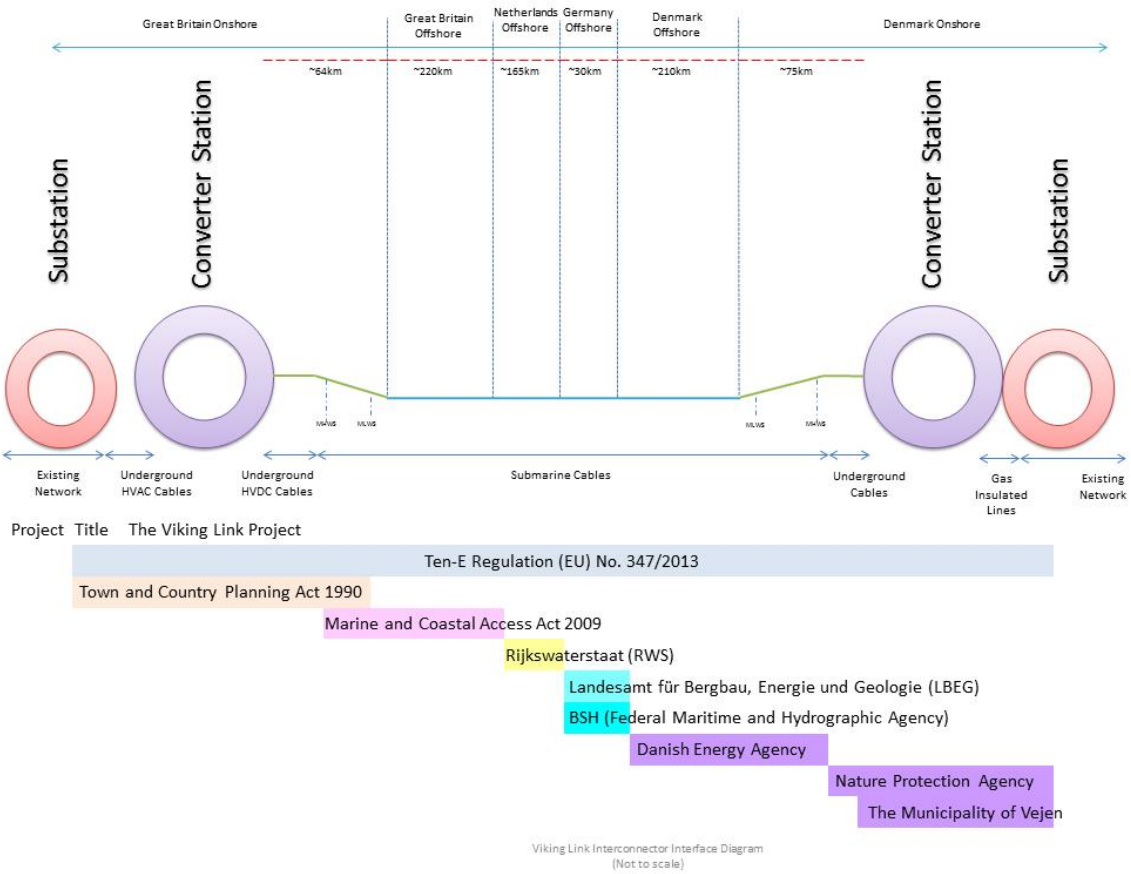


Figure 2 Viking Link Project End to End Schematic

1.3.2 Planning applications have now been submitted in Denmark (both onshore and offshore components), Germany, Netherlands and in the UK for the offshore sections of the project. The applications for the UK Onshore Scheme are the final Project applications to be submitted.

1.3.3 This Planning Statement supports the UK Onshore Scheme components as set out in Section 2 'UK Onshore Scheme Description' and in Section 3 'Consents Requirements'.

1.4 The Applicant

1.4.1 Viking Link is being jointly developed by National Grid Viking Link Limited (NGVL) and Energinet, with NGVL (also referred to as 'the applicant' within this document), wholly responsible for the development of the UK Onshore Scheme. NGVL is a wholly owned subsidiary of National Grid Interconnector Holdings Limited (NGIHL). NGVL is part of the National Grid group of companies but is separate from National Grid Electricity Transmission plc (NGET) which operates the high voltage electricity transmission network in Great Britain and owns the high voltage electricity transmission network in England and Wales.

1.4.2 NGET operates under an electricity transmission licence granted under the Electricity Act 1989. As a separate company, NGVL operates under a separate electricity interconnector licence (also

under the Electricity Act 1989) which was granted by the Office of Gas and Electricity Markets (Ofgem) in 2014. Obligations under the licence require that NGVL develop an economic, efficient, secure and reliable interconnector.

1.4.3 As separate companies, interactions between NGVL and NGET are undertaken on an 'arm's length' basis and are bound by business separation obligations enforced by Ofgem.

1.5 Project Timeline

1.5.1 Figure 3 identifies an outline project timeline. Construction is anticipated to begin in 2019 and the Project is intended to be operational by 2022, subject to grant of the necessary consents.

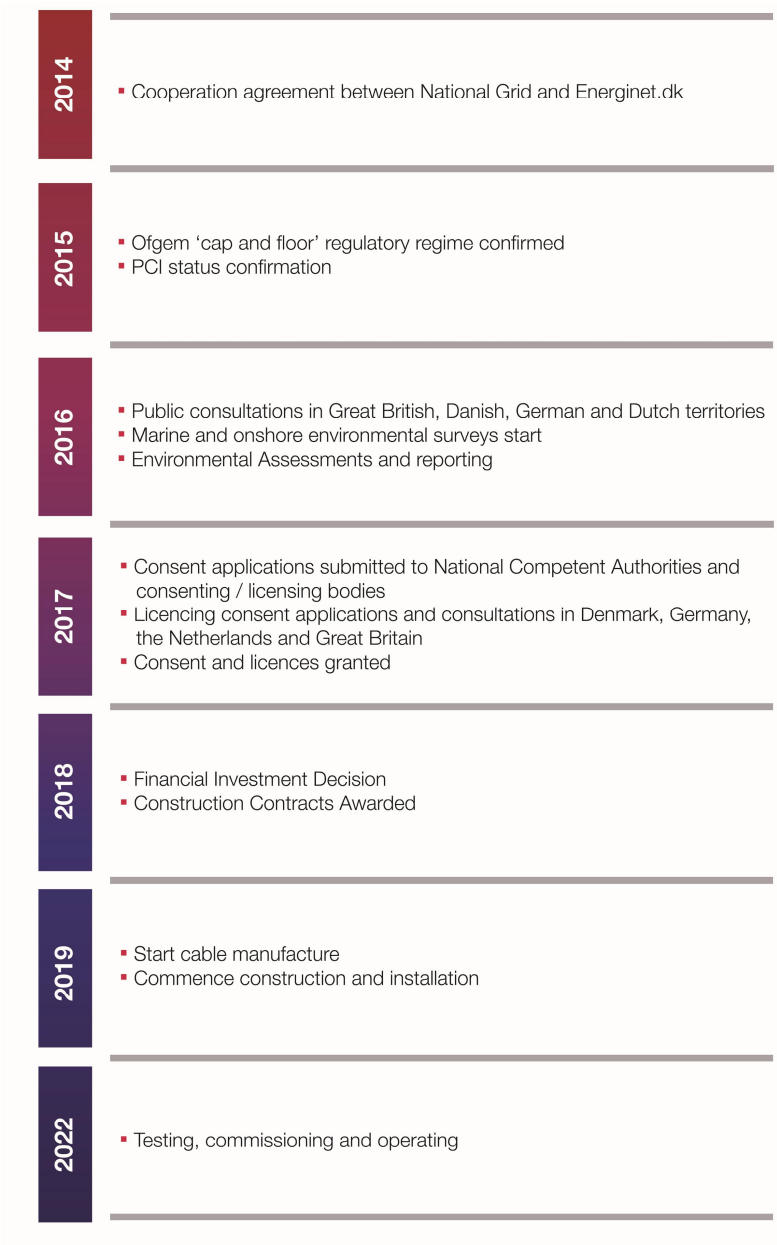


Figure 3 Viking Link: Project Timeline

1.6 Need for the Project

1.6.1 This section explains the importance of interconnectors in developing European, British and Danish energy infrastructure, enhancing security of supply as well as maintaining a properly functioning energy market.

1.6.2 It is recognised that in order to have a competitive, sustainable and secure supply of energy, there is a need to invest in new infrastructure and diversify the way in which the energy market operates. Interconnectors are a fundamental part of this enabling electricity to flow between countries and markets and can be used to both import and export power as required.

1.6.3 Interconnectors provide an important mechanism for responding and managing intermittency and excess power associated with renewable generation. The Project, therefore, constitutes important national and European strategic infrastructure.

1.6.4 Interconnectors are also one of the technologies that can assist with the integration of low carbon generation.

1.6.5 A number of specialist studies have demonstrated the need for, and benefits of, increasing interconnection capacity between the UK and Europe, in particular as a means for addressing energy security, sustainability and affordability. The UK currently has four interconnectors to neighbouring European countries which provide 4 gigawatts (GW) of interconnection capacity. Additional interconnectors are proposed that would double interconnection capacity to the equivalent of approximately 10% of the total existing electricity generated in the UK (based on 2014 figures). Viking Link would make an important contribution to the UK's interconnection capacity, increasing it by 1,400 MW and providing enough electricity to power millions of homes.

1.6.6 The development of Viking Link provides benefits for both Great Britain and Denmark helping to meet national and European objectives:

- Affordability: Viking Link will connect electricity networks in Great Britain and Denmark and in turn connect both countries to the wider European electricity market. This should help create downward pressure on wholesale electricity prices in both Britain and Denmark through cross border trade in electricity and shared use of the cheapest generation sources. It will help stimulate competition in the European market and facilitate the optimal use of resources across European Union (EU) Member States. Viking Link will benefit both countries by increasing the market for electricity generators (i.e. providing access to larger pool of consumers) and by providing consumers with more affordable electricity (i.e. providing access to a larger pool of suppliers).
- Security of supply: Interconnection provides access to a wide range of electricity generation sources and is a means to import or bring in extra electricity when not enough is being generated to meet demand at that time (similarly when there is a surplus it is a means to export electricity). This increases energy continuity and security if demand rises or electricity generation falls suddenly in one country. It will also act as an important balancing tool helping to improve the stability of the British and Danish electricity transmission systems.

- Sustainability: Interconnectors are an important means to help manage the fact that electricity cannot be stored efficiently at a large scale and not all electricity sources can generate consistently and predictably. They do this by providing a means to transfer surplus energy between countries when too much is generated at once to be used domestically. This should make a significant contribution in the transition to a low carbon economy in Great Britain, Denmark and Europe by helping with the challenge of integrating low carbon and renewable sources of electricity and retiring fossil fuel and nuclear plants.
- Implementation of EU policy - Under the EU's Trans-European Energy Regulation (the TEN-E Regulation), Projects of Common Interest (PCIs) are considered to be necessary to implement the EU's energy priority corridors and areas. As Viking Link has been designated as a PCI, its development is considered to be necessary to implement EU energy policy.
- Decarbonisation - Viking Link helps meet the challenge of climate change by supporting the use of renewable energy which in turn helps the UK and Danish Governments meet their carbon reduction commitments by providing access to well-developed, low cost renewable energy.
- UK decommissioning and supply challenges - There are a range of challenges facing the UK's electricity sector over the next few years with a decline in the traditional energy economy including the closure of coal fired generating plants and nuclear power stations as well as many combined cycle gas turbines reaching the end of their working lives, which impacts on the security of energy supply.

1.6.7 Further detail on the need for the Viking Link project as defined by policy is set out in Section 5.2 'Delivery of New Energy Infrastructure' of this Planning Statement

2 The UK Onshore Scheme Description

2.1 Planning Application Overview

2.1.1 The UK Onshore Scheme planning application boundary is illustrated in Figure 4. Due to its long linear nature the Scheme crosses four Local Planning Authorities (LPA) boundaries requiring four planning applications to be submitted to the following LPA's for the works as set out in detail in Section 3 'Consenting Requirements' of this Planning Statement:

- East Lindsey District Council (ELDC).
- South Holland District Council (SHDC).
- Boston Borough Council (BBC).
- North Kesteven District Council (NKDC).

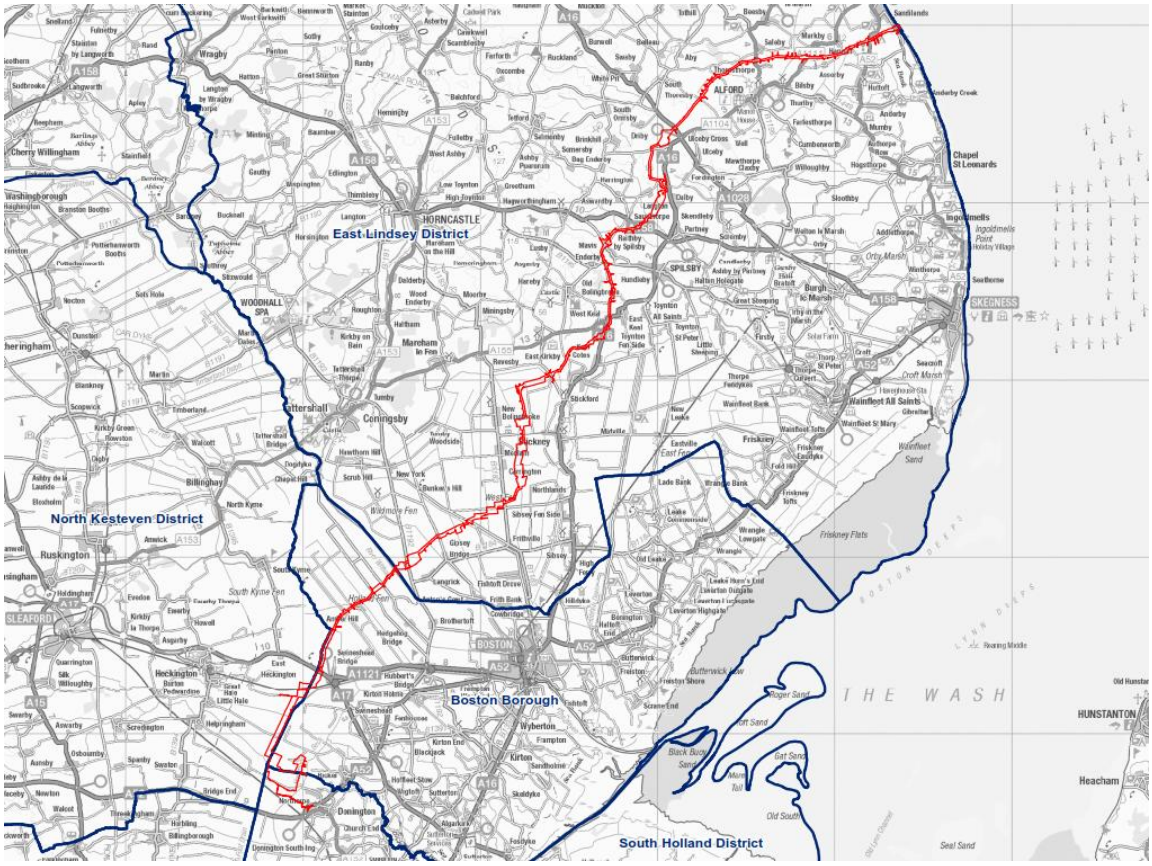


Figure 4 UK Onshore Scheme Planning Application Boundary

2.2 UK Onshore Scheme: Planning Application Content

2.2.1 The UK Onshore Scheme for which full planning permission is sought comprises the following:

- Installation of two (2) submarine high voltage Direct Current (DC) cables between Mean Low Water Springs (MLWS) and the Transition Joint Pit (TJP) at Boygrift in East Lindsey;
- Installation of two (2) onshore DC cables between the TJP at Boygrift and the converter station at North Ing Drove in South Holland;
- Construction of associated Temporary Construction Compounds (TCC) and Temporary Works Areas (TWA) and temporary vehicle access arrangements required for DC and AC cable installation;
- Erection of converter station buildings together with the formation of internal roads, permanent access road from the A52, erection of security fencing, formation of landscaping with associated temporary construction compounds;
- Installation of up to six (6) onshore high voltage alternating current (AC) cables between the converter station at North Ing Drove and the existing Bicker Fen 400 kilovolt (400kV) Substation owned and operated by National Grid Electricity Transmission Plc (NGET);
- Installation of link pillars along the AC cable route for inspection and maintenance purposes, these will be contained within fenced areas;
- Installation of two substation bays at the existing Bicker Fen Substation to allow Viking Link to be connected to the National Electricity Transmission System (NETS).
- Installation of all associated pre and post-construction drainage mitigation works; and
- Installation of fibre-optic cable(s) with the high voltage AC and DC cables.

2.3 UK Onshore Scheme End to End Overview

2.3.1 For the purposes of obtaining planning permission the UK Onshore Scheme commences at the proposed landfall site at Boygrift in East Lindsey. At the proposed landfall site it extends from the MLWS mark, where East Lindsey's planning jurisdiction takes effect, across the intertidal zone with two submarine high voltage DC cables and one fibre optic cable. These will be installed in ducts below the existing flood defences and terminate at a buried TJP. The TJP will be located inland (west) of the existing flood defences.

2.3.2 From the TJP the proposed underground DC cable route extends approximately 67.16 km inland in a broadly western or south western direction until it reaches the proposed converter station site at North Ing Drove, South Holland. This comprises two underground high voltage DC cables (for transmission of electricity) and up to three fibre optic cables (two for monitoring the performance of the DC cables using Distributed Temperature Sensing (DTS) and one for communications between the proposed converter stations in Great Britain and Denmark). It should be noted that the terms "proposed DC underground cable route" or "proposed DC route" are used throughout this Planning Statement to refer to both the high voltage DC cables and fibre optic cables.

2.3.3 The proposed converter station site including associated mitigation and land required for construction occupies a field approximately 30 hectare (ha) in size. At the converter station electricity will be converted from DC to AC (or vice versa depending on the direction of operation). The proposed converter station will be connected to the existing National Electricity

Transmission System (NETS) at Bicker Fen 400 kV Substation by approximately 2.34 km of proposed AC underground cable which is routed in a broadly northern direction. Access to the proposed converter station will be provided by a new 2.8 km long permanent access road from the A52.

2.3.4 A more detailed description of the UK Onshore Scheme including design, construction and operation can be found in the ES Chapters listed below:

- ES Chapter 3 – Description of the UK Onshore Scheme.
- ES Chapter 5 – DC Underground Cable.
- ES Chapter 17 – Converter Station (including permanent access road and AC Cables).

2.4 Level of Design Detail

2.4.1 Interconnectors are complex electricity transmission systems and the detailed design of the Scheme is Contractor-dependent and subject to a competitive tender process. NGVL has developed a base scheme design for the purposes of seeking planning permission. This base scheme design establishes the maximum parameters within which the appointed Contractor will develop and construct the detailed design. The base scheme design comprises:

- For the high voltage DC and AC underground cables: Limits of Deviation (LoD) have been used which establish the maximum corridor in which underground cables will be installed whilst providing some flexibility to make minor routeing adjustments should they be required, for example if unforeseen ground conditions are encountered.
- For the converter station: a 'Rochdale Envelope' has been used which establishes the proposed converter station's maximum parameters including the location, layout and height of buildings and electrical equipment as well as associated development, including perimeter roads, hardstanding areas, drainage and landscape planting.

2.4.2 The base scheme design has also been informed by a wide range of surveys and assessments. These include ecology and trial trenching (both of which are on-going), traffic counts, geo-physical surveys, ground investigation (e.g. boreholes), drain depths, land drainage solutions (prepared by a specialist drainage contractor who has been liaising with landowners), soil surveys, noise monitoring and viewpoint assessment for photomontages. The result of this work has helped determine the submitted scheme.

2.4.3 Information on how engagement and consultation with stakeholders and the public has influenced and shaped the planning submission is set out in sections 2.5.8 to 2.5.11 below.

2.4.4 Figure 5 provides an example of the Works Plans which are submitted for approval. Full planning permission is sought for everything within the planning red line boundary. The planning application boundary also includes areas for dewatering, temporary and permanent land drainage, temporary access roads and identify where it is intended to situate temporary construction compounds and temporary working areas. The red line 'spurs' coming off the main cable route boundary represent areas required for either access or drainage. Where access to undertake land drainage surveys has not been agreed prior to submission of the planning

application, the planning application boundary encompasses the fields which are crossed by the proposed DC cable route, and as such is larger in these areas. This is to provide flexibility in reinstating land drainage following construction when surveys have been able to take place.

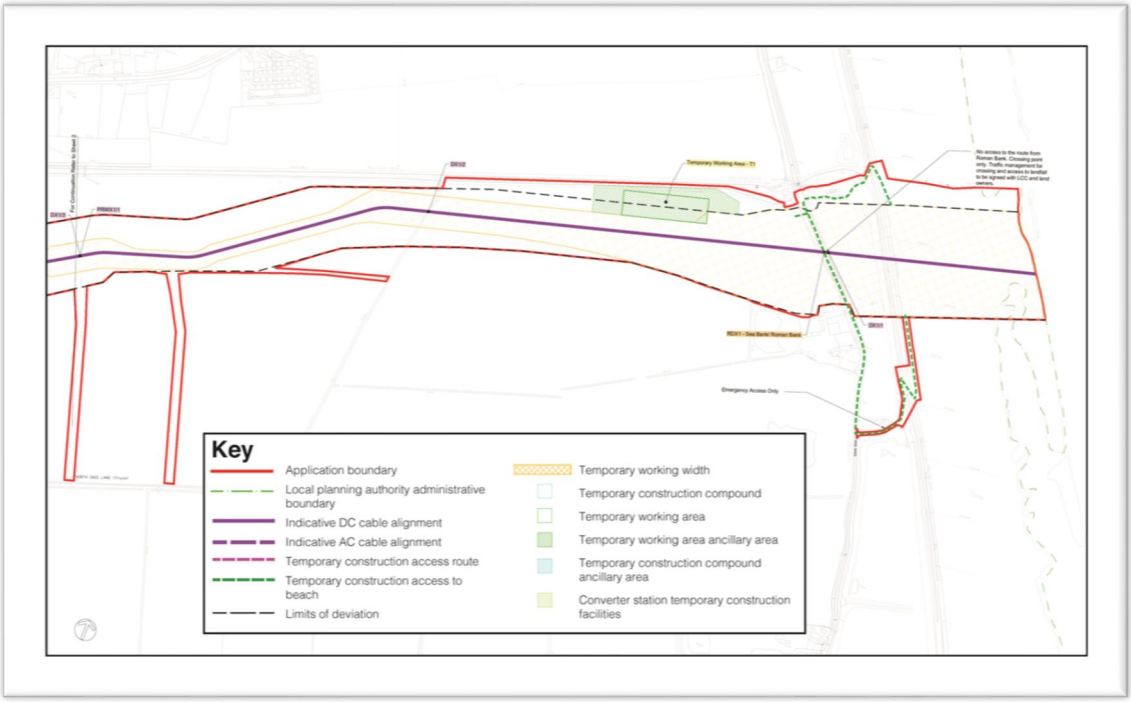


Figure 5 Example Works Plan

2.4.5 The below schematics of the DC and AC cable routes and converter station site layout help show how the planning application red line boundary, as shown above, has been generated.

2.4.6 Figure 6 identifies a typical cross-section of the DC cable corridor and Figure 7 below a typical cross-section of the AC cable corridor.

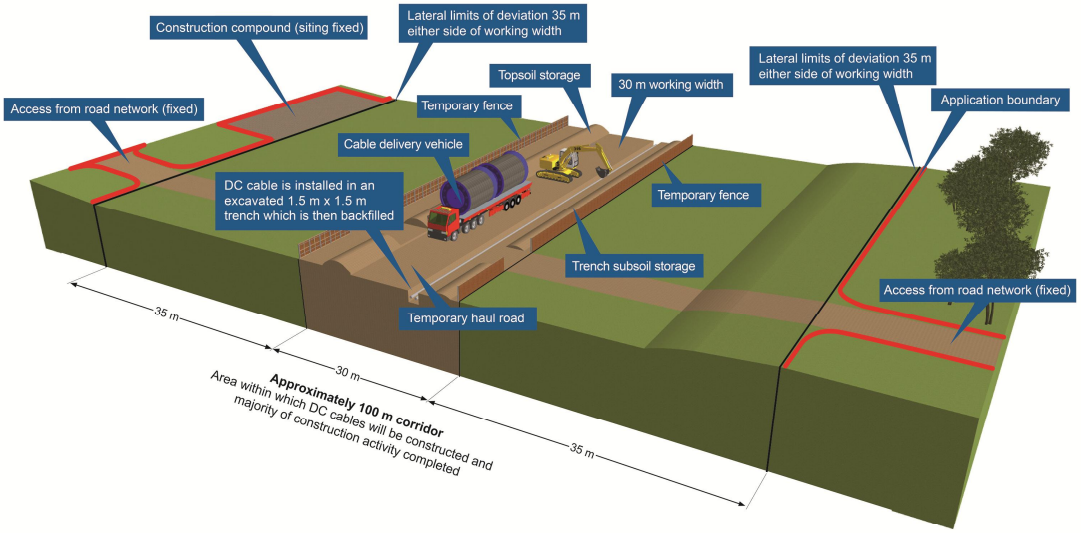


Figure 6 Typical Cross-Section of the DC Cable Route Corridor

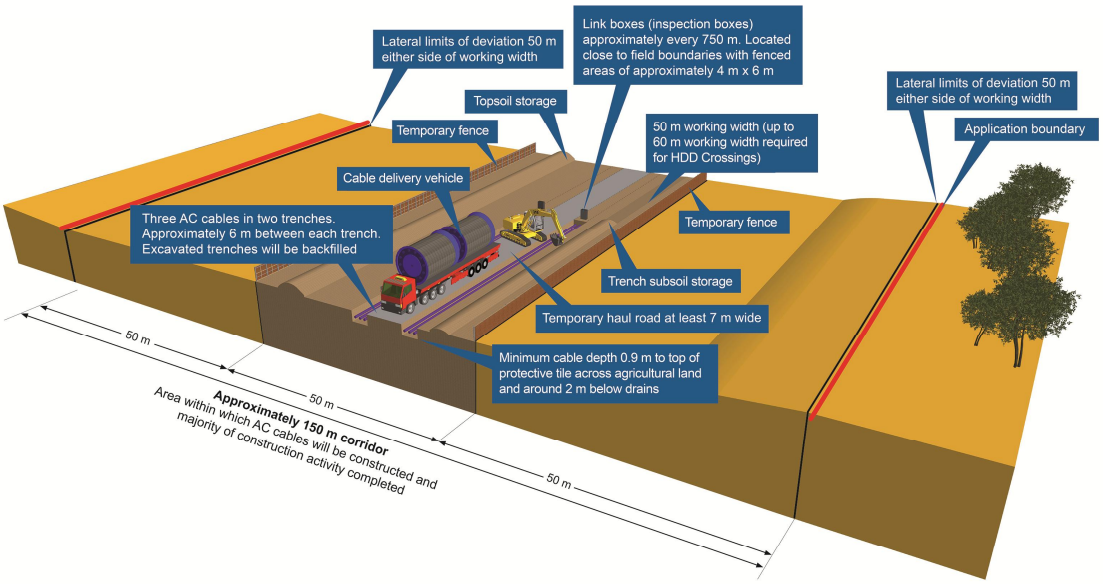


Figure 7 Typical Cross-Section of the AC Cable Route Corridor

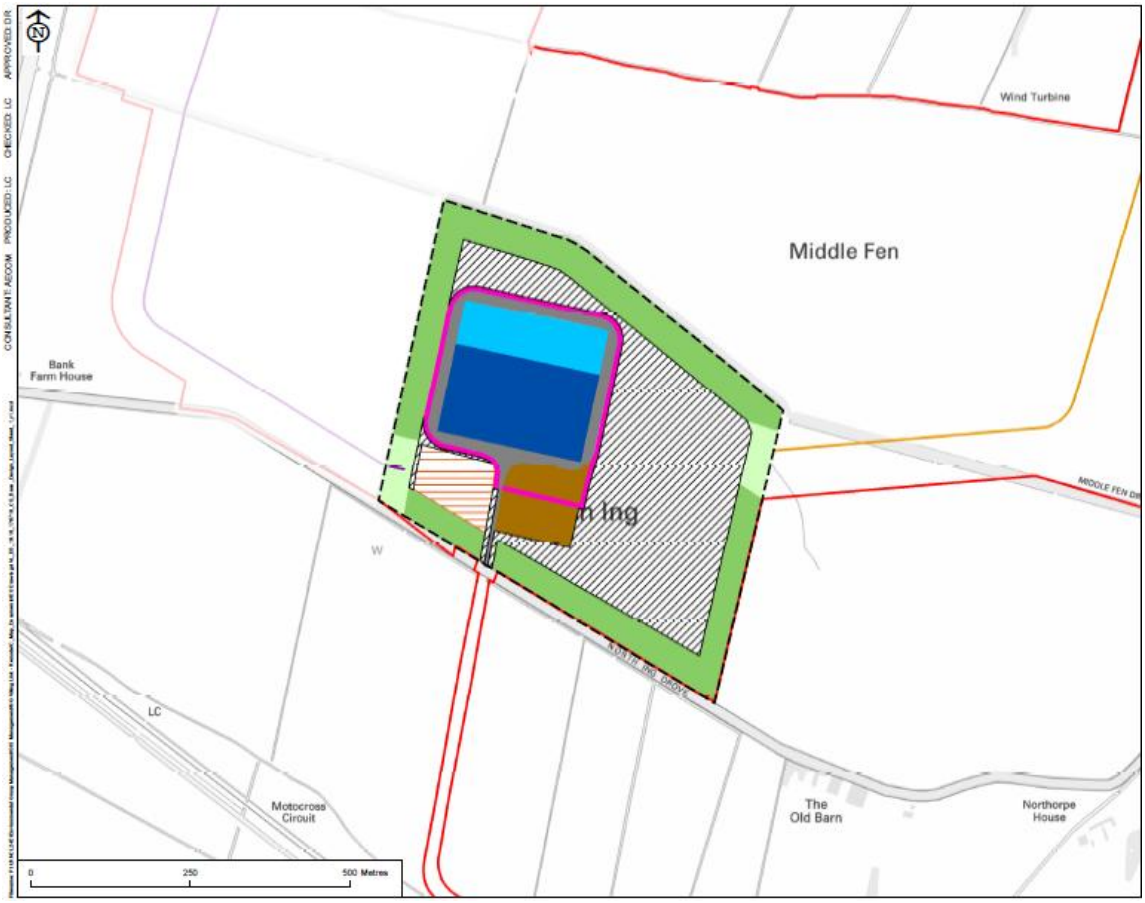


Figure 8 Proposed Converter Station Base Design Layout

2.4.7 The DC and AC cables enter the proposed converter station from the east (DC) and west (AC). Figure 8 above shows these entry points and identifies the location of the converter station zones within the proposed converter station site, including the permanent access road entry point to the south of the converter station site.

2.4.8 Figure 9 illustrates the overall approach to design and how it will be taken forward from the base scheme design for which planning permission is being sought to the detailed scheme design which will be constructed following the appointment of a Contractor. Further detail on the approach, assessments and consultation undertaken can be found below in 2.5.

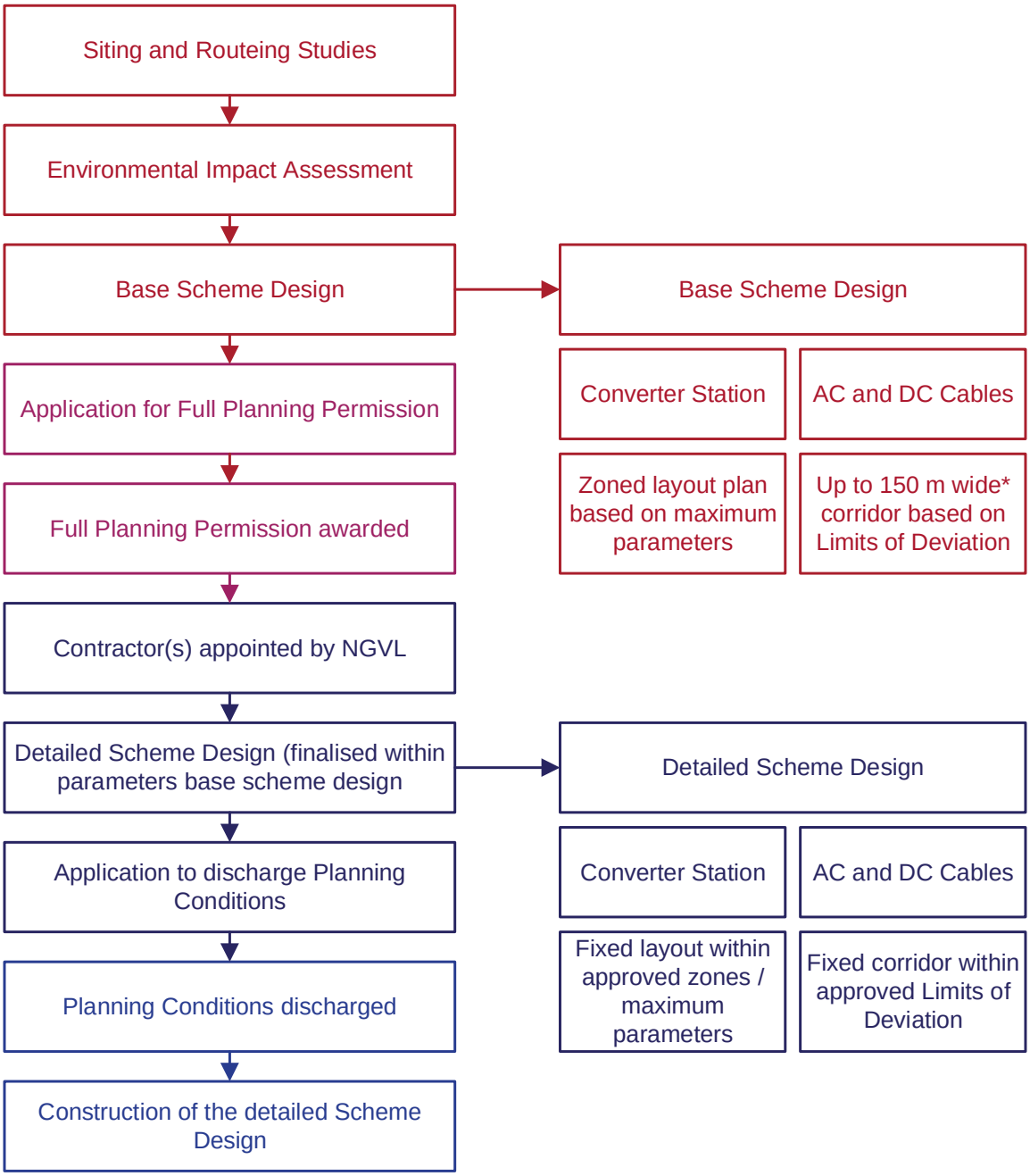


Figure 9 Viking Link: Approach to Design

(*LoD for the proposed DC cables is typically 100 m and for the proposed AC cables typically 150 m)

2.5 Development of the UK Onshore Scheme

Approach to the Assessment of Alternatives

2.5.1 The overall approach to the development of the UK Onshore Scheme, including specialist work undertaken to support its development is outlined in Figure 10 below. This shows the main steps in the development of the Scheme from the discussions with NGET and identification of the

connection point in September 2014 and strategic options in April 2016, the assessment of alternative landfall and converter station sites which took place from April to August 2016, assessment of alternative cable route corridors and Environmental Impact Assessment (EIA) took place from August 2016 to December 2017 to the point of the planning applications being submitted in August 2017.

2.5.2 The following documents were produced to explain and support the approach taken and reasons for the decisions made along this process. Reference should be made to the following for more detailed descriptions:

- UK Onshore Scheme: Site Selection Report (April 2016).
- UK Onshore Scheme: Preferred Sites Report (August 2016).
- UK Onshore Scheme: Phase 1 Consultation Feedback Report (August 2016).
- UK Onshore Scheme: Route Corridor Selection Report (September 2016).
- UK Onshore Scheme: Preferred Route Corridor Report (December 2016).
- UK Onshore Scheme: Phase 2 Consultation Feedback Report December 2016).

2.5.3 Further detail can be found on the alternative options for the UK Onshore Scheme along with the links to the relevant supporting documents in the ES and via the project website (www.Viking-Link.com).

2.5.4 The development of the UK Onshore Scheme has comprised two main steps; firstly, the identification and assessment of alternative landfall and converter station sites (Siting), with preferred sites, landfall site 'LF1a' and converter station site 'CS1', being announced in May 2016 and secondly the identification and assessment of alternative cable routes (Routeing) with the purple cable route corridor being announced as the preferred in November 2016. The approach to identifying and assessing alternative sites and routes has ensured integrated and iterative consideration of potential impacts on the environment and local communities alongside technical and engineering factors and at key stages has also drawn upon feedback received from statutory and non-statutory consultees and members of the public. The Scheme has also been considered against national and local planning policies, which is reviewed further in Chapter 4.

2.5.5 The overall aim of this approach has been to identify sites or routes which best balance these factors in order to establish the preferred landfall and converter stations sites and preferred DC cable route corridor in which the UK Onshore Scheme will be finalised.

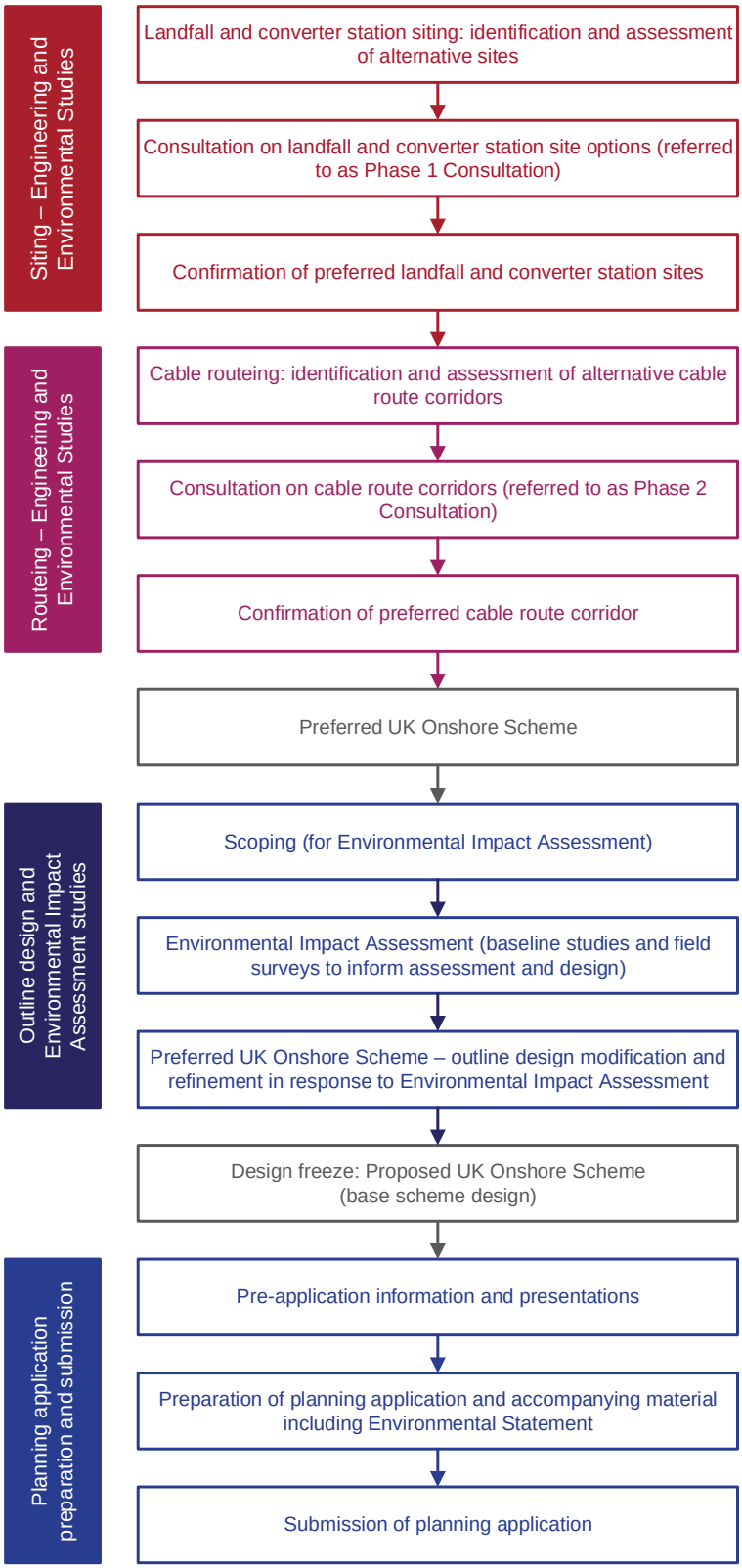


Figure 10 Approach to the development of the UK Onshore Scheme

Summary of Assessment

2.5.6 Table 2.1 below provides a summary of the key environmental considerations which have informed the identification and assessment of alternative landfall and converter station sites and DC cable route corridors.

Table 2.1Summary of Key Environmental Siting & Routeing Considerations

Consideration	Description
Acoustics	Consideration of the proximity of alternative sites and/or routes to potential Noise Sensitive Receptors (NSRs) including local communities, residential properties and visitor attractions.
Traffic & Transport	Consideration of the proximity of alternative sites and/or routes to existing main roads (in particular A-class roads) as well as potential access routes to alternative sites and/or routes.
Geology	Consideration of the solid and drift geology resources underlying alternative sites and/or routes as well as the potential to encounter existing contaminated land or unexploded ordnance (UXO).
Hydrology	Consideration of the proximity of alternative sites and/or routes to, or extent within flood risk zones, as well as the locations or crossings of water courses, drains or other surface water features.
Agriculture	Consideration of the of Agricultural Land Classification (ALC) and soils underlying alternative sites and/or routes as well as proximity to Agri-Environment Stewardship (AES) schemes.
Landscape & Visual	Consideration of the potential impact of alternative sites and/or routes on landscape designations and landscape character including Areas of Outstanding Natural Beauty (AONB) and registered parks and gardens.
Ecology	Consideration of the potential impact of alternative sites and/or routes on designated and non-designated sites, priority and other important habitats such as woodland and grazing marshes.
Archaeology & Cultural Heritage	Consideration of the potential direct and indirect impact of alternative sites and/or routes on designated and non-designated archaeological or heritage assets as well as the potential to encounter unrecorded archaeology.
Intertidal	Consideration of potential impact on the coastal processes, benthic ecology and archaeology of the intertidal zone.

Technical and Engineering Considerations

2.5.7 Table 2.2 below sets out the key technical and engineering considerations which have informed the identification and assessment of alternative landfall and converter station sites and cable route corridors. This included consideration of the constructability of alternative sites and/or routes as well as the land required to build, operate and maintain them.

Table 2.2 Summary of Key Technical & Engineering Siting& Routeing Considerations	
Consideration	**Description**
Constructability	The feasibility of construction taking into account potential physical and environmental constraints such as topography or other obstacles to be crossed including watercourses, roads, railways and other infrastructure.
Land take	The land or space provided by alternative sites and/or routes and the extent to which they can accommodate required temporary (construction) and permanent (operation) land take.
Accessibility	Accessibility for construction taking into account the local road network, obstacles to construction access and the potential need for new temporary or permanent access roads to be established.

Consultation and Public Information Summary

2.5.8 NGVL has carried out extensive engagement with stakeholders since early 2016, including local communities, landowners, parish and town councils, local authorities and statutory consultees. Figure 11 below shows each stage of engagement and consultation, including the formal phases of consultation that were carried out regarding site options for the landfall and converter station, and the onshore DC cable route corridor options.

2.5.9 Across 18 months of engagement, NGVL has sent out over 55,000 letters to local residents, landowners and stakeholders. These have comprised of letters to introduce the Project, invitations to public events and major project announcements. NGVL has held over 28 public events, with over 1,650 attendees in total and over 700 stakeholder responses.

2.5.10 Feedback from local residents, landowners, parish and town councils, local authorities and statutory stakeholders has influenced how the Scheme has developed, including:

- landfall and converter station site selection;
- onshore cable route corridor;
- indicative onshore cable route alignment; and
- traffic routes, access points and mitigation.

2.5.11 Following each phase of consultation, NGVL produced a comprehensive consultation report, detailing the feedback received, NGVL's responses and how the feedback has been taken into consideration. The Statement of Community Involvement (SCI) brings these documents together to give an overview of how the Scheme has undertaken, analysed and implemented consultation throughout and will be submitted as part of the planning application.

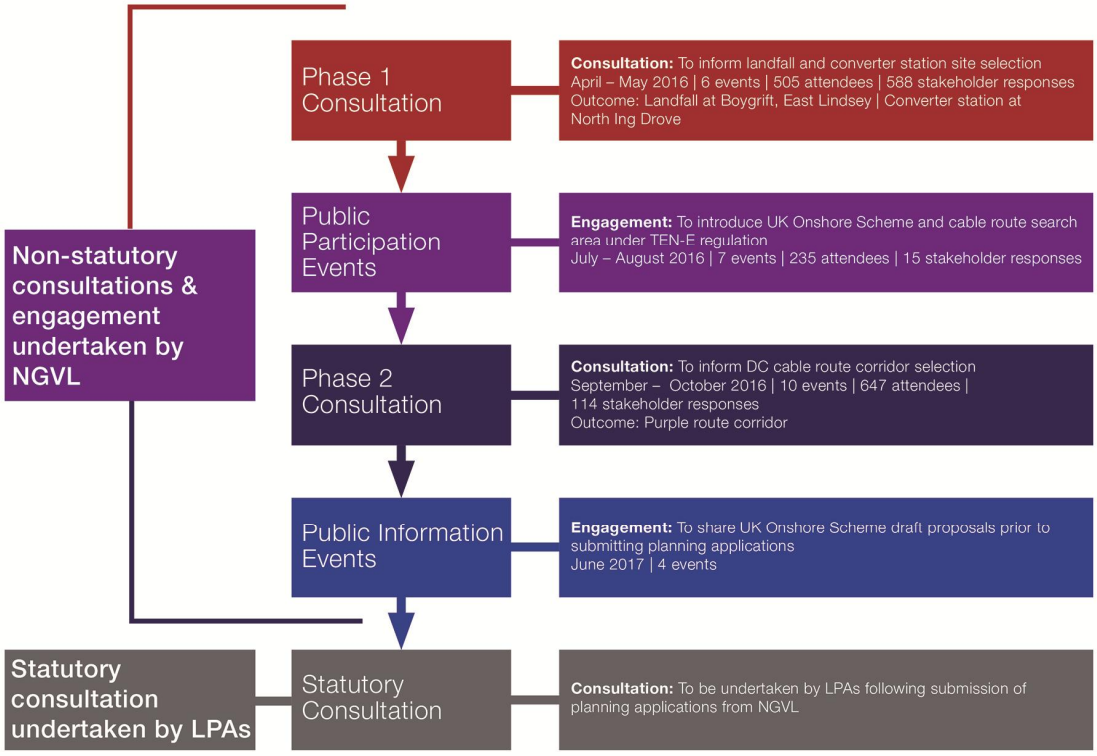


Figure 11 Overview of the Public Consultation Process

3 Consenting Requirements

3.1 Project of Common Interest (PCI)

3.1.1 The European Commission has developed guidelines to assist in the development of energy networks within Europe. These networks will play an important role in ensuring an efficient energy market within Europe and providing security and diversification of energy supply. These guidelines are known as the European Union's Trans-European Networks for Energy (TEN-E) Regulation. They set out guidelines for streamlining the permitting process for major energy infrastructure projects that contribute to European energy networks. These projects are referred to as Projects of Common Interest (PCI). PCIs are projects which deliver benefits for connected European Member States, further support market integration and competition, enhance security of energy supply, and contribute to reducing carbon dioxide (CO_2) emissions. Viking Link has been confirmed as a PCI under the TEN-E Regulation.

3.1.2 Under the TEN-E Regulation, Member States are required to designate a National Competent Authority (NCA), who is responsible for coordinating the permitting process for PCIs. In the case of Viking Link, the UK NCA role has been delegated by the Secretary of State for Energy and Climate Change to the Marine Management Organisation (MMO) for tasks relating to the facilitation and co-ordination of the permit granting process which involved a marine element. It is important to note that the MMO's role does not replace that of the Local Planning Authorities (LPA) in the decision making process, the MMO's role as NCA is to coordinate the decision making process with the relevant LPA's in the UK and the other jurisdictions affected by Viking Link in order to reach a 'Comprehensive Decision'. The Comprehensive Decision comprises all of the consents and permits necessary for a developer to be granted authorisation for construction of a PCI. Outline planning permission is not considered to be sufficient for an authorisation to be granted and therefore is not part of the Comprehensive Decision. In order to comply with the definition of the Comprehensive Decision in the TEN-E Regulation, NGVL is seeking full planning permission for the UK Onshore Scheme. At the time of writing the UK remains in the EU and therefore the TEN-E regulation continues to apply. Detailed guidance on how the TEN-E Regulations has been implemented in the UK is set out in the 'Manual of Procedures: The permitting process for Projects of Common Interest in the UK' published by the Department for Energy and Climate Change (DECC).

.

3.2 Consents Required for Viking Link

3.2.1 By way of context all of the consents which are required for the Project and which in combination will constitute the Comprehensive Decision referred to across all jurisdictions, are summarised in Table 3.1 below and in Figure 2 within this document.

Table 3.1 Consents required for Viking Link		
Component		**Consents Required**
Viking Link	DK Onshore Scheme	· Planning Permission under the Planning Act 2015 (district plan and addendum municipality spatial plan) as well as EIA permit under the Planning Act 2015 and EIA legislation for the onshore elements comprising installation of approximately 75 km of onshore DC cables, construction of a converter station and installation of less than 1 km of onshore AC cables.
	Offshore Scheme	· Offshore installation permit from the relevant Danish authorities under the Act of Energinet 2011 for the installation of submarine cables routed within the Danish EEZ. · Permit from the relevant German authorities under the Federal Mining Act (Bundesberggesetz) paragraph 133 Section 1 Nr. 1 and 2 for the installation of submarine cables routed within the German EEZ. · Water Permit (Watervergunning) and permit under the Act on Nature Conservation 2017 (Wet natuurbescherming) from the relevant Dutch authorities for the installation of submarine cables routed within the Dutch EEZ. · Marine licence from the MMO under the Marine and Coastal Access Act 2009 for the installation of submarine cables routed within the UK EEZ.
	UK Onshore Scheme	· Planning permissions from East Lindsey District Council (ELDC), Boston Borough Council (BBC), North Kesteven District Council (NKDC) and South Holland District Council (SHDC) under the Town and Country Planning Act 1990 (TCPA) for the installation of up to 67.16 km of onshore DC cables, construction of a converter station and installation of 2.34 km of onshore AC cables.

3.3 Consents Required for the UK Onshore Scheme

3.3.1 The planning applications seek full planning permission for all of the UK onshore elements of the project from MLWS mark, where East Lindsey's planning jurisdiction takes effect to the connection point onto the NETS at Bicker Fen substation within South Holland.

3.3.2 Due to its linear nature the Scheme crosses four LPA boundaries (see Figure 4) and as such four planning applications will be submitted for the works which fall within each LPA boundary area.

3.3.3 The component parts of the Scheme falling within each of the determining LPA areas are as follows:

Table 3.2 UK Onshore Scheme Components		
Component	**Determining Local Planning Authorities**	**Extent of each element within determining local authorities**
The landfall	East Lindsey District Council (ELDC)	Installation of two submarine high voltage DC cables from Mean Low Water Springs (MLWS)

Table 3.2 UK Onshore Scheme Components		
Component	**Determining Local Planning Authorities**	**Extent of each element within determining local authorities**
		onshore.
The DC cable route	ELDC	Installation of approximately 51.61 km of the proposed underground DC cable and associated temporary works from landfall.
	BBC	Installation of approximately 9.59 km of proposed underground DC cable and associated temporary works.
	NKDC	Installation of approximately 4.8 km of the proposed underground DC cable and associated temporary works.
	SHDC	Installation of approximately 1.07 km of proposed underground DC cable and associated temporary works.
The converter station and permanent access road	SHDC	The proposed converter station and 2.8 km long permanent access road.
The AC cable route	SHDC	Installation of approximately 0.93 km of proposed AC underground cable and all associated temporary works.
	BBC	Installation of approximately 1.1 km of proposed AC underground cable and associated temporary works.

3.4 UK Onshore Consenting Process

3.4.1 The following process will apply in respect of the submission and the determination of the planning applications, on which a Memorandum of Understanding (MoU) has been discussed with the affected LPAs and Lincolnshire County Council:

- A total of four full planning applications will be submitted (one to each of the four determining LPA's) seeking consent for that part of the Scheme that falls within their respective authority area;
- One project description will apply to all four full planning applications with a single continuous redline area defining the extent of the full consent sought;
- Plans detailing the extent of the Scheme within each authority area will be submitted;
- The collective supportive information will be identical for all four determining LPA's and will relate to the entirety of the project; and
- Although each determining authority will have responsibility for issuing a separate decision notice to NGVL, it is important that these decisions are consistent to support the effective cross-boundary delivery of the Scheme and (in accordance with the principles of the National Planning Policy Framework (NPPF) that there is cross-boundary working between the determining authorities in this regard.

3.4.1 NGVL has engaged with officers from all four determining authorities as well as from Lincolnshire County Council (LCC), as Local Highway Authority and Lead Local Flood Authority, to develop a MoU to support LPA and applicant working during the determination process. This is a process driven approach, supported by national planning policy, to ensure that whilst crossing four individual LPA administrative boundaries, as far as is reasonably possible, the proposed development is determined as a single scheme. This collaborative approach between decision makers advocates consistency in consultation, determination of key matters, programme and subject to approval, detailed planning conditions applied. At the same time it will ensure that determination remains at individual local authority level.

3.4.2 As may reasonably be expected for a strategic scheme of this scale and in accordance with the iterative nature of the scheme development, there are a range of on-going surveys taking place along the route and around the converter station site. The key surveys are outlined in Section 2.4.2 of this Planning Statement. During pre-submission engagement NGVL agreed with all four LPA's that if survey information became available post submission and this was duly considered material to determination of the planning application, this would be raised with officers and if considered appropriate duly submitted for determination. NGVL has also agreed with Natural England during pre-application discussions, supported by all four determining LPA's and LCC, that the results of further ecological and archaeological survey will be submitted post submission so as to ensure that a full season of assessment data is available for consideration.

3.5 The Application Documents

3.5.1 In addition to this planning statement, the planning applications are supported with the following:

- Completed planning application forms;
- Article 7 ownership certificate (Agricultural Holdings) signed and dated;
- Article 7 ownership certificate (A,B,C,D) signed and dated;
- Schedule of Interests (list of parties on which notice has been served);
- Application Boundary Plans;
- DC Cable Works Plans;
- DC Cable Access Arrangements;
- DC and AC Schematics;
- Proposed Converter Station Site Layout;
- Permanent Access Road;
- Environmental Statement (ES) (Volumes 1-4 plus Appendices);
- Design and Access Statement (DAS);
- Design Code (DC);
- Flood Risk Assessment (FRA);
- Statement of Community Involvement (SCI);
- Tree Assessment Report
- Construction Environment Management Plans (CEMP);
- Construction Traffic Management Plan (CTMP);
- Waste Management Plan;
- Access Management Plan;
- Outline Drainage Strategy;
- Soil handling and storage protocol;

4 Planning Policy Framework

4.1 Planning Regime

4.1.1 Section 3 sets out the consenting requirements of the UK Onshore Scheme and explains that the permission for the Scheme will be delivered at local level, through the determination of the planning application(s) by the applicable LPAs. Accordingly, as a 'locally' determined scheme, the LPAs have a statutory duty to determine the planning applications(s) in accordance with the development plan unless material considerations indicate otherwise. This is set out within Section 38(6) of the Planning and Compulsory Purchase Act 2004. As highlighted in Section 3 of this Planning Statement, the Project has a designated status as a PCI. Accordingly, in accordance with the TEN-E Regulation (Article 7, Paragraphs 3 and 8) the Project is acknowledged to be in the public interest and afforded the highest national significance possible. This should be considered as a relevant material planning consideration, afforded significant weight in the determination of the planning applications by each of the four determining planning authorities.

4.2 National Policy Statements

4.2.1 Paragraph 1.2.1 of National Policy Statement (NPS) EN-1 recognises that the NPS is likely to be a material consideration in decision making on applications which fall to be determined under the TCPA. This, along with the principles provided in the NPPF set out in this statement, provides a level of consistency for major projects being undertaken in more than one local planning authority area.

4.2.2 The NPS provide support for interconnector projects as follows:

4.2.3 Paragraph 3.3.12 of EN-1: Overarching National Policy Statement for Energy notes that it is critical that the UK continues to have secure and reliable supplies of electricity as we make the transition to a low carbon economy. The NPS further notes that "*existing transmission and distribution networks will have to evolve and adapt in various ways to handle increases in demand*".

4.2.4 The National Policy Statement for Electricity Networks Infrastructure (EN-5) highlights that the new electricity generating infrastructure that the UK needs to move to a low carbon economy, while maintaining security of supply, will be heavily dependent on the availability of a fit for purpose and robust electricity network. That network will need to be able to support a more complex system of supply and demand and cope with generation occurring in locations of greater diversity.

4.3 National Planning Policy Framework

4.3.1 The NPPF, published in March 2012, demonstrates a commitment to sustainable growth through a balance of development in appropriate places.

4.3.2 The NPPF explains that there are 3 dimensions to sustainable development; economic, social and environmental which are as follows:

- *"An economic role - contributing to building a strong, responsive and competitive economy, by ensuring that sufficient land of the right type is available in the right places and at the right time to support growth and innovation; and by identifying and co-ordinating development requirements, including the provision of infrastructure.*
- *a social role – supporting strong, vibrant and healthy communities, by providing the supply of housing required to meet the needs of present and future generations; and by creating a high quality built environment, with accessible local services that reflect the community's needs and support its health, social and cultural well being; and*
- *an environmental role – contributing to protecting and enhancing our natural, built and historic built environment; and as part of this, helping to improve biodiversity, use natural resources prudently, minimise waste and pollution, and adapt to climate change including moving to a low carbon economy*"

4.3.3 The NPPF guides the production of Local and Neighbourhood Plans and constitutes a material consideration in the determining of planning applications. At the centre of the NPPF (paragraph 14) is a:

"presumption in favour of sustainable development, which should be seen as a golden thread running through both plan-making and decision-taking."

4.3.4 Moreover, paragraph 14 goes on to state that for decision-taking this means:

- *"Approving development proposals that accord with the development plan without delay; and*
- *Where the development plan is absent, silent or relevant policies are out of date granting planning permission unless:*
  - Any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole; or
  - Specific policies in this Framework indicate development should be restricted."

4.3.5 The NPPF is purposely positive; opportunity focussed; and pro-growth in seeking to facilitate development which contributes towards wider Government objectives, particularly around economic growth and stabilisation. This is outlined in the 12 core planning principles of the NPPF, of which the following are of particular relevance to the Proposed Development. The NPPF states at paragraph 17 that planning should:

- *"Proactively drive and support sustainable economic development to deliver the homes, business and industrial units, infrastructure and thriving local places that the country needs;*
- *Support the transition to a low carbon future in a changing climate… and encourage the use of renewable resources;*
- *Contribute to conserving and enhancing the natural environment and reducing pollution; and,*

- *Encourage multiple benefits from the use of land in urban and rural areas, recognising that some open land can perform many functions (such as for wildlife, recreation, flood risk mitigation, carbon storage, or food production)."*

4.3.6 Under the heading of 'Using an appropriate evidence base', paragraph 162 sets out the importance of a local planning authority having up-to-date and relevant evidence about the economic, social and environmental characteristics of the area, taking full account of market and economic signals. Further to this under the heading of 'infrastructure' paragraph 162 states that local planning authorities should work with other authorities and providers to:

"take account of the need for strategic infrastructure including nationally significant infrastructure within their areas."

4.3.7 Whilst the NPPF does not provide specific policies relating to large scale infrastructure projects such as interconnectors, the following summarised supporting text in the NPPF is considered to be of wider relevance in relation to the proposed development.

Building a strong, competitive economy (para 18-22)

The Government is committed to securing economic growth in order to create jobs and prosperity, building on the country's inherent strengths, and to meeting the twin challenges of global competition and of a low carbon future.

Supporting a prosperous rural economy (para 28)

Planning policies should support economic growth in rural areas in order to create jobs and prosperity by taking a positive approach to sustainable new development.

Requiring good design (para 56 – 68)

Good design is a key aspect of sustainable development and is indivisible from good planning. Local planning authorities should have local design review arrangements in place to provide assessment and support to ensure high standards of design. They should also (when appropriate) refer major projects for a national design review. In general, early engagement on design produces the greatest benefits. In assessing applications, local planning authorities should have regard to the recommendations from the design review panel.

Local planning authorities should not refuse planning permission for buildings or infrastructure which promote high levels of sustainability because of concerns about incompatibility with an existing townscape, if those concerns have been mitigated by good design (unless the concern relates to a designated heritage asset and the impact would cause material harm to the asset or its setting which is not outweighed by the proposal's economic, social and environmental benefits).

Applicants will be expected to work closely with those directly affected by their proposals to evolve designs that take account of the views of the community.

Meeting the challenge of climate change, flooding and coastal change (para 93 – 108)

Planning plays a key role in helping shape places to secure radical reductions in greenhouse gas emissions, minimising vulnerability and providing resilience to the impacts of climate change, and supporting the delivery of renewable and low carbon energy and associated infrastructure. This is central to the economic, social and environmental dimensions of sustainable development.

Development in areas at risk of flooding should be avoided by directing development away from areas at highest risk, but where development is necessary, making it safe without increasing flood risk elsewhere. When determining planning applications, local planning authorities should ensure this and only consider development appropriate in areas at risk of flooding where, informed by a site-specific flood risk assessment following the Sequential Test, and if required the Exception Test.

The Sequential Test aims to steer new development to areas with the lowest probability of flooding, and aims to promote the use of other available and appropriate sites that do not carry the same risk of flooding.

The Exception Test can be applied if following application of the Sequential Test, it is not possible or consistent with wider sustainability objectives, for the development to be located in low flood risk areas. This test can be passed if it can be demonstrated that the development provides wider sustainability benefits to the community that outweigh flood risk (informed by a Strategic Flood Risk Assessment), or if it can be demonstrated that the development will be safe for its lifetime (site-specific flood risk assessment).

Conserving and enhancing the natural environment (para 109 – 125)

The planning system should contribute to and enhance the natural and local environment by:

- protecting and enhancing valued landscapes, geological conservation interests and soils;
- recognising the wider benefits of ecosystem services;
- minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability; and
- remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

Planning policies and decisions should encourage the effective use of land by re-using land that has been previously developed. Local planning authorities should also take into account the economic and other benefits of the best and most versatile agricultural land.

Local planning authorities should:

- maintain the character of the undeveloped coast, protecting and enhancing its distinctive landscapes, particularly in areas defined as Heritage Coast, and improve public access to and enjoyment of the coast.

In respect of development within the AONB paragraphs 115-116 of the NPPF state that:

"Great weight should be given to conserving landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to landscape and scenic beauty. The conservation of wildlife and cultural heritage are important considerations in all these areas, and should be given great weight in National Parks and the Broads.

Planning permission should be refused for major developments in these designated areas except in exceptional circumstances and where it can be demonstrated they are in the public interest. Consideration of such applications should include an assessment of:

- *"the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy;*
- *the cost of, and scope for, developing elsewhere outside the designated area, or meeting the need for it in some other way; and*
- *any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated."*

When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying a series of principles which are fully detailed in the policy text, but include:

- *"if significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused"*

The presumption in favour of sustainable development (para 14) does not apply where development requiring appropriate assessment under the Birds or Habitats Directives is being considered.

The policy sets out requirements for new development and the consideration of pollution/contamination and land instability, and seeks to prevent unneeded overlap between planning and pollution control regimes. Noise, air, and light pollution are also discussed.

Conserving and enhancing the historic environment (para 126 – 141)

In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance.

Local planning authorities should take this assessment into account when considering the impact of a proposal on a heritage asset, to avoid or minimise conflict between the heritage asset's conservation and any aspect of the proposal.

Substantial harm to or loss of a grade II listed building, park or garden should be exceptional. Substantial harm to or loss of designated heritage assets of the highest significance, notably scheduled monuments, protected wreck sites, battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.

Where a proposed development will lead to substantial harm to or total loss of significance of a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or loss is necessary to achieve substantial public benefits that outweigh that harm or loss. Any harm to an asset which is judged to be less than total or substantial, this harm should be weighed against the public benefits of the proposal.

Non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets.

4.4 National Planning Practice Guidance

4.4.1 National Planning Practice Guidance (NPPG) sets out detailed advice from the Government in relation to a number of planning matters, and seeks to expand on policy topics covered in the NPPF. NPPGs relevant to the Proposed Development are summarised in Table 4.1 below.

Table 4.1 Topics Required for Viking Link Relevant National Planning Practice Guidance

Title	Summary of document
Air quality	Provides guiding principles on how planning can take account of the impact of new development on air quality. For planning decisions this could relate to whether any application will result in increases to: traffic, point sources of air pollution, expose people to existing sources of air pollutants, or expose wildlife sites to pollution.
Climate change	Advises how to identify suitable mitigation and adaptation measures in the planning process to address the impacts of climate change.
Conserving and enhancing the historic environment	Advises on enhancing and conserving the historic environment through the planning process. Explains the decision making process, and explains how and when Historic England should be consulted. Also defines key terms such as the "setting of a heritage asset".
Design	Provides advice on the key points to take into account on design. Expands on the following design related issues for development proposals: local character (including landscape setting); security measures; access and inclusion;

Table 4.1 Topics Required for Viking Link Relevant National Planning Practice Guidance	
Title	**Summary of document**
	efficient use of natural resources.
Environmental Impact Assessment	Explains requirements of the Town and Country Planning (Environmental Impact Assessment) Regulations 2011. Provides information on the role local planning authorities play as part of the EIA process, and how EIA can inform application decisions.
Flood risk and coastal change	Provides detailed advice on the role of the planning system and the assessment and management of flood risk. Includes a 'Site-specific flood risk assessment: Checklist'.
Land affected by contamination	Provides guiding principles on how planning, alongside a number of other regimes, can deal with land affected by contamination. Advice to applicants on bringing forward potentially contaminated sites is given.
Land stability	Advice on how to ensure that development is suitable to prevailing ground conditions and how to avoid risks caused by unstable land or subsidence.
Light pollution	Advises on what factors must be considered relating to light pollution and planning decisions, and stresses the importance of achieving satisfactory lighting schemes at the outset of any proposal. This is especially relevant for proposals relating to premises where high levels of light may be required for safety and security reasons.
Natural environment	Explains key issues in implementing policy to protect biodiversity, landscape, green infrastructure, and soil related interests, including local requirements.
Noise	Advises on how planning can manage potential noise impacts in new development.
Travel Plans, Transport Assessments and Statements	Provides advice on when Transport Assessments and Transport Statements are required, and what they should contain. In considering whether a Transport Assessment or Statement will be needed for a proposed development local planning authorities should take into account the following considerations: · the scale of the proposed development and its potential for additional trip generation; · proximity to nearby environmental designations or sensitive areas; · the cumulative impacts of multiple developments within a particular area; and, · impact on other priorities/strategies (such as promoting walking and cycling).
Water supply, wastewater and water quality	Advises on how planning can ensure water quality and the delivery of adequate water and wastewater infrastructure. In relation to planning applications it stresses the importance of early engagement with the local planning authority, the Environment Agency and relevant water and sewerage companies to establish if water quality is likely to be a significant

Table 4.1 Topics Required for Viking Link Relevant National Planning Practice Guidance	
Title	Summary of document
	planning concern.

4.5 UK Marine Policy and Plans

4.5.1 In respect of the intertidal component of the UK Onshore Scheme (that are between Mean High Water Spring (MHWS) and MLWS) the following Marine Policy and Plans should be afforded due consideration.

4.5.2 Section 58 of the Marine Coastal Access Act 2009 (MCAA) requires all public authorities taking decisions that affect, or might affect, the UK marine area do so in accordance with the Marine Policy Statement (MPS) and relevant marine plans unless relevant considerations indicate otherwise. The UK marine area is defined by section 42 of the MCAA and includes any area of sea submerged at MHWS tide. This includes areas within the jurisdiction of ELDC and as such in assessing relevant planning applications, ELDC must have regard to whether the activities of the proposed project are compatible with the objectives of the relevant marine plans.

4.5.3 The MPS (2011) provides the policy framework intended to help achieve sustainable development in the UK marine areas and provides the framework for preparing marine plans and for taking decisions that affect the marine environment.

4.5.4 The East Inshore Marine Plan is relevant to this submission and includes the coastline stretching from Flamborough Head to Felixstowe, extending from MHWS out to 12 nautical miles, including inland areas such as the Broads and other waters subject to tidal influence. The vision for the East Marine Plan Area is to achieve by 2034, sustainable, effective and efficient use of the East Marine Plan Areas, leading to economic development while protecting and enhancing the marine and coastal environment, offering local communities new jobs, improved health and well-being.

4.5.5 A detailed consideration of the key policies relevant to the Project and how the policy objectives have been met for the Project can be found in Chapter 2 of the UK Offshore Environmental Statement and Chapter 6 of the UK Onshore Environmental Statement.

4.6 Local Planning Policy Framework

4.6.1 As set out in Section 2 of this Planning Statement, the Scheme passes through the administrative areas of ELDC, BBC, NKDC and SHDC, as a ‘cross-border’ planning application.

4.6.2 The following section considers the relevant local planning policy context of all of the applicable LPAs. Consideration is afforded to both the adopted (saved policies) local plans and emerging plans of each local planning authority. This review takes into account the respective date of adopted plans and the progression in replacing these plans; considering the weight to be afforded and the materiality in the determination of the planning applications.

4.7 East Lindsey District Council

4.7.1 The statutory development plan for East Lindsey District Council currently comprises the 'saved' parts of the East Lindsey Local Plan (ELLP). The ELLP was originally adopted in 1995, was then updated in 1999, and the policies were then reviewed in 2007 and either 'saved' where relevant or deleted where not. The onward 'saving' of policies within an adopted Local Plan should be based on both consistency and compliance with the NPPF which influences the weight they should be attributed in the determination of planning applications.

4.7.2 The Council are in the process of preparing a replacement for the ELLP, the East Lindsey District Council Local Plan (Submissions Modifications Draft) which comprises the Core Strategy and the Settlement Proposals document. The Plan is currently (May, 2017) at draft stage (Submissions Modification) and has been submitted for examination to the Secretary of State on 18th April 2017. Due to its advanced stage of preparation it is considered a material consideration in the determination of the planning applications.

4.7.3 Taking into account the discussion above, the policies from both of the previously mentioned plans which have been considered to be of relevance to the Proposed Development have been summarised and are outlined in the following sections.

East Lindsey Local Plan Alteration 1999 (Saved Policies, September 2007)

4.7.4 Policy A4 (Protection of General Amenities) seeks to prevent development that would unacceptably harm the general amenities of people living nearby to a development. This will include the consideration of:

- *"overlooking or loss of privacy;*
- *loss of natural light to habitable rooms or workplaces;*
- *excessive noise, especially during "unsociable" hours;*
- *disturbance by movements to and from the premises;*
- *air or light pollution;*
- *harm to the distinctive character of the area;*
- *increased traffic danger;*
- *increased risk to the security of nearby premises or safety of residents;*
- *reduced accessibility to open space;*
- *loss of amenity space or space between buildings."*

In order to demonstrate compliance with this policy, applications should pay particular attention at the design stage to layout, scale massing, materials, orientation, relationship to adjoining buildings, boundary treatment, hours of operation, illumination, emissions of noise, dust and fumes, prevailing winds, traffic generation and the servicing requirements of the proposed development.

4.7.5 Policy A5 (Quality and Design of Development) provides support to new development which improves the quality of the environment and does not conflict with other policies within the plan. The policy states that new development will only be permitted where:

a) *"Its design - including its layout, density, scale, appearance or choice of materials - does not detract from the distinctive character of the locality;*

b) *It retains or incorporates features or characteristics which are important to the quality of the local environment including important medium and long distance views;*

c) *It is integrated within a landscaping scheme appropriate to its setting."*

Policy A5 goes on to state that:

"Greatest attention will be paid to the design of development in the following areas, statutorily designated or recognised as having special character and which must be retained and respected:-

- *The Lincolnshire Wolds Area of Outstanding Natural Beauty;*
- *The Coastal Conservation Areas, including the National Nature Reserves and the*
- *Special Area of Conservation;*
- *Conservation Areas; and*
- *Historic parks and gardens*

Particular attention will also be paid to other areas where special character has been identified such as the Areas of Great Landscape Value and the Fens and Marshes."

The policy also describes the judgement the Council should be used determining the appropriateness of development, provides detail on the desired approach to Landscaping in development, and outlines specific development considerations within the Fen and Marsh areas.

4.7.6 Policy ENV3 (Foul and Surface Water Disposal) supports new development where it can be shown that foul sewers, sewage treatment and surface water of adequate capacity and design are available or that these can be provided in time to serve the development. Developers will be required to state in applications the need to carry out relevant on-site drainage works to prevent on or off site flooding or water table problems arising from their development.

4.7.7 Policy ENV19 (Local Sites of Nature Conservation Importance) confirms that development which could adversely affect a site of local nature conservation importance will not be permitted unless it can be clearly demonstrated that there are reasons for the proposal which outweigh the need to safeguard the site or feature. This policy refers primarily to Local Nature Reserves (LNRs), Sites of Nature Conservation Importance (SNCIs), and sites which are regionally important for their geological or geomorphological, educational or research value (RIGS).

4.7.8 In all cases where development is permitted which would damage the nature conservation value of the site or feature, such damage should be kept to a minimum. Where appropriate the Authority will consider the use of conditions and/or planning obligations to provide appropriate compensatory measures.

4.7.9 Policy ENV20 (Protection of Habitats) advises that the Council will not normally permit development which would lead to the loss of, or cause significant harm to, important habitats such as broadleaved woodland, heathland, water-meadows, unimproved pasture, marshes, watercourses, mudflats, dunes, ponds, linear habitats, parkland, chalk outcrops, gravel pits, village and country lanes and green lanes.

4.7.10 The policy further explains that where development is permitted, the retention and protection of wildlife habitats will be secured through planning conditions, legal agreements or unilateral undertakings.

4.7.11 Policy ENV21 (River Corridors) states that development will be permitted where it can be shown that it will not harm the open character, nature conservation importance or recreational importance of the river corridors of the Rivers Witham, Steeping, Bain, Lud, Waring and Lymn and of the Louth Navigation Canal, Great Eau and Wold Grift Drains.

4.7.12 Conditions will normally be attached to planning permissions for development along these river corridors or watercourses to safeguard their open character, nature conservation importance and recreational roles.

4.7.13 Policy C11 (Lincolnshire Wolds Area of Outstanding Natural Beauty and Areas of Great Landscape Value) states that:

A. *"The Council will protect the natural beauty of the Lincolnshire Wolds Area of Outstanding Natural Beauty (AONB) and the distinctive character of the Areas of Great Landscape Value (AGLV) by not permitting development which would:-*

· *harm landscape features which contribute to the character of the area;*

· *harm the distinctive character, role or regional or local historic significance of the area; or*

· *inhibit the quiet enjoyment of the AONB.*

B. *The following development will not be permitted in the AONB unless it is essential in the national or wider public interest and cannot be located elsewhere:-*

· *major or large scale development;*

· *exposed hilltop or 'skyline' development;*

· *hazardous installations;*

· *development involving the significant loss of road verges and hedgerows.*

In addition, in its role as consultee, the Council will oppose overhead power lines in excess of 11kV in the AONB unless they cannot be located elsewhere."

4.7.14 Policy CA14 (Coastal Conservation Areas - CCA1 and CCA4) advises that:

"Within CCA1 (Tetney to Mablethorpe) and CCA4 (Skegness to Friskney) development will not be permitted unless it is essential in that location. In particular, no built development shall be permitted on or to the seaward side of the sandhills.

Where permitted, development shall not materially harm the amenities, character or ecological balance of the area because of its siting, scale, form, appearance, materials, noise or fume emissions or traffic generation.

CCAs 1 and 4 contain the most remote and sensitive habitats and landforms in the coastal area and includes the Saltfleetby-Theddlethorpe dunes and the edge of The Wash - both being of great ecological importance."

Policy ENV24 Protection of Open Spaces and Frontages

Development will only be permitted on the open spaces and frontages which are identified on the Inset Maps as being protected, provided significant harm will not be caused to their appearance, character or the role they play in meeting one or more of the criteria set out below:

a) preventing the coalescence of settlements;

b) providing the settings for Listed or other important historical buildings, scheduled ancient monuments or other amenity features;

c) providing an important element in the street scene;

d) framing or enabling an important view;

e) providing a buffer between non-complementary uses;

f) comprising or providing the settings for important historical or geological features;

g) providing a well-defined demarcation between the edge of a settlement and the countryside;

h) providing a well-defined visual relief in an otherwise built up frontage, particularly in the case of ribbon development extending into the countryside;

i) providing a locally important habitat.

As well as the identified sites there may be other sites which meet one or more of the above criteria also but which have not yet been included.

Policy C2 Development and Demolition affecting a Listed Building

Planning permission will be given for development which is within the curtilage of, or affects the setting of, a Listed Building only where its form, scale, proportions, materials, siting, boundary treatment and associated landscaping preserves or enhances the special architectural or historic interest, viability or long term use of the Listed Building.

Consent will only be granted for the demolition, or substantial demolition, of a grade 1 or 2 star Listed Building in wholly exceptional circumstances and of a grade 2 Listed Building in exceptional circumstances and, in every case, only where:-

a) It can be shown that there is no suitable alternative to development; and

b) Proposals for redevelopment have been approved; and

c) The valid contract has been let for the approved redevelopment.

Emerging East Lindsey Core Strategy (Submissions Modifications Draft, March 2017)

4.7.15 Strategic Policy 2 (SP2 Sustainable Development) sets out that when considering development proposals, the Council will take a positive approach that reflects the presumption in favour of sustainable development contained in the NPPF. It will always work proactively with applicants jointly to find solutions which mean that proposals can be approved wherever possible, and to secure development that improves the economic, social and environmental conditions in the area.

4.7.16 Furthermore, it is stated that planning applications that accord with the policies in the East Lindsey District Local Plan (ELDLP) will be approved without delay, unless material considerations indicate otherwise.

4.7.17 Where are no policies relevant to the application or relevant policies are out of date at the time of making the decision, then the appropriate Council will grant permission unless any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the NPPF taken as a whole; or specific policies in that Framework indicate that development should be restricted.

4.7.18 Strategic Policy 10 (SP10 Design) advises that the Council will support well-designed sustainable development, which maintains and enhances the character of the District's towns, villages and countryside by:

1. "Use of brownfield land for development, unless it is of high environmental value, and safeguarding the best and most versatile agricultural land.

2. The use of quality materials and where the layout, scale, massing, height and density reflect the character of the surrounding area.

3. Incorporating roads, cycleways and footways that provide access for everyone of all abilities to shops, jobs, schools and other community facilities.

4. Providing on-site landscaping to integrate the development into its wider surroundings and make provision for open space.

5. Minimises glare and light spillage, and does not unacceptably harm the rural or dark-sky character of a settlement or landscape or any nearby residential amenity; it respects the local historic environment; and it does not unacceptably harm or reduce highway safety.

6. Supporting development that includes measures to recycle, re-use or reduce the demand for finite resources.

7. Development around water sources will only be supported if it contains adequate protection preventing pollution from entering into the water source.

8. Development will only be supported around hazardous uses if it contains adequate provision to mitigate against threat from the hazardous use and does not conflict with that use.

10. The following developments will be supported on design grounds if they satisfy both the place-making checklist and a site-specific design brief:

- *Gateway sites into a settlement;*

- *All retail applications over 0.25ha;*
- *Applications over 0.5ha within a designated town centre;*
- *Applications on sites over 4ha."*

Strategic Policy 11 (SP11) – Historic Environment

4.7.19 The Council will support proposals that secure the continued protection and enhancement of heritage assets in East Lindsey, contribute to the wider vitality and regeneration of the areas in which they are located and reinforce a strong sense of place.

Proposals will be supported where they adhere to the following criteria (not limited to):

- Protect and enhance heritage assets and their setting;
- Preserve and enhance the special character, appearance and setting of the District's Conservation Areas;
- Have particular regard to the special architectural or historic interest and setting of the District's Listed Buildings;
- Do not harm the site or setting of a Scheduled Monument; any unscheduled nationally important or locally significant archaeological site;
- Preserve or enhance the quality and experience of the historic landscapes and woodland of the District and their setting;
- Promote a sustainable and viable use which is compatible with the fabric, interior, surroundings and setting of the heritage asset; and,
- Conserve heritage assets identified as being at risk, ensuring the optimum viable use of an asset is secured where it is consistent with the significance of the heritage asset.

The policy text defines clearly the assets it considers under the wider definition of 'Heritage Assets'. The policy also provides further direction relating to at risk assets.

4.7.20 Strategic Policy 16 (SP16 Inland Flood Risk) outlines the Council's approach to inland flood risk, and states the following:

- *"The Council will support development for business, leisure and commercial uses in areas of inland flood risk providing it incorporates flood mitigation measures in its design.*
- *The Council will not support development in identified flood storage areas.*
- *All new development must show how it proposes to provide adequate surface and foul water disposal including avoiding impacting on surface water flow routes or ordinary watercourses. The Council will expect this to involve the use of Sustainable Urban Drainage Systems along with other appropriate design features, including the retention of any existing water features on a site.*
- *Surface water connections to the combined or surface water system should only be made in exceptional circumstances*
- *All new development must show how it can provide adequate foul water treatment and disposal*

- *All development must be accompanied by a site-specific flood risk assessment in line with national policy."*

4.7.21 Strategic Policy 17 (SP17 Coastal East Lindsey) applies to the following settlements Addlethorpe, Anderby, Chapel St Leonards, Croft, Ingoldmells, Mablethorpe, New Leake, North Cotes, North Somercotes, Saltfleetby All Saints, Saltfleetby St Clements, Saltfleetby St Peter, Skegness, Skidbroook cum Saltfleet, South Somercotes, Sutton on Sea, Theddlethorpe All Saints, Theddlethorpe St Helen and Trusthorpe.

4.7.22 The Council will give a high priority to development that extends and diversifies all-year round employment opportunities, contributes directly to the local economy, infrastructure or extends and diversifies the tourism market.

4.7.23 Development will need to demonstrate that it satisfies the Sequential and Exception Test as set out in Annex 2 of the Plan. All relevant development will need to provide adequate flood mitigation.

4.7.24 Strategic Policy 22 (SP22 Transport and Accessibility) states that the Council will support accessibility and seek to reduce isolation in the District by:

- *"Supporting development in or adjoining towns, large and medium villages where it is accessible to key facilities.*
- *Supporting development which is shown to link with the existing road and public transport systems operating within the District. Large scale developments will be accompanied by a transport assessment and travel plan. The thresholds for transport assessments can be found at Annex 3 of the Plan.*
- *Supporting development that has been shown to be planned taking into account disabled users and parents/carers with buggies and young children."*

4.7.25 Strategic Policy 23 (SP23 – Landscape) advises that the District's landscapes will be protected, enhanced, used and managed to provide an attractive and healthy working and living environment. Development will be guided by the District's Landscape Character Assessment and landscapes defined as highly sensitive will be afforded the greatest protection.

4.7.26 Development will be supported where it allows for greater public access to the countryside and naturalistic coast, and helps provide additional employment opportunities.

4.7.27 The Council will ensure that the distinctive character of the District's landscapes whether they are of cultural, natural or historic significance, will not be compromised. In particular, the highest level of protection will be given to the Lincolnshire Wolds Area of Outstanding Natural Beauty.

4.7.28 The Council will support development that conserves and enhances designated and historic landscapes (Winceby Battlefield, Lincolnshire Wolds, Coastal Country Park, Conservation Areas, Historic Parks and Gardens, setting of listed buildings within the landscape).

4.7.29 Strategic Policy 24 (SP24 Biodiversity and Geodiversity) confirms that development proposals should seek to protect and enhance the biodiversity and geodiversity value of land and buildings, and minimise fragmentation and maximise opportunities for connection between natural habitats.

4.7.30 It states that the Council will protect sites designated internationally, nationally or locally for their biodiversity and geodiversity importance, species populations and habitats identified in the Lincolnshire Biodiversity Action Plan and the Natural Environment and Rural Communities (NERC) Act 2006. Development which could adversely affect such a site, will only be permitted in exceptional circumstances – such as overriding public interest (international sites); and where there is no alternative and the reasons for the development outweigh the importance of the designation (national and local sites).

4.7.31 In exceptional circumstances, where adverse impacts are demonstrated to be unavoidable (including the loss of ancient woodland) and development is permitted which would damage the nature conservation or geological value of a site, mitigation/compensation would be expected.

4.7.32 Strategic Policy 25 (SP25 Green Infrastructure) advises that the Council will safeguard and deliver a network of accessible green infrastructure by:

- *"Protecting and safeguarding all greenspace identified through the Settlement Proposals Development Plan Document (DPD) so that there is no net loss;*
- *Maximising opportunities for new and enhanced green infrastructure and publically accessible open spaces in and around all communities;*
- *Seek opportunities to connect existing green infrastructure to improve the network of spaces and accessibility for both the local population and wildlife.*

In the case of sites not identified, development will only be permitted on open spaces provided unacceptable harm will not be caused to their appearance, character or role in providing (for example only, list is not exhaustive):

- *the setting for a designated or non-designated heritage asset;*
- *a locally important habitat; or*
- *informal amenity or recreation space."*

4.7.33 Strategic Policy 27 (SP 27 – Renewable and Low Carbon Energy) advises that Large-scale renewable and low carbon energy development, development for the transmission and interconnection of electricity, and infrastructure required to support such development, will be supported where their individual or cumulative impact is, when weighed against the benefits, considered to be acceptable in relation to:

a) *"residential amenity;*
b) *surrounding landscape, townscape and historic landscape character, and visual qualities;*
c) *the significance (including the setting) of a historic garden, park, battlefield, building, conservation area, archaeological site or other heritage asset;*
d) *sites or features of biodiversity or geodiversity importance, or protected species;*
e) *the local economy;*
f) *highway safety; and*
g) *water environment and water quality."*

Development within or affecting the setting of the Lincolnshire Wolds AONB, and landscape areas defined as highly sensitive within the East Lindsey LCA, will only be permitted in exceptional circumstances, where the development is in the public interest and considering the following:

- *"National considerations, and the impact upon the local economy;*
- *the cost of, and scope for, developing elsewhere outside the designated area, and,*
- *any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be satisfactorily moderated."*

4.7.34 Strategic Policy 28 (SP28 Infrastructure and S106 Obligations) states that Infrastructure schemes will be supported provided they are essential in the national interest; contribute to sustainable development, and respect the distinctive character of the district.

4.7.35 It advises that infrastructure schemes should be accompanied by an impact assessment that shows how the proposal impacts on the landscape or local setting of the area, including individual and cumulative effects. It should identify what steps have been taken to minimize its effects and the alternative options that have been considered.

4.7.36 The Council will support the delivery of infrastructure where it contributes to sustaining local communities. Where appropriate, developer contributions will be sought towards the delivery of infrastructure where it is shown to be necessary for the development to proceed.

4.8 Boston Borough Council

4.8.1 The statutory development plan for BBC currently comprises the 'saved' parts of the Boston Borough Local Plan (BBLP) and the Boston Borough Interim Plan (Non-Statutory Development Control Policy) 2006. The BBLP was originally adopted in 1999, with the policies then being reviewed in 2007 and either 'saved' where relevant or deleted where not. In the circumstances where the policies within the Local Plan are not consistent with the NPPF then that they should be afforded reduced weight or no weight.

4.8.2 The 2006 Boston Borough Interim Plan was produced as a replacement for the BBLP but had to be withdrawn from the statutory adoption process in February 2006. BBC subsequently adopted a revised version of the Interim Plan for development control purposes. However, due to significant objection received during the production of the plan, the policies contained within the Interim Plan are judged not to carry weight and therefore will not be considered within this Planning Statement.

4.8.3 BBC, SHDC, and LCC are in the process of preparing a new local plan, the South East Lincolnshire Local Plan (SELLP), which will guide development in the area until 2036 and act as a replacement for the BBLP. The Plan is currently (May, 2017) at draft stage and therefore is considered a material consideration in the determination of the planning applications. It is anticipated that the plan will be adopted in Spring 2018.

4.8.4 The policies from both the BBLP (2007 saved policies) and the SELLP which have been considered to be of relevance to the NGVL scheme have been summarised and are outlined in the following sections.

Boston Borough Local Plan, Adopted 1999 (Saved Policies, 2007)

4.8.5 Policy CO1 (Development in the Countryside) states that development will not be permitted in the countryside unless it is supported by other local plan policies. The policy goes on to state that the plan makes allowance for development which benefits economic activity, or which meets particular social needs, while maintaining or enhancing the environment.

4.8.6 Policy G1 (Amenity) advises that Planning Permission will only be granted for development which will not substantially harm the amenities of other nearby land users or residents, or the general character of the area because of its nature, scale, density, layout, appearance or level of traffic generation.

4.8.7 Policy C7 – (Development of Sites Adjacent to the River Witham) states that Planning Permission will be granted for the development of land adjacent to the River Witham, or the haven (the tidal stretch of the river) only where the submitted proposals are well designed and visually related to the river scene: and (where appropriate) accommodate and promote any recreational potential of the site concerned.

4.8.8 Policy R5 (Witham Way Footpath and Nature Reserve) states that development will not be permitted which may prejudice the establishment and recreational value of the proposed Witham way footpath and nature reserve between Bardney and Boston along the former railway on the eastern side of the river Witham, and its proposed terminus at the Witham way country park at Tattershall road, Boston, as shown on the proposals map (Boston inset).

4.8.9 Policy G2 (Wildlife and Landscape Resources) advises that Planning Permission will not be granted for proposals which will have a significant adverse impact upon existing landscape, wildlife and vegetation resources.

4.8.10 Policy T2 (Roads and Footpaths in new developments) states that where a development involves the construction of a new road and/or footpath, Planning Permission will not be granted unless the proposed road and/or footpath layout:

1. *"provides for any proposed through road to be accessible to public transport vehicles;*
2. *caters satisfactorily for the needs of pedestrians, cyclists and persons of restricted mobility; and*
3. *relates well to the nature and form of the development, and the locality in general."*

4.8.11 Linked into policy T2, policy G6 (Vehicular and Pedestrian Access) states that Planning Permission will not be granted for development where the proposed means of pedestrian and vehicular access are unsatisfactory.

4.8.12 Policy G10 (External Lighting Schemes) advises that full planning permission will not be granted for developments which include a scheme of external lighting, unless the proposed lighting scheme:

1. *"is the minimum required to undertake the task;*
2. *will not prejudice highway safety;*
3. *will not substantially harm the amenities of nearby land-users; and*
4. *will not substantially harm the character of the area."*

4.8.13 Policy G8 (Air and Soil Resources) advises that Planning Permission will not be granted for developments which will have an adverse effect upon the quality of air or soil such as to lead to:

1. *"harm to local living or working conditions or the operation of nearby land uses;*
2. *harm to the natural flora and fauna of interest in the locality; or*
3. *added constraints on future developments in the area."*

4.8.14 Policy G3 (Foul and Surface Water Disposal) states that Planning Permission will not be granted for development where the proposed means of disposing of the resultant foul and surface water are unsatisfactory.

4.8.15 Policy G4 (Safeguarding the Water Environment) states that Planning Permission will not be granted for developments which will have an adverse effect on the water environment, or the quality of surface or ground water.

Emerging South East Lincolnshire Local Plan 2011-2036 (Publication Version, March 2017)

4.8.16 Policy 1 (Presumption in favour of Sustainable Development) establishes that a positive approach reflecting the presumption in favour of sustainable development expressed in the NPPF will be taken in relation to development proposals at a South East Lincolnshire level.

4.8.17 Planning applications that accord with the policies in the SELLP will be approved without delay, unless material considerations indicate otherwise.

4.8.18 Where there are no policies relevant to the application or relevant policies are out of date at the time of making the decision, permission will be granted unless material considerations indicate otherwise – for decision making this means whether:

- *"Any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the NPPF taken as a whole; or*
- *Specific policies in that Framework indicate that development should be restricted."*

4.8.19 Policy 3 (Development Management) is a strategic policy relating to new development advising that proposals requiring planning permission for development will be permitted provided that sustainable development considerations are met, specifically in relation to:

1. *"size, scale, layout, density and impact on the amenity, trees, character and appearance of the area and the relationship to existing development and land uses;*

2. *quality of design and orientation;*
3. *maximising the use of sustainable materials and resources;*
4. *access and vehicle generation levels;*
5. *the capacity of existing community services and infrastructure;*
6. *impact upon neighbouring land uses by reason of noise, odour, disturbance or visual intrusion;*
7. *sustainable drainage and flood risk; and*
8. *impact or enhancement for areas of natural habitats and historical buildings and heritage assets."*

4.8.20 Policy 4 (Design of New Development) sets out design principles associated with new development. It advises that all development should create distinctive places through the use of high quality and inclusive design and layout and, where appropriate, make innovative use of local traditional styles and materials. Design which is inappropriate to the local area, or which fails to maximise opportunities for improving the character and quality of an area, will not be acceptable.

Development proposals should seek to reflect the following issues (amongst others):

- *the landscape character of the location;*
- *accessibility by a choice of travel modes including the provision of public transport, public rights of way and cycle ways;*
- *the provision of facilities for the storage of refuse/recycling bins, storage and/or parking of bicycles and layout of car parking;*
- *the orientation of buildings on the site to enable the best use of decentralised and renewable low-carbon energy technologies for the lifetime of the development*
- *the avoidance of visual intrusion by advertising, other signs, security shutters, meter boxes and other service and communication infrastructure*
- *residential amenity;*
- *the mitigation of flood risk through flood-resistant and flood-resilient design and sustainable drainage systems (SuDS);*
- *the use of locally sourced building materials, minimising the use of water and minimising land take, to protect best and most versatile soils; and*
- *the provision of appropriate landscaping and its use to enhance biodiversity and green infrastructure."*

4.8.21 Policy 5 (Strategic Approach to Flood Risk) advises that major development shall be located in areas at the lowest hazard or probability of flooding and shall not, in itself, increase flood risk. Where the development would be for uses defined as Essential Infrastructure, Highly Vulnerable or More Vulnerable, it will be a requirement to show why the need for the development is exceptional where the hazard or probability of flooding of the sequentially-selected areas is constrained.

4.8.22 Development will be permitted following the satisfactory completion of the Sequential and Exception Test and through the submission of a site-specific Flood Risk Assessment that demonstrates appropriate flood risk mitigation measures for the protection of occupants. Mitigation for the identified flood risk, including appropriate allowances for climate change, required by such development to make it safe will be provided and maintained for the lifetime of the development.

4.8.23 Flood risk management infrastructure shall be provided at the strategic level, where development opportunities allow, to reduce the hazard and probability of flooding.

4.8.24 Policy 6 (Meeting Physical Infrastructure and Service Needs) states that Planning permission will be granted for new development provided that developers can demonstrate that there is, or will be sufficient physical infrastructure and service needs capacity to support and meet the needs of the proposed development. A planning condition and/or legal agreement may be required to help secure the arising needs.

4.8.25 Where development might take place over a period of time the provision of physical infrastructure and services will be phased.

4.8.26 Policy 24 (The Natural Environment) sets out that 'The Plan' seeks to achieve high quality, comprehensive ecological network of interconnected designated sites, sites of nature conservation importance and wildlife-friendly greenspace will be achieved by:

"A. protecting, enhancing and managing natural assets

1. internationally-designated sites, on land or at sea:

a. *development proposals that would cause harm to these assets will not be permitted, except in exceptional circumstances, and the loss will be compensated by the creation of sites of equal or greater nature conservation value;*

2. nationally or locally-designated sites and protected or priority habitats and species:

a. development proposals that would directly or indirectly adversely affect these assets will not be permitted unless:

i. there are no alternative sites that would cause less or no harm; and

ii. the benefits of the development at the proposed site, clearly outweigh the adverse impacts on the features of the site and the wider network of natural habitats; and

iii. suitable prevention, mitigation and compensation measures are provided;

3. addressing gaps in the ecological network:

a. *by ensuring that all development proposals shall provide an overall net gain in biodiversity, by:*

i. protecting the biodiversity value of land and buildings and minimising the fragmentation of habitats;

ii. maximising the opportunities for restoration, enhancement and connection of natural habitats and species of principal importance;

iii. incorporating beneficial biodiversity conservation features on buildings, where appropriate; and maximising opportunities to enhance green infrastructure and ecological corridors, including water space; and

iv. conserving or enhancing biodiversity or geodiversity conservation features that will provide new habitat and help wildlife to adapt to climate change, and if the development is within a Nature Improvement Area (NIA), contributing to the aims and objectives of the NIA."

4.8.27 Policy 25 (The Historic Environment) seeks to respect the historical legacy, varied character and appearance of South East Lincolnshire's historic environment. Development proposals will conserve and enhance the character and appearance of designated and non-designated heritage assets, such as important archaeology, historic buildings, conservation areas, monuments, street patterns, streetscapes, landscapes, parks, river frontages, structures and their settings through high-quality sensitive design.

4.8.28 Policy 26 (Pollution) advises that proposals will not be permitted where, individually or cumulatively, there are adverse impacts on light, noise, odour, fumes, vibration and waste materials and as a consequence have adverse impacts upon:

1. *"health and safety of the public;*
2. *the amenities of the area; and*
3. *the natural, historic and built environment;*

by way of:

1. *air quality, including odour;*
2. *background noise and light levels;*
3. *land quality and condition; and*
4. *surface and groundwater quality."*

4.8.29 Furthermore, policy 26 states that Major planning applications should be accompanied by an Air Quality Assessment to demonstrate significance of the proposed development's effect on air quality and suitable mitigation measures, if required. Exceptions will be made where it can be clearly demonstrated that the wider social and economic benefits of the development outweigh the adverse environmental impact.

4.8.30 The policy also explains that development proposals on contaminated land, or where there is reason to suspect contamination, must include an assessment of the extent of contamination and any possible risks. Proposals will not be considered favourably unless the land is, or can be made, suitable for the proposed use.

4.8.31 Policy 27 (Climate change and Renewable and Low Carbon Energy) sets out that all development proposals will be required to demonstrate that the consequences of current climate change has been addressed, minimised and mitigated by:

1. *"employing a high-quality design;*

2. *the adoption of the sequential approach and Exception Test to flood-risk and the incorporation of flood-mitigation measures in design and construction to reduce the effects of flooding;*
3. *the protection of the quality, quantity and availability of water resources;*
4. *reducing the need to travel through locational decisions and, where appropriate, providing a mix of uses;*
5. *incorporating measures which promote and enhance green infrastructure and provide an overall net gain in biodiversity as required by Policy 24 to improve the resilience of ecosystems within and beyond the site."*

4.8.32 Policy 31 (Vehicle and Cycle Parking) sets out that all new developments should provide sufficient levels of parking in accordance with the Parking Standards adopted by the Local Planning Authority. The policy sets out that the design of new car parking should (amongst other things) be well integrated within the landscape through an appropriate use of materials and landscaping. Depending on the scale of development the policy also sets out the need to prepare a Transport Assessment and Travel Plan, so as to demonstrate compliance with the policy.

4.9 North Kesteven District Council

4.9.1 The statutory development plan for North Kesteven currently comprises the Central Lincolnshire Local Plan (CLLP) which was adopted by the Central Lincolnshire Joint Strategic Planning Committee in April 2017 and replaced the Local Plans of the City of Lincoln, West Lindsey and North Kesteven District Councils.

4.9.2 The policies from the CLLP considered to be of relevance to the Proposed Development are summarised and outlined in the following sections.

Central Lincolnshire Local Plan (Adopted, April 2017)

4.9.3 Policy LP1 (A presumption in Favour of Sustainable Development) is a strategic level policy that sets out the desire to deliver sustainable growth in Central Lincolnshire; this will underpin the strategy for the development of the area.

4.9.4 It sets out that when considering development proposals, the Central Lincolnshire districts of West Lindsey, Lincoln City and North Kesteven will take a positive approach that reflects the presumption in favour of sustainable development contained in the NPPF. The districts will work proactively with applicants to find solutions which mean that proposals can be approved, and to secure development that improves the economic, social and environmental conditions in Central Lincolnshire.

4.9.5 Planning applications that accord with the policies in the Central Lincolnshire Local Plan (CLLP) will be approved without delay, unless material considerations indicate otherwise. Where there are no policies relevant to the application or relevant policies are out of date at the time of making

the decision, then the appropriate Council will grant permission unless material considerations indicate otherwise – taking into account whether:

- "Any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the NPPF taken as a whole; or
- Specific policies in that Framework indicate that development should be restricted."

4.9.6 Policy LP5 (Delivering Prosperity and Jobs) sets out that the Central Lincolnshire authorities will, in principle, support proposals which assist in the delivery of economic prosperity and job growth to the area.

4.9.7 The CLLP identifies numerous employment site proposals split into various categories, and states employment proposals which are not identified directly in the CLLP will be supported provided:

- *"there is a clear demonstration that there are no suitable or appropriate sites or buildings*
- *within allocated sites or within the built up area of the existing settlement;*
- *the scale of the proposal is commensurate with the scale and character of the existing*
- *settlement;*
- *there is no significant adverse impact on the character and appearance of the area, and/or*
- *the amenity of neighbouring occupiers;*
- *there are no significant adverse impacts on the local highway network;*
- *there is no significant adverse impact on the viability of delivering any allocated employment site; and*
- *the proposals maximise opportunities for modal shift away from the private car."*

4.9.8 Policy LP12 (Infrastructure to Support Growth) seeks to ensure that all development is supported by, and have good access to, all necessary infrastructure. To set out what, where and how infrastructure will be needed and delivered an Infrastructure Delivery Plan (IDP) has been prepared alongside the CLLP; this covers 'Energy' (electricity, gas and district heating systems) as a broad category of infrastructure.

4.9.9 Policy LP55 (Development in the Countryside) Part E sets out the approach in relation to non-residential development in the countryside, which will be supported providing:

- "*The rural location of the enterprise is justifiable to maintain or enhance the rural economy or the location is justified by means of proximity to existing established businesses or natural features;*
- *The location of the enterprise is suitable in terms of accessibility;*
- *The location of the enterprise would not result in conflict with neighbouring uses; and*
- *The development is of a size and scale commensurate with the proposed use and with the rural character of the location."*

4.9.10 Part G of the same policy sets out that the highest value agricultural land will be protected from development, only permitting development in these locations if there is insufficient lower grade land available; impacts of the proposal upon ongoing agricultural operations have been

minimised through the use of appropriate design solutions; and if the land is restored (where feasible) following the cessation of the useful life of the development.

4.9.11 Policy LP26 (Design and Amenity) sets out the principle that all development must achieve high quality sustainable design that contributes positively to local character, landscape and townscape, and supports diversity, equality and access for all. Development proposals will be assessed against relevant design and amenity criteria including:

"Design *(not limited to the following):*

- *Make effective and efficient use of land;*
- *Incorporate appropriate landscape treatment to ensure that the development can be satisfactorily assimilated into the surrounding area; and*
- *Not result in the visual or physical coalescence with any neighbouring settlement.*

Amenity *(not limited to the following):*

- *Compatibility with neighbouring land uses;*
- *Overlooking;*
- *Overshadowing;*
- *Loss of light;*
- *Increase in artificial light or glare;*
- *Adverse noise and vibration;*
- *Adverse impact upon air quality from odour, fumes, smoke, dust and other sources; and*
- *Adequate storage, sorting and collection of commercial waste, including provision for increasing recyclable waste."*

4.9.12 Policy LP17 (Landscape Townscape and Views) sets out the consideration of new development within a landscape context under a series of subheadings as follows.

"Character and setting

To protect and enhance the landscape in the plan area, proposals should have regard to maintaining and responding positively to any natural and man-made features within the landscape and townscape which positively contribute to the character of the area, such as (but not limited to) historic buildings and monuments, other landmark buildings, topography, trees and woodland, hedgerows, walls, water features, field patterns and intervisibility between rural historic settlements. Where a proposal may result in significant harm, it may, exceptionally, be permitted if the overriding benefits of the development demonstrably outweigh the harm: in such circumstances the harm should be minimised and mitigated.

Creating and protecting views

All development proposals should take account of views in to, out of and within development areas: schemes should be designed (through considerate development, layout and design) to preserve or enhance key local views and vistas

The Lincolnshire Wolds, Lincoln's historic skyline and Areas of Great Landscape Value

The considerations set out in this policy are particularly important when determining proposals which have the potential to impact upon the Lincolnshire Wolds Area of Outstanding Natural Beauty (AONB) and the Areas of Great Landscape Value and upon Lincoln's historic skyline."

4.9.13 Policy LP18 (Climate Change and Low Carbon Living) sets out that Development proposals will be considered more favourably if the Scheme would make a positive and significant contribution towards one or more of the following (listed in order of preference):

- *"Reducing demand – reduce need for energy consumption through design;*
- *Resource efficiency – utilise sustainable materials in construction;*
- *Energy production – by providing renewable energy infrastructure as part of the design; and/or,*
- *Carbon off-setting – by providing woodland, fenland, or grassland."*

4.9.14 Policy LP20 (Green Infrastructure Network) states that development proposals which are consistent with and help deliver the opportunities, priorities and initiatives identified in the latest Central Lincolnshire Green Infrastructure Study and Biodiversity Opportunity Mapping Study, will be supported. Proposals that cause loss or harm to this network will not be permitted unless the need for and benefits of the development demonstrably outweigh any adverse impacts. Where adverse impacts are unavoidable development will only be permitted if suitable mitigation measures for the network are provided.

4.9.15 Development proposals must protect the linear features of the green infrastructure network that provide connectivity between green infrastructure assets, including public rights of way, bridleways, cycleways and waterways, and take opportunities to improve such features.

4.9.16 Policy LP14 (Managing Water Resources and Flood Risk) states that in relation to flood risk all development proposals will be considered against the NPPF, including application of the sequential and, if necessary, the exception test.

4.9.17 Through appropriate consultation and option appraisal, development proposals should demonstrate that numerous key considerations relating to flood risk have been taken into account, including for example (but not limited to):

- *"Appropriate use of Flood Risk Assessments (FRAs);*
- *No increased flood risk as a result of the development; and*
- *Sustainable Drainage Systems (SuDS) have been incorporated into proposals."*

4.9.18 Under the heading of protecting the water environment policy LP14 also states that development proposals that are likely to impact on surface or ground water should consider the requirements of the Water Framework Directive (WFD). Development proposals should demonstrate numerous key considerations have been met, for example (but not limited to):

- *"that development contributes positively to the water environment and its ecology where possible;*
- *that development with the potential to pose a risk to groundwater resources is not located in sensitive locations to meet the requirements of the WFD;*
- *that no surface water connections are made to the foul system; and*
- *that relevant site investigations, risk assessments and necessary mitigation measures for source protection zones around boreholes, wells, springs and water courses have been agreed with the relevant bodies."*

4.9.19 Aligned to Policy LP14 is policy LP16 (Protecting the Water Environment) which states that development proposals must take into account the potential environmental impacts on people, biodiversity, buildings, land, air and water arising from the development itself and any former use of the site, including, in particular, adverse effects arising from pollution.

4.9.20 Where development is proposed on a site which is known to be or has the potential to be affected by contamination, a preliminary risk assessment should be undertaken by the developer and submitted to the relevant Central Lincolnshire Authority as the first stage in assessing the risk of contamination.

4.9.21 Proposals will only be permitted if it can be demonstrated that the site is suitable for its proposed use, with layout and drainage taking account of ground conditions, contamination and gas risks arising from previous uses and any proposals for land remediation, with no significant impacts on future users, neighbouring users, groundwater or surface waters.

4.9.22 Policy LP21 (Biodiversity and Geodiversity) requires that all development should:

- *"protect, manage and enhance the network of habitats, species and sites of international, national and local importance (statutory and non-statutory), including sites that meet the criteria for selection as a Local Site;*
- *minimise impacts on biodiversity and geodiversity; and*
- *seek to deliver a net gain in biodiversity and geodiversity."*

4.9.23 The policy confirms that all development proposals that will have an adverse impact on a European Site or cause significant harm to a Site of Special Scientific Interest, located within or outside Central Lincolnshire, will not be permitted, in accordance with the NPPF.

4.9.24 Furthermore, it states that planning permission will be refused if it will result in the fragmentation of irreplaceable habitats, including ancient woodland and aged or veteran trees, unless the need for, and benefits of, the development in that location clearly outweigh the loss or harm. Accordingly, developments should:

- "*For major development, adopt an ecosystem services approach, and also a landscape scale approach to biodiversity and geodiversity protection and enhancement identified in the Central Lincolnshire Biodiversity Opportunity Mapping Study.*
- *Development proposals should create new habitats, and links between habitats, in line with the Mapping Study.*

- *If development is within a Nature Improvement Area (NIA), it should contribute to the aims and aspirations of the NIA.*
- *Be supported by an assessment (as required by the relevant legislation or national planning guidance) where adverse effects on sites with designated features and / or protected species are possible. Proposals will only be supported if the benefits of the development clearly outweigh the harm to the habitat and/or species, and appropriate mitigation will be required when adverse impacts are expected."*

4.9.25 Policy LP25 (The Historic Environment) states that development proposals should protect, conserve and seek opportunities to enhance the historic environment of Central Lincolnshire.

In instances where a development proposal would affect the significance of a heritage asset (whether designated or non-designated), including any contribution made by its setting, the applicant will be required to undertake the following, in a manner proportionate to the asset's significance:

- *"Describe and assess the significance of the asset;*
- *Identify the impact of the proposed works; and,*
- *Provide justification for the works, so that any harm can be weighed against public benefits."*

4.9.26 Unless it is explicitly demonstrated that the proposal meets the tests set out in the NPPF, permission will only be granted or development affecting designated or non-designated heritage assets where the impact of the proposal(s) does not harm the significance of the asset and/or its setting.

4.9.27 Proposals will be supported where they protect the significance of assets (and non-designated assets) and their setting and promote opportunities to better reveal heritage assets and enhance existing features.

4.9.28 The policy provides more detailed guidance on Listed Buildings, Conservations Areas, and archaeological remains and how proposals will be assessed in relation to these assets.

4.10 South Holland District Council

4.10.1 The statutory development plan for SHDC currently comprises the 'saved' parts of the South Holland Local Plan (SHLP). The SHLP was originally adopted in 2006, and the policies were then reviewed in 2009 and either 'saved' where relevant or deleted where not. If the policies within the Local Plan are not consistent with the NPPF then policy dictates that they should be given reduced weight or none at all.

4.10.2 BBC, SHDC, and LCC are in the process of preparing a new local plan, the SELLP, which will guide development in the area until 2036 and act as a replacement for the SHLP. The Plan is currently (May, 2017) at draft stage and therefore is considered a material consideration in the determination of planning applications. It is expected the plan will be adopted in Spring 2018.

4.10.3 The policies from the SHLP which have been considered to be of relevance to the NGVL scheme have been summarised and are outlined in the following sections. The relevant policies from the SELLP can be found in section 4.5 and are therefore not repeated here.

South Holland Local Plan 2006 (Saved Policies, 2009)

4.10.4 Policy SG1 (General Sustainable Development) advises that planning permission for development will be granted where the Council is satisfied that the proposal is consistent with the principles of sustainable development, and where:

1. *"the quality of life for residents is unimpaired or enhanced;*
2. *reasonable measures have been taken to conserve energy and natural resources; and*
3. *South Holland's essential character and main environmental assets are not damaged."*

4.10.5 Policy SG2 (Distribution of Development) states that all proposals for development must be located having regard to sustainable development principles. They should:

1. *"adopt a sequential approach which gives priority to the use of previously developed land and buildings within defined settlement limits, then to greenfield land within defined settlement limits and finally to land adjacent to defined settlement limits;*
2. *make efficient use of land;*
3. *ensure that, wherever possible, development is served by a choice of transport modes including existing public transport or by improvements to public transport infrastructure linked directly to the development and the existing highway network; and*
4. *ensure that the development is acceptable in terms of traffic generation and road safety in the surrounding area."*

4.10.6 Policy SG4 (Development in the Countryside) states that planning permission will only be granted for development in the open countryside which is essential in the proposed location and cannot reasonably be accommodated within defined settlement limits. Development proposals that would result in an unacceptable impact upon the landscape character of an area, either individually or cumulatively, will only be permitted where:

1. *"the need for the development in that location outweighs its impact; and*
2. *no other site or solution exists to accommodate the proposed development."*

4.10.7 Policy SG6 (Community Infrastructure and Impact Assessment) states that new development will be required to include measures to demonstrate how public infrastructure and services required to support the development will be delivered. The delivery of such services will be secured by planning conditions or legal agreements/ planning obligations.

4.10.8 Policy SG7 (Energy Efficiency) advises that development proposals will be encouraged where they are designed to provide maximum energy efficiency, through site layout and orientation, through the layout and design of individual buildings, including maximizing solar gain especially

for residential buildings, and where they make full practical use of energy from renewable resources.

4.10.9 All development with a floor space of 1000 sq. m. or more will be required to demonstrate good practice in energy efficiency and to incorporate renewable energy production equipment to provide at least 10% of its predicted energy requirements.

4.10.10 Policy SG11 (Sustainable Urban Drainage Systems) confirms that development generating surface water run-off, likely to result in increased flood risk, will be permitted provided that:

1. *"The development's surface water management system accords with sustainable development principles and has been designed as part of the development layout; and*
2. *The system will effectively control and adequately mitigate or attenuate any adverse effects from surface water run-off on people, habitats of acknowledged importance and property; and*
3. *Developers can ensure long term maintenance of the drainage systems, where necessary through planning obligations."*

4.10.11 Where this is not possible the developer will be required to implement an alternative method of surface water disposal that is to the Council's satisfaction.

4.10.12 Policy SG13 (Pollution and Contamination) planning permission will only be permitted for development proposals which:

1. *"do not cause unacceptable levels of pollution of the surrounding area by noise, light, toxic or offensive odour, airborne pollutants or by the release of waste products;*
2. *provide, as necessary, appropriate treatment of land to clean up pollution and contamination."*

4.10.13 Policy SG14 (Design and Layout of New Development) states that new development should be designed to ensure that it makes a positive contribution to the architectural and visual quality of its surroundings. It should normally respect the vernacular architecture of the area in which it is located although high quality contemporary design will be supported in appropriate contexts. In assessing the design and layout of new development the following matters will be taken into consideration:

1. *"local distinctiveness;*
2. *the choice of materials;*
3. *the historic pattern of development in the locality;*
4. *the relationship of the development to the character, form and scale of existing buildings nearby;*
5. *the scale, form and height of the proposed development;*
6. *architectural detailing;*
7. *the effect of the development on the amenity of nearby residents in terms of noise, smell, general disturbance, overlooking and loss of light;*

8. *planting and measures to promote biodiversity;*
9. *the layout of vehicular access, parking and manoeuvring facilities and the provision of facilities for cyclists and pedestrians;*
10. *the needs of disabled persons;*
11. *the use of sustainable materials and methods of construction;*
12. *measures to reduce the potential for crime and disorder."*

4.10.14 Development that would have an adverse effect on the character and appearance of the locality, or which would prejudice the comprehensive development or redevelopment of an area, will not be permitted.

4.10.15 Policy SG18 (Landscaping of New Development) states that proposals for new development should, where appropriate, incorporate landscaping proposals as an integral part of their design and layout and a landscaping strategy will be required to support all major development proposals. Particular attention will be paid to:

1. *"the protection of any existing trees and hedgerows, and any other attractive landscape features;*
2. *the provision of strategic tree planting of indigenous species to improve the setting of development within the wider landscape;*
3. *the maintenance and establishment of wildlife habitats and corridors."*

4.10.16 Policy E1NA (Development and Sites of Local Biodiversity Interest) states that development and proposals which will adversely affect the nature conservation value of sites of local biodiversity interest, as shown on the Proposals Map , will only be permitted where: Policy SG17 (Protection of Residential Amenity) states that planning permission will be granted for development which would not cause material harm to residential amenity and that in considering such proposals, the following will be taken into account.

1. *"the extent of any overlooking or loss of privacy;*
2. *the extent of any overbearing or overshadowing effect;*
3. *potential noise nuisance including that associated with vehicular activity;*
4. *the levels of smell, emissions and pollutants."*

4.10.17 Policy SG15 (New Development: Road Users Pedestrians and Cyclists) confirms that proposals for development shall provide safe and convenient access to and within the site for motor vehicles, cyclists, pedestrians, the less able-bodied and people with disabilities to accommodate the potential increase in movement generated by the proposal. New and improved roads, cycleways and footpaths shall reflect through layout and design the anticipated nature of future traffic and the character of areas to be served. Policy TC2 (Cycling, Cycleways) states that the District Council will protect the existing and projected cycleways, as defined on the proposals map, and extend them as opportunities arise. Planning permission will not be granted for proposals that would prejudice any element of the existing cycleway network or the implementation of the proposed or extended network.

5 Planning Appraisal

5.1 Introduction

5.1.1 Section 70(2) of the Town and Country Planning Act 1990 and Section 38(6) of the Planning and Compulsory Purchase Act 2004 set out that an application for planning permission should be decided in accordance with the development plan unless there are material considerations that indicate otherwise.

5.1.2 This section of the Planning Statement contains an appraisal of the Scheme against the planning policy framework as set out within Section 4, focusing on the strategic and core land use policies to consider the acceptability of the 'principle' of the proposed development. Further consideration is given within Section 6 to more specific matters having regard to a summary of the topic chapters of the ES. Section 8 concludes upon the overall acceptability of the Scheme, in light of the identified planning policy framework.

5.2 Delivery of New Energy Infrastructure

5.2.1 As a PCI, under the TEN-E Regulations, the Project is afforded significant weight in the 'permit granting process' and in spatial planning terms (including the environmental assessment work) it has the highest national significance possible. UK legislation and related planning policy framework place a clear emphasis on the importance of delivering national infrastructure projects.

5.2.2 There is a national imperative in the delivery of new energy infrastructure, to support the Government's ambitions to transfer towards a low carbon economy and tackle climate change. The need for such development is set out within the Government's National Planning Policy Statements and this is referred to within more detail in Section 2.5 (Need for the Project) of this statement.

5.2.3 National Planning Policy Statements are primarily used to guide the determination of Nationally Significant Infrastructure Projects (NSIPS) via the Development Consent Order (DCO) regime under the Planning Act 2008. Whilst the Project does not meet the thresholds set out in the Planning Act 2008 and there is no requirement for a DCO to be pursued, paragraph 1.2.1 of EN1, National Policy Statements are considered as relevant material planning considerations.

5.2.4 The Overarching NPS for Energy EN1 notes that it is critical for the UK to have secure and reliable supplies of electricity during the transition to a low carbon economy. The NPS notes that '*existing transmission and distribution networks will have to evolve and adapt in various ways to handle increases in demand.'* Interconnectors such as NGVL are considered to support and form an integral part of the UK's electricity networks.

5.2.5 The NPS for Electricity Networks Infrastructure (EN-5) highlights that new electricity generating infrastructure needed by the UK to facilitate the move to a low carbon economy, whilst

maintaining security of supply, will be heavily dependent on the availability of a fit for purpose and robust electricity network. That electricity network will need to be able to support a more complex system of supply and demand and cope with generation occurring in locations of greater diversity. Paragraph 17 of the NPPF refers to one of the core planning principles as being the transition to a low carbon future and encourages the use of renewable resources.

5.2.6 As set out at national planning policy level there is an imperative to ensure that electricity supply is reliable, secure and sufficient to meet increasing demand as part of the Government's long term strategy to moving towards a low carbon economy. Interconnectors, such as Viking Link, have an important role to play as part of a package of investment in the electricity transmission network.

5.2.7 The UK currently has 4 gigawatts[1] (GW) of interconnector capacity[6] which only represents 5% of the existing electricity generated[2]. When compared with other EU countries, Great Britain is in the lower quartile of interconnector capacity. In December 2013 the Government published a paper titled '*More interconnection: improving energy security and lowering bills*' which outlined the commitment to increase Great Britain's interconnection capacity[3]. The paper highlights that interconnection has the potential to contribute to ensuring energy security, affordability and decarbonisation, whilst facilitating the single European electricity market. Government supports the increase of interconnection capacity through projects that efficiently deliver on these objectives and believes that further interconnection is likely to be beneficial for Great Britain and British consumers, as well as European partners.

5.2.8 In March 2016 the National Infrastructure Commission (NIC) issued a report titled '*Smart Power*'[4] which highlighted that interconnectors allow Great Britain to access low cost, low carbon power as well as providing the ability to export British renewable energy during levels of high generation. The report goes on to state that interconnectors provide flexibility allowing large volumes of electricity to be moved from where it isn't needed to where it is, which provides the potential to reduce wholesale electricity costs and improve security of supply. Interconnectors can enable Great Britain to access low carbon electricity at a lower cost. In the Government response to this report which was issued in April 2016, the Government agreed with the commission's recommendation that more interconnection was in the interests of consumers, whilst making an important contribution to security of supply and helping to integrate more clean energy into the energy system. The response also included the statement:

'*The government has previously stated that an increase of 5GW of additional interconnection capacity could be considered beneficial to GB consumers. Given evidence provided by Ofgem*

[1] 1 gigawatt (GW) = one billion Watts = 1,000,000.000 Watts = 1 x 10^9 Watts.

[2] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/510525/2904569_NIDP_2016-2021_updated.pdf

[3] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/266460/More_interconnection_-_improving_energy_security_and_lowering_bills.pdf

[4] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/505218/IC_Energy_Report_web.pdf

and the commission, the government now supports the market delivery of at least 9GW of additional interconnection capacity, believing this to be beneficial to consumers.'

5.2.9 In March 2016 the Infrastructure and Projects Authority issued a report titled '*National Infrastructure Delivery Plan 2016-2012*'[5]. The report recognises that a modern society and economy are built around energy infrastructure and homes and businesses could not function without energy infrastructure which ensures we stay warm, keep the lights on and support our day to day activities. The report highlights that the Government recognises the important role that interconnectors play in supporting energy security, affordability and decarbonisation objectives and confirms the Government's ambition for greater electricity interconnection of at least 9 GW of additional capacity.

5.2.10 In October 2016 the Institution of Civil Engineers (ICE) published the report titled '*National needs assessment - A vision for UK infrastructure*'[6]. The document includes a sectorial analysis which provides a description of the main sector specific challenges. In the section covering energy it states:

"*The UK currently faces what has been called the 'energy trilemma', namely balancing security of supply, environmental goals (including carbon emissions and local air quality) and the affordability of energy for domestic and industrial energy users."*

5.2.11 One of the recommendations in the report for the energy sector was:

"*The Government should commit to a plan for low carbon electricity generation capacity which ensures security of supply through to at least 2035. To create a stable environment for these long term investments, Government should commit to a diverse mix of energy generation based on nuclear, renewables, gas and interconnectors and set out an expectation as to the approximate proportions of different sources of generation."*

5.2.12 In April 2017 the Institute for Public Policy Research (IPPR) North published a report titled '*Leading, adopting or drifting? Where next for the Northern energy sector?*'[7] on the energy sector in the North of England. The report identifies that interconnection between different regions and countries allows energy to be traded at times of excess supply or demand and are a key part of managing energy in a '*smart system*'.

5.2.13 As part of the Climate Change Act 2008 a target has been set of an 80% reduction in greenhouse gas emissions by 2050. This equates to a 34% reduction in greenhouse gas emissions by 2020 as specified by the Climate Change Committee. The report entitled *'UK climate change action following the Paris Agreement'* produced in October 2016 acknowledged that the current policy in the UK is not enough to deliver the existing carbon budget. The report acknowledges that (based on current policies), only half of the current target would be delivered by 2030 and that the gap must be closed in order to meet the 2050 target.

[5] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/520086/2904569_nidp_deliveryplan.pdf

[6] https://www.ice.org.uk/media-and-policy/policy/national-needs-assessment-a-vision-for-uk-infrastr

[7] http://www.ippr.org/files/publications/pdf/leading-adopting-or-drifting-NETF_Apr2017.pdf?noredirect=1

5.2.14 This approach to reducing the impacts of climate change is also highlighted in the NPPF, with one of the 12 core principles being to support the transition to a low carbon economy, which is repeated at paragraph 94 of the NPPF and sets out how this can be achieved; which includes planning for new development in ways which reduce greenhouse emissions. Furthermore, policy LP18 of the CLLP confirms that development proposals will be considered more favourably if (amongst other things) it promotes resource efficiency and results in the provision of renewable energy infrastructure.

5.2.15 Taking into account the planning policy emphasis at the national and local level and the published research on the issue, it is clear that interconnectors have an important role to play in delivering a diverse energy mix and in this regard NGVL will make a valuable contribution to the reliability, security and availability of supply. Moreover, the Scheme will also offer direct support to the UK in meeting carbon reduction commitments as set out across the policy spectrum and emphasised by the NPPF and NPPG and the policies of the CLLP.

5.2.16 Turning to the issue of new infrastructure provision, the NPPF sets out that there are 3 elements to sustainable development, economic, social and environmental. In respect of economic development the importance of the provision of infrastructure is highlighted, as is creating the conditions for economic growth and prosperity, including in rural areas. The NPPF also recognises the importance of planning for new infrastructure as part of the plan making process and the delivery of this through cross-boundary co-operation stating that LPA's should;

"take account of the need for strategic infrastructure including nationally significant infrastructure within their areas."

5.2.17 The NGVL Scheme is a direct example of a scheme of strategic infrastructure of national significance and all of the determining authorities should continue to give material weight to this point in the continued preparation and planned adoption of the emerging replacement local plans as summarised in section 4 of this planning statement. In any event, the importance placed upon strategic infrastructure is still material in the determination of the planning applications.

5.2.18 The importance of infrastructure provision is also highlighted at the local level with policy LP12 of the CLLP noting that all development should have access to and be supported by the necessary infrastructure, with its delivery being set out in the accompanying Infrastructure Delivery Plan. This is complemented by Policy SP28 of the East Lindsey Core Strategy, which sets out that infrastructure schemes will be supported provided they are essential in the national interest, contribute to sustainable development and respect the distinctive character of the district.

5.2.19 As already highlighted the Project is an important infrastructure scheme of national importance providing an interconnector link between the UK and Denmark. It positively contributes to energy supply and security that is also of European importance, being subject to the TEN-E Regulation and is classed as a PCI that delivers benefit to at least two European member states. The Scheme also supports wider sustainability objectives by meeting with the principles of sustainable economic development as defined by the NPPF (along with other sustainability

principles as will be referred to later within this planning statement) .It supports the transition towards a low carbon economy through the provision of the appropriate infrastructure.

5.2.20 The explanatory text associated with policy SP28 explains that infrastructure schemes should be accompanied by an impact assessment that considers how a scheme impacts on landscape and setting including individual and cumulative effects. Compliance with this element of the policy is referred to later within this planning statement in the summary of the ES that has been prepared in support of the planning applications.

5.2.21 Policy SP27 of the East Lindsey Core Strategy is a specific policy relating to Renewable and Low Carbon Energy, setting out that development for the transmission and interconnection of electricity (including infrastructure to support it) will be supported when individual or cumulative impact is considered to be acceptable in relation to specified detailed matters. These detailed matters include consideration of impacts in relation to residential amenity, landscape/townscape, heritage assets, biodiversity/geo-diversity, the local economy, highway safety and the water environment.

5.2.22 It is clear that the terms of policy SP27 of the Core Strategy seek to provide in principle support to new infrastructure for the transmission and interconnection of electricity and in this respect, NGVL is compliant with the overall aims of policy SP27. Further consideration of the compliance with the detailed elements of the policy as summarised, are considered later in this statement as part of the summary of the topics within the ES.

5.3 Sustainable Development

5.3.1 The NPPF sets out at an overarching level the presumption in favour of sustainable development and its importance in decision making. This presumption includes approving decisions that accord with the development plan without delay and granting planning permission where the development plan is absent, silent or relevant policies are out of date, unless:

"Any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in the framework taken as a whole; or

Specific policies in this Framework indicate development should be restricted"

5.3.2 Policy 1 of the SELLP and policy LP1 of the CLLP repeats the advice as set out within the NPPF, in that development that accords with the development plan will be approved without delay and in the circumstances where a development plan is absent, silent or out of date, consideration will be given to compliance with the NPPF as summarised above.

5.3.3 Strategic Policy 2 of the East Lindsey Core Strategy reinforces this approach, but also sets out that the Council will take a positive and proactive approach in working with applicants and where there are problems, work closely with applicants so that applications can be approved wherever possible. The explanatory text associated with the policy also confirms that planning applications that accord with the policies of the plan will be approved without delay.

5.3.4 Policy SG1 of the SHLP advises that planning permission for development will be granted where the Council is satisfied that the proposal is consistent with the principles of sustainable development and where:

"The quality of life for residents is unimpaired or enhanced;

Reasonable measures have been taken to conserve energy and natural resources: and

South Holland's essential character and main environmental assets are not damaged"

5.3.5 One of the core principles of the presumption of sustainable development as outlined in the NPPF is the significant weight to be afforded to development proposals that accord with an up to date development plan. The development plans in place within the administrative areas of the determining planning authorities are at varying stages of preparation and therefore consideration is given to saved policies of adopted plans, where of relevance and no conflict exists with the NPPF, along with emerging or recently adopted plans across the four LPA areas.

5.3.6 The proposed NGVL Scheme is considered to be consistent with sustainable development principles at the national and local level in that:

- It is consistent with the core principles of the development plan policies of the determining planning authorities and should therefore be approved without delay in a pro-active and positive manner;
- There are no demonstrable impacts that outweigh the benefits of the Scheme taking the NPPF as a whole and there are no specific policies within the NPPF that specifically restrict the type of development proposed;
- It reflects the 3 core principles of sustainable development, particularly the economic role in that it supports growth and innovation and infrastructure to support development requirements;
- There would be no unacceptable impacts on residential amenity as a result of the proposed Scheme;
- The Scheme, seeks to limit any significant or permanent effects on natural resources; and
- The Scheme will not result in any demonstrable harm to the inherent character and associated environmental assets of the area, within which the Scheme route passes.

5.3.7 Although NGVL is a separate entity to NGET, and is a wholly owned subsidiary of NG, operating under a separate electricity interconnector licence. NGVL share NG's purpose, vision and values which is summarised below.

5.3.8 National Grid takes its environmental responsibilities seriously and seeks to embed sustainability into its thinking and decision making processes. By embracing environmental sustainability, National Grid are able to find a better way to do business, build environmental benefit and invest in enhancing natural assets. This includes a commitment to climate change adaptation and caring for the natural environment. The overall approach and commitments are set out within National Grid's Environmental Sustainability Strategy entitled 'Our Contribution'

(http://www2.nationalgrid.com/Responsibility/Preserving/Environmental-Sustainability/Our-Contribution/)

5.3.9 National Grid has an adopted Environment Policy which includes commitments (amongst other things) to ensure environmental sustainability is considered in decision making, creating a sustainable thinking culture, using resources more efficiently through good design using sustainable materials and ensuring that operations that have an impact on natural habitats are conducted in a manner to protect biodiversity and enhance the natural value of the area for the benefit of local communities and/or the environment.

5.3.10 As referred to earlier within this statement, the NPPF identified 3 elements to sustainable development. These are set out below, including how the Scheme is able to demonstrate compliance.

An Economic role – contributing to building a strong, responsive and competitive economy, including through the provision of infrastructure;

5.3.11 The economic benefits of the UK Onshore Scheme (and the wider Project) are significant as an infrastructure project of national importance. This is referred to in part in section 5.2 and expanded on below.

5.3.12 The TEN-E Regulation lays down rules for the timely development and interoperability of energy networks in EU Member States and the European Economic Area (EEA). The TEN-E Regulation establishes that PCIs are necessary to take forward EU energy networks policy and should be given the most rapid consideration in the permit granting process that is legally possible.

5.3.13 The Socio Economic Welfare (SEW) value of interconnectors comes from their ability to improve the efficiency of outcomes in the electricity system, lowering the cost of meeting demand and of achieving other policy objectives such as improving security of supply and enabling more efficient renewables integration. The SEW value of interconnectors comes principally from balancing the capital and operational costs of new connections with the cost and efficiency improvements represented by hourly wholesale price differences between markets. Such wholesale price variations between markets provide the key market signals for interconnection and by exploiting these differences interconnectors affect the SEW of the system.

5.3.14 The UK Onshore Scheme is also anticipated to have various direct employment benefits as detailed in Chapter 26 (Socio-Economics and Tourism) of the ES and summarised later in this Planning Statement. In this respect, the Scheme is anticipated to generate the need for approximately 221 Full-time equivalent jobs (both directly and indirectly) during the construction phase of the development. This is also likely to result in positive wider economic activity within the region, resulting from increased expenditure associated with such new job creation.

A social role – supporting strong, vibrant and healthy communities and supporting health, social and cultural well-being;

5.3.15 The delivery of the UK Onshore Scheme will, by the nature of the Project have limited new direct beneficial impacts in terms of supporting healthy communities and/or supporting social and cultural well-being. Notwithstanding this, it can also be said that the DC cable element of the

Scheme will have no long term negative impact on local recreational facilities or tourism and will ensure a large scale reinstatement following the construction phase of the development.

5.3.16 In this respect, any permanent effects upon the local community are more limited, when considering the overall potential impacts of the Scheme. For example, there will be no permanent effects to Public Rights of Way (PROW) as a result of the Scheme and much of the 'status quo' will remain following construction and reinstatement of the land.

5.3.17 Equally, the surveys and assessment work undertaken along the proposed cable route support the conclusion that no detrimental impact on residential amenity will occur, currently enjoyed by occupiers of residential properties along the route.

An environmental role – contributing to protecting and enhancing natural, built and historic environment, improving biodiversity, using natural resources prudently, minimise waste and pollution and mitigate and adapt to climate change, including moving to a low carbon economy.

5.3.18 Throughout the development and optioneering phase of the Scheme, NGVL sought to produce a design solution that minimises the impacts upon the environment, avoiding significant effects where possible and producing robust mitigation solutions where such effects are unavoidable. The avoidance first principal has resulted in the delivery of a DC cable route that will be buried underground, which by its very nature will significantly reduce the permanent effects upon the surrounding environment. Further detail on this is provided in section 6 of this statement Summary of Environmental Effects.

5.3.19 Moreover, as summarised in the needs case within section 2.5 of this statement and also referred to within section 5.2 above, interconnectors have an important role to play in the transition towards a low carbon economy. The UK Government recognises the important role interconnectors play in achieving Great Britain's energy security, affordability and decarbonisation objectives. It is recognised that in order to have a competitive, sustainable and secure supply of energy, there is a need to invest in new infrastructure and diversify the way in which the energy market operates.

5.3.20 There are a range of challenges facing the UK's electricity sector over the next few years with a decline in the traditional energy economy including the closure of coal fired generating plants and nuclear power stations as well as many combined cycle gas turbines reaching the end of their working lives, which impacts on the security of energy supply.

5.3.21 The UK is one of the world's largest producers of wind energy. However, wind energy generation is, by its very nature, intermittent, so plant and equipment has to be able to respond to rapid changes in generating output. Interconnectors, such as Viking Link, provide an effective way to manage these fluctuations in supply and demand, by enabling energy from one geographical market to be used in another market. If too much renewable energy is generated in one region, the energy that is surplus to requirements can be easily transmitted through the interconnector to a region where the level of demand is higher. This supports the achievement of European

renewable and climate change targets. It will also reduce the demand for non-renewable energy sources.

5.3.22 Accordingly, in respect of supporting sustainable energy supply generation. The NGVL project as an interconnector scheme is an important means to help manage the fact that electricity cannot currently be stored efficiently at a large scale and not all electricity sources can generate consistently and predictably. In doing this, the Scheme supports a means to transfer surplus energy between countries when too much is generated at once to be used domestically. This should make a significant contribution to forging a lower carbon economy in Great Britain, Denmark and Europe and to helping with the challenge of retiring fossil fuel and nuclear plants in the Great Britain and of supporting neighbouring wholesale and supply markets. In supporting the approach to achieving sustainable development, this should be afforded significant weight.

5.4 Development within the Countryside

5.4.1 The NGVL Scheme lies predominantly within a countryside and/or rural location and is therefore subject to the provisions of relevant policies that apply. Whilst the NPPF does recognise the intrinsic character and beauty of the countryside (as part of a wider approach of taking account of the character and role of different areas), the management of new development has a focus on new residential development, recreational and leisure development and development within a Green Belt location, none of which apply in this case. Accordingly, the analysis below considers the principle of the UK Onshore Scheme within the context of the saved and emerging plans of the determining planning authorities. The issue of development within the AONB is dealt with subsequently in section 5.4.14

5.4.2 In respect of the guiding principles of a new development within a countryside location policy LP55 of the CLLP sets out the criteria for allowing new development within the countryside providing that:

- The rural location of the enterprise is justifiable to maintain or enhance the rural economy or the location is justified by means of proximity to existing established businesses or natural features;
- The location of the enterprise is suitable in terms of accessibility;
- The location of the enterprise would not result in conflict with neighbouring uses; and
- The development is of a size and scale commensurate with the proposed use and with the rural character of the location.

5.4.3 The policy also affords protection to the high grade agricultural land, subject to no suitable and available lower grade land and subject to suitable mitigation measures in relation to the agricultural enterprise.

5.4.4 This policy is complimented by policy SG4 of the Boston Local Plan, which allows for new development in an open countryside location, which is essential to the location and cannot be accommodated within the settlement limits. Development which has an unacceptable impact on

landscape character will only be permitted where the need for the development in that location outweighs its impact and no other site or solution exists to resolve the problem.

5.4.5 Policies SP10, SP23 and SP25 of the East Lindsey Core Strategy set out the approach to new development within the countryside in respect of design, landscape and Green Infrastructure. SP10 supports well designed development that enhances the character of the countryside, whereas SP23 seeks to protect landscape character, with policy SP25 protecting green infrastructure and open spaces.

5.4.6 Taking into account the provisions of the above policies the key issues can be summarised as follows:

Appropriateness of the development within a countryside location

5.4.7 The UK Onshore Scheme by its very nature requires a countryside location. The delivery of the new DC and AC underground cabling and associated above ground infrastructure (converter station and access road) require sufficient open and accessible land that would not be possible or practical in a more urban location. The UK Onshore Scheme is a substantial scheme of linear infrastructure, with the operational parts of the Scheme and the associated construction corridor requiring continuous areas of open land of sufficient length and width. It must therefore avoid passing through urbanised areas or other more substantial settlements.

5.4.8 It is also the case that greenfield or open countryside land does not offer the same prohibitive construction costs that would undoubtedly apply in a more urban location. Following a basic sequential approach to development, there is no reasonable alternative to delivering the Scheme is a non-countryside location. Noting that the preferred point of connection onto the NETS is an existing substation location in a rural environment.

5.4.9 By virtue of a countryside location, the development will also largely avoid direct impacts upon existing built development within and adjoining the settlement limits, with the cable route corridor being designed to minimise any impacts in this regard. In this respect, there will be no adverse impacts on the rural economy, with the opportunity for enhancement through direct and indirect employment and increased economic activity within the region over the construction phase of the development.

5.4.10 Taking account of the cable route corridor there are no significant conflicts or severance of land located in and around the proposed route corridor and the Scheme is appropriate and in scale with a countryside location.

5.4.11 Moreover, given the majority of the Scheme will be buried underground; the permanent impacts (from a land-use planning perspective) are by their nature more limited, with large scale restoration of the land following the construction phase. The permanent evidence and impacts of the Scheme will therefore be limited to the converter station element of the Scheme. Other than the discrete marker posts, there will be no significant visible evidence of the DC/AC cable routes following construction, largely helping to maintain open spaces and the open nature of the countryside, whilst allowing land crossed to return to previous compatible (in respect of planning

policy objectives) countryside uses including agriculture and recreational use whilst also supporting continued use by wildlife and their habitats.

5.4.12 In this respect, the NGVL Scheme can be considered as compliant with the core objectives of the named local plan policies as referred to above (LP55 of the CLLP, SG4 of the Boston Local Plan and policies SP10, SP23 and SP25 of the East Lindsey Core Strategy).

Impact on the character of the countryside

5.4.13 Whilst the NGVL Scheme is considered to be compliant with the overall objectives of the policies referred to above, there is still a need to consider the impacts upon the landscape character and openness of the countryside. This is referred to later within this planning statement in the summary of the ES which considers in more detail such impacts and the subsequent effects.

Development within the Lincolnshire Wolds AONB

5.4.14 The proposed DC cable route passes through the Lincolnshire Wolds AONB for approximately 9km.

5.4.15 The NPPF indicates that "*great weight should be given to conserving landscape and scenic beauty in AONB's, which have the highest status of protection in relation to landscape and scenic beauty*" and NPPF paragraph 116 sets out the approach for managing planning applications which fall wholly or partially within an AONB designation. This is supported by policies in the existing and emerging development plans (Saved policy C11 of the East Lindsey Local Plan and policy SP23 of the emerging East Lindsey Core Strategy and policy LP17 of the CLLP).

5.4.16 Appendix 1 to this planning statement provides a high level overview of how the Project has developed its overall route focusing here on where the cables will cross the AONB and then considers each of the NPPF tests (NPPF paragraph 116) in turn to conclude that the overall Scheme is compliant with the required exceptional circumstances and demonstrable public interest tests to meet NPPF requirements.

5.4.17 NGVL has undertaken a detailed examination of the need for the Project and this is also summarised within Section 1 of this planning statement and chapter 3 of the ES.

5.4.18 In identifying the UK Onshore Scheme, NGVL has given consideration to a range of alternatives at both a strategic and detailed level. This has included consideration of alternative connection points to the NETS, alternative landfall and converter station sites as well as alternative cable route corridors. In assessing these alternatives NGVL has undertaken a series of specialist studies considering technical, environmental and economic factors as well as undertaken consultation with statutory and non-statutory consultees, stakeholder organisations, landowners and members of the public.

5.4.19 The preferred Scheme promoted in December 2016 within the Preferred Route Corridor Report, established the general location and arrangement of its component parts, further refinement has been undertaken in parallel with the EIA to inform a greater level of design definition and further

consider potential environmental impacts and opportunities for mitigation. In line with the iterative approach adopted by NGVL in developing the Scheme, the planning application submission retains the route through the AONB as it is considered that on balance the Scheme remains compliant with national and local policy.

5.4.20 It is considered that the Scheme meets with the requirements of the NPPF in only allowing new development within an AONB in exceptional circumstances and accords with the aims and policies set out in the AONB Management Plan and local policy.

5.4.21 There is clear need for the Project which is in the public interest. The route through the AONB provides the optimum route for the Project and any impacts will be temporary and short term and can be effectively moderated. There would be no detrimental long term impacts as a result of the Scheme.

5.4.22 With the mitigation set out in the ES it is considered that the delivery of the proposed Scheme will not conflict with the purposes of the AONB designation, nor will it result in long term permanent harm to the environmental value or recreational usage of the AONB. Furthermore, it is considered that the Scheme can be successfully accommodated within the AONB without material harm occurring.

6 Summary of Environmental Assessment

6.1 Introduction

6.1.1 A single ES supports the four planning application submissions and reports the results of an EIA of the UK onshore components of Viking Link which are located above MLWS.

6.1.2 Chapter 29 of the ES summarises and concludes the potential effects of the construction and operation of the onshore UK components of the Project. It is not the intention of this section to repeat the findings set out in the ES. Detailed information on each technical discipline can be found within the individual ES chapters. A Non-Technical Summary (NTS) of the ES accompanies this planning application providing further summary information on:

- The environmental characteristics of the area in which the Scheme is proposed and the key receptors which would potentially be affected by it.
- The mitigation measures which are proposed to be incorporated into the Scheme's design, construction and operation.
- The likely significant environmental effects of the Scheme which remain taking account of the mitigation.

6.1.3 Section 6 of this planning statement sets out an analysis of the Scheme and its effects against development plan policy.

6.2 Findings of the Environmental Statement

Landscape and Visual Amenity

Key Assessment Conclusions

6.2.1 As the DC and AC cable routes are buried infrastructure they have no significant long term impacts on the landscape character of the area.

6.2.2 In developing the route key landscape features have been avoided where possible and any features impacted by construction, e.g. hedgerows, trees etc. will be reinstated.

6.2.3 The DC and AC cable route are predicted to result in some impacts on visual amenity but these will be temporary during the construction phase with short term effects once operational while reinstatement becomes established.

6.2.4 The converter station will result in permanent effects on landscape character and visual amenity, mitigated as far as possible through a combination of orientation, siting, landscape design and the use of a Design Code to reflect the site and surroundings.

Local Policy Analysis and Mitigation

6.2.5 There are a number of applicable local plan policies relevant to the consideration of landscape impacts associated with the UK Onshore Scheme, four of which are contained within the East Lindsey Core Strategy. Policy SP10 supports the provision of sustainable well designed developments that maintain the character of the countryside, which is reinforced by policy SP23, which also seeks to protect, manage and where possible enhance the landscape of the district. Policy SP27 advises that development for the interconnection of electricity will be considered acceptable in the context (amongst other things) of landscape impacts, including respecting distinctive character and considering landscape impacts as detailed in policy SP28.

6.2.6 In addition to this, saved policy G2 of the Boston Local Plan states that planning permission will not be granted where there will be a significant impact on landscape character. Also, policies LP26 and LP27 of the Central Lincolnshire Local Plan set out the context for considering landscape impacts resulting in a positive impact on landscape character where possible. Finally, saved policy SG4 of the South Holland Local Plan states that new development in a countryside location that adversely impacts on landscape character will not be permitted unless the need for the development outweighs the impact and no other site or solution exists to accommodate the proposed development.

6.2.7 Section 5.4 of this planning statement (development in the countryside) has already considered in detail compliance with applicable local plan policies that guide development within the Lincolnshire Wolds AONB and therefore this won't be repeated here. Instead, this section gives more general consideration to compliance with other landscape focussed planning policies covering the parts of the Scheme that do not fall within the AONB and based upon the results of the Landscape Visual Impact Assessment (LVIA) which considers all parts of the proposed development.

6.2.8 The collective policy emphasis as summarised above is that landscape character, particularly in countryside location should be protected and enhanced where possible and that all new development should consider landscape impacts within the context of landscape character. Typically planning permission will not be granted if adverse impacts occur, other than in the case of policy SG4 of the South Holland Local Plan, which permits such development in the circumstances of both need and a lack of alternative, carrying a similarity to the tests of developing within an AONB contained in national and other local planning policy, as reviewed elsewhere in the planning statement.

6.2.9 In respect of the DC and AC cable route, as summarised above, there are no long term adverse impacts on landscape character. The converter station and permanent access road are also assessed as having an acceptable impact on landscape character. The converter station site will benefit from large areas of new landscape planting which will assist in screening views of the lower element of the development and provide new habitats. Whilst the scale of the resulting development means that it will be seen from longer range views, these views will be set against and filtered by landscape planting as well as other local infrastructure such as the adjacent overhead power lines and wind farm.

6.2.10 Accordingly, the Scheme can be said to comply with the relevant parts of policies SP10, SP23, SP27 and SP28 of the East Lindsey Core Strategy. Equally, the Scheme is similarly compliant with policies LP26 and LP27 of the Central Lincolnshire Local Plan along with saved policies G2 and SG4 of the Boston Local Plan and the South Holland Local Plan respectively.

Ecology

Key Assessment Conclusions

6.2.11 An extensive programme of protected species and habitat surveys has been undertaken as part of the EIA for the proposed development, the scope of which has been agreed with relevant statutory consultees.

6.2.12 The DC and AC cable routes will result in some temporary disturbance/displacement of protected species during the construction phase but there will be no significant effects.

6.2.13 The DC and AC cable routes will result in the temporary loss of some habitats. The design of the route has sought to minimise these impacts where possible and mitigation has been proposed where impacts are unavoidable including habitat reinstatement on completion of the construction phase.

6.2.14 At the converter station site there will be some disturbance and loss of habitat. However, through the use of the landscape masterplan the opportunity has been made for habitat creation and the planting of tree and shrub species reflective of the local area.

Local Policy Analysis and Mitigation

6.2.15 Chapters 10 and 21 of the ES provide a wide range of ecological surveys and reports which cover the relevant species affected by the construction and operation of the proposed development.

6.2.16 In line with the national policy, the relevant local planning policies in relation to nature conservation are found in the East Lindsey Local Plan 1999 (Saved Policies, September 2017) particularly policies ENV19: Local Sites of Nature Conservation Importance and ENV20: Protection of Habitats and the emerging East Lindsey Core Strategy (Submission Modifications Draft, March 2017) particularly SP24, SP25 and SP27 which collectively identify that damage caused from development should be kept to a minimum and states that development would not normally be permitted where loss of, or significant harm is caused to important habitats. This is mirrored in Boston Borough Local Plan (Saved Policies, 2007) Policy G2: Wildlife and Landscape Resource and Central Lincolnshire Local Plan (April 2017) Policy LP21: Biodiversity and Geodiversity.

6.2.17 NGVL has undertaken substantial base line studies and survey work of protected species and habitats as part of the EIA to establish the potential impacts of the proposed DC and AC cable routes on Ecology. The assessments identified that there would be some temporary disturbance/displacement of protected species as well as temporary loss of habitat (such as

hedgerows and drains), but no significant effects. Plans have been produced for the reinstatement of the affected landscape once construction has been completed. Following implementation of the proposed mitigation, the DC and AC cable works will not result in loss of or cause any significant harm to important habitats and therefore it is considered that the Scheme complies with the objectives of policies ENV19 and ENV20.

6.2.18 The converter station and permanent access road has also been assessed and, following implementation of the proposed mitigation, the level of impacts on ecological receptors from the construction and operation of the proposed converter station are considered acceptable.

6.2.19 It is therefore, considered that the proposed development complies with the requirements of all local level policy in that it, the Scheme, will not lead to the loss of, or significant harm to important habitats. Impact will be addressed through appropriate mitigation including working with the relevant bodies to obtain the necessary licences and consents prior to construction.

Archaeology and Heritage

Key Assessment Conclusions

6.2.20 The DC and AC cable routeing has sought to avoid designated archaeology. The level of undesignated archaeology in the area is acknowledged and as such a programme of archaeological mitigation, to be agreed in consultation with LCC advisors, will be implemented. An Archaeological Mitigation Strategy accompanies the submission to this effect.

6.2.21 Trial trenching has been undertaken at the converter station site, the results of which concluded the removal of archaeological assets prior to construction. A full programme of mitigation will ensure that heritage assets identified are investigated, recorded etc. prior to commencement of construction as set out in the Archaeological Mitigation Strategy.

Policy Analysis and Mitigation

6.2.22 In respect of compliance with relevant planning policy objectives, detailed guidance is provided both within the NPPF and the adopted and emerging local planning policies of the determining planning authorities. The NPPF requires that applicants consider the significance of any heritage assets affected, with a presumption to refuse consent for development that results in substantial harm or total loss of significance. Non-designated heritage assets of equivalent significance to scheduled monuments should be considered subject to the policies for designated heritage assets.

6.2.23 In the case of the underground cabling route, the Scheme has been designed to avoid all known significant below ground heritage assets that would equate to the value of a scheduled monument, therefore the Scheme is compliant with the objectives of the NPPF.

6.2.24 Policy SP11 of the East Lindsey Core Strategy seeks to protect and enhance heritage assets, which includes avoiding any harm to nationally unscheduled or locally significant archaeological sites. Policy 25 of the SELP carries a similar emphasis, seeking to respect the historic

environment, including important archaeology, whereas policy LP25 of the CLLP follows the approach as set out within the NPPF of prioritising the conservation of the historic environment and requiring consideration to be given to the impact upon a heritage asset and justification as appropriate, so any harm can be weighed against public benefits. As already referred to, the Scheme has avoided known nationally significant heritage assets and where possible, locally significant archaeological sites, albeit there may be a temporary effect on the setting of some heritage assets during the construction phase. Where heritage assets may be affected a programme of archaeological mitigation will be implemented through the Archaeological Mitigation Strategies.

6.2.25 Saved Policy CA14 (Coastal Conservation Areas) of the East Lindsey Local Plan states that new development will only be permitted where essential, and no new build development will be permitted on the seaward side of the sandhills; the Scheme is compliant with this policy as no above ground infrastructure is proposed at the coast.

6.2.26 It is therefore considered that the Scheme is compliant with national and local policy relating to the historic environment.

Traffic and Transport

Key Assessment Conclusions

6.2.27 Construction traffic has been assessed in detail taking into account seasonal fluctuations in traffic levels (summer and winter) on the main highway network. A Construction Traffic Management Plan (CTMP) will be developed in consultation with LCC and implemented based on the draft CTMP submitted with this application.

6.2.28 Once built and operational the converter station will result in very little traffic due to the low day to day staffing levels required to operate the site. The key traffic management issue therefore, is traffic generated by construction for both the converter station and cable route.

Local Policy Analysis and Mitigation

6.2.29 Chapters 14 and 25 of the ES provide detailed assessments and reports which identify the traffic and transport related impacts that would occur during the construction and operation of the proposed development.

6.2.30 A number of the local policies advocate that the general amenities of people living near to the development should be considered to ensure no unacceptable harm occurs. East Lindsey Local Plan (Saved Policies, September 2007) Policy A4: Protection of General Amenities, lists particular aspects the applicant should consider, some of which relate to traffic and transport. Aspects such as air pollution and increased traffic danger have been considered throughout the Scheme's design process. This is also mirrored in the Boston Borough Local Plan (Saved Policies, 2007) Policy G1: Amenity, and the South Holland Local Plan (Saved Policies, 2009) Policy SG2: Distribution of Development where it is suggested that planning permission will only

be granted for development which will not substantially harm the amenities of other nearby land users or residents because of the level of traffic generation as well as other listed aspects.

6.2.31 The criteria adopted during the development of the Scheme includes the avoidance, where possible of settlements thus reducing impacts on local communities. Traffic routes and access points have been fully assessed for the construction phase in order to identify the most appropriate locations from a highways safety and amenity perspective, and avoid the use of routes that would cause significant impact on local communities and the environment.

6.2.32 The planning application is accompanied by a draft CTMP and CEMP which include mitigation identified in the ES and contain measures to ensure compliance with relevant standards and legislation.

6.2.33 It is considered that the proposed development complies with the requirements of all local level policy in that it, the Scheme, will not lead to significant impact on local communities and the environment.

Agriculture and Soils

Key Assessment Conclusions

6.2.34 The underground cabling works would result in the temporary loss of approximately 198.6 ha of land, 74% of which is 'Best and Most Versatile' (BMV) agricultural land. Following completion of these works all agricultural land would be returned to its former state, therefore, there would be no permanent effect on agricultural land as a result of the underground cabling.

6.2.35 The converter station and access road would result in the permanent loss of BMV agricultural land in excess of 20 ha. The footprint of the converter station would be approximately the same regardless of location. The significant effect to agricultural land would most likely occur regardless of location. A significant effect on agricultural land is not anticipated for the AC Cable Route as much of the area required is temporary. Any permanent land take would be below 20 ha.

6.2.36 The Scheme would not result in any significant effects on soil resource and agri-environment schemes during the construction/demolition phases.

Local Policy Analysis and Mitigation

6.2.37 Turning to compliance with planning policy objectives, protection of higher grade agricultural land is considered within both a national and local planning policy context. The NPPF states at paragraph 112 that LPA's should take into account the economic and other benefits of the best and most versatile agricultural land and where significant development is proposed give preference to first developing on poorer quality land. Aligned to the NPPF, the NPPG refer to the Agricultural Land Classification, which should be used as tool for determining the quality of agricultural land informing planning decisions on such land.

6.2.38 At the local level, policy SP10 of the East Lindsey Core Strategy relates to design, advocating that new development should amongst other things seek to protect the best and most versatile agricultural land. In addition, policy LP55 of the Central Lincolnshire Local Plan covers new development within the Countryside, with part 'G' of the policy setting out that the highest value agricultural land will be protected and only permitted in such locations if insufficient lower grade land is available. Part G of the policy also states that development on higher value land should minimise impact on ongoing agricultural operations and restore the land where feasible following the cessation of use (where applicable).

6.2.39 In respect of underground cabling, as summarised above there will be a loss of 198.6 ha of land, with 74% of this being BMV land. As this land take will be temporary and occur during the construction phase only, with the land being returned to agricultural use on a permanent basis after, there is no material conflict with the NPPF, the NPPG or with that of policies SP10 of the East Lindsey Core Strategy and LP55 of the CLLP. In any event, NGVL propose that an appropriate CEMP and Soil Handling and Storage Protocols will be put in place during the construction phase to ensure the soil and material is managed carefully and adequately, so that the land retains its high quality status during restoration. Equally, NGVL will continue to work closely with farming enterprises to develop land drainage solutions with specialist land drainage consultants and ensure that disruption to agricultural activities is minimised.

6.2.40 Turning to the converter station and access road, this element of the Scheme would result in the permanent loss of 20ha of BMV. Whilst every effort has been made to reduce the permanent loss of BMV and minimise disruption to agricultural activities, there is some inevitable loss of BMV in this case, with there being no reasonable alternative to use poorer quality land. On balance, this part of the Scheme is considered to respect the wider aims of the policy objectives as set out in the NPPF, NPPG, policy SP10 of the East Lindsey Core Strategy and LP55 of the East Lindsey Core Strategy, particularly in this respect of loss versus overall supply and when considered in the wider 'planning balance' with regard to the national imperative of delivering new electricity infrastructure.

Socio-economics and Tourism

Key Assessment Conclusions

6.2.41 It is considered there will be no significant detrimental impacts in terms of socio-economics as a result of the development. There is potential for beneficial effects during construction through the– use of local services, accommodation, shops etc. by the construction workforce alongside the use of local suppliers for materials, plant, machinery etc.

6.2.42 The effects on tourism are considered temporary during the construction of the proposed DC cable route. NGVL acknowledge the importance of tourism to the local economy in this region, particularly at the coast and as such NGVL will continue dialogue with the LPA to minimise disruption.

6.2.43 The project interacts with a number of PRoW due to its linear nature, and subject to permission being granted, NGVL recognises that temporary diversions will be required during the construction phase, principally for health and safety. The proposed permanent access road for the converter station will necessitate the permanent diversion of an existing PRoW in order to maintain its continued use.

Local Policy Analysis and Mitigation

6.2.44 Section 5 of this statement has already given coverage to the wider economic benefits the proposed UK Onshore Scheme will deliver in compliance with national and local planning policy objectives. Turning to more specific local planning policy considerations in respect of job creation, policy SP17 of the East Lindsey Core Strategy seeks to give high priority to development that delivers and diversifies all year round employment opportunities. In addition, whilst being a policy that relates principally to landscape impacts associated with new development, policy SP23 also of the Core Strategy seeks to support development that promotes access to the countryside and promotes additional employment opportunities.

6.2.45 In this respect, the Scheme directly supports the objectives of both policies SP17 and SP23 in that the combined contribution of both the DC cable route and converter station will result in the creation of jobs, which will primarily be associated with the construction phase of the development. Indirect employment opportunities may also result through the use of local services and suppliers.

6.2.46 Policy LP20 of the CLLP seeks to provide protection to the Green Infrastructure (GI) Network within the County and notes that development should protect the linear features that facilitate GI connections including PRoW. NGVL will work with PRoW officers to minimise disruption to the PRoW network whilst endeavouring to maintain a level of use during the construction phase. Permanent diversion of the PRoW affected by the proposed converter station access road will allow continued access in line with the aspirations of Policy LP20. It is considered that compliance with the aims of policy LP20 will therefore be achieved.

Noise & Vibration

Key Assessment Conclusions

6.2.47 It is considered that there will be two aspects of noise associated with the proposed development. The first relates to noise associated with the operation of the converter station and second to noise associated with the temporary construction activities for the UK Onshore Scheme. Chapters 15 (DC Cable) and 26 (Converter Station) of the ES set out the likely effects of noise and vibration generated by the construction and operation of the Scheme.

Temporary Construction Noise

6.2.48 The scheme development process has resulted in the routeing of the cable being located, as far as is possible, away from residential properties.

6.2.49 During construction the Project is committed to the implementation of noise mitigation consistent with Best Practicable Means (BPM), which is recognised best practice and is considered to reduce noise as far as is reasonably practicable. The applicant has undertaken a comprehensive assessment of potential noise impacts to conclude that noise generated by the development during construction would not result in detrimental impact or harm to residential amenity.

6.2.50 Impacts during construction such as noise and air quality can be controlled via planning conditions which will secure a detailed Construction Environmental Management Plan (CEMP). To avoid or limit the adverse impacts, noise mitigation measures will be incorporated within, and implemented through, a CEMP based on BPM, which is submitted with the planning application.

Operational Noise

6.2.51 Once constructed, it is anticipated that any noise resulting from operation of the converter station will be controlled by limits set by LPA's by way of planning conditions. The applicant has undertaken the necessary assessments to show that identified limits can be met.

Local Policy Analysis and Mitigation

6.2.52 Chapters 15 and 26 of the ES provide the assessments considering the likely effects of noise and vibration generated by the construction and operation of the Scheme.

6.2.53 At a national level, the NPPF stipulates under "Conserving Enhancing the Natural Environment" that new and existing development should be prevented from contributing to or being put at unacceptable risk from or being adversely affected by unacceptable levels of noise pollution.

6.2.54 Locally, Policy A4 of the East Lindsey Local Plan (Saved Policies 2007) seeks to prevent development that would unacceptably harm the general amenities of people living nearby to a development including consideration of excessive noise, especially during 'unsociable' hours. Under Policy G1 (Amenity) of the Boston Borough Local Plan (Saved Policies, 2007), planning permission will only be granted which will not substantially harm amenities of nearby land users or residents. Policy 4 (Design of New Development) of the emerging SELP (March 2017 publication version) stipulates development proposals should seek to reflect residential amenity. Policy LP26 (Design and Amenity) of the CLLP intimates development proposals will be assessed against relevant design and amenity criteria including adverse noise and vibration. Policy SG13 (Pollution and Contamination) of the South Holland Local Plan (Saved Policies 2009), advises permission will only be permitted for development proposals which do not cause unacceptable levels of pollution of the surrounding area by noise.

6.2.55 As set out above, the relevant national and local policies seek to protect the general amenities of people living nearby to new development through the consideration of relevant amenity criteria including noise and disturbance. The Scheme has, where ever possible, through its siting, design and layout sought to prevent or reduce any detrimental impact on residential amenity and other sensitive receptors.

6.2.56 To avoid or limit the adverse impacts during construction, noise mitigation measures will be incorporated within, and implemented through, a CEMP a draft of which has been submitted with the planning application.

Water and Hydrology

Key Assessment Conclusions

6.2.57 Due to the linear nature of the Scheme, the DC and AC cable routes will involve a high number of watercourse and drain crossings. Trenchless and non-trenchless crossing techniques have been set out in the ES and NGVL has committed to trenchless crossing techniques for main rivers, chalk streams and major drain crossings. Subject to dialogue with the relevant bodies, necessary consents will be obtained and the appropriate technique will be applied.

6.2.58 The converter station site is situated within Flood Zone 2 and 3, defined as at medium to high risk of fluvial/tidal flooding. A Flood Risk Assessment (FRA) has been undertaken for the proposed converter station and the access road and forms an appendix to the ES.

6.2.59 Construction of the converter station and permanent access road would increase the less permeable areas and in turn potentially increase surface water flood risk. With the incorporation of appropriate mitigation measures, the significance of residual effects for the proposed converter station and permanent access road are not significant. No significant effects are anticipated for water and hydrology during operation of the Scheme.

Local Policy Analysis and Mitigation

6.2.60 Policy SG11 (Sustainable Urban Drainage Systems) of the South Holland Local Plan (Saved Policies, 2009) requires that development generating surface water run-off, likely to result in increased flood risk shall include surface water management systems that accord with sustainable development principles and adequately mitigate any adverse effects from surface water run-off on people, property and habitats. The Outline Drainage Strategy submitted in support of the application sets out the measures that will be put in place to attenuate run-off and drainage for the converter station site. This will include creation of a dedicated attenuation pond within the attenuation zone.

6.2.61 Saved policy ENV3 (Foul and Surface Water Disposal) of the East Lindsey Local Plan, saved policies G3 and G4 of the Boston Local Plan and SP16 of the East Lindsey Core Strategy require the risks of flooding to be properly considered, along with a means to address surface water drainage alongside policy LP14 of the CLLP which contains a similar emphasis. Water management measures will be put in place during the construction of the DC and AC cables to control surface water run-off and ground water discharge. Pre and post construction land drainage will be put in place to maintain the integrity of the existing land drainage systems, as such the Scheme is compliant with the policies above.

Geology and Hydrogeology

Key Assessment Conclusions

6.2.62 The DC and AC cable routes have avoided mineral safeguarding areas and known areas of contaminated land in the development of the Scheme. Ground investigation surveys have been undertaken to establish a high level understanding of the underlying geology and ground conditions along the proposed cable route and converter station site to inform the Scheme design. The results of the ground investigation can be found in the Ground Investigation (Factual & Interpretative) Reports submitted with the application.

Converter Station

6.2.63 Key elements of the mitigation for geology and hydrogeology concern the effective and efficient management of excavated materials through the development of a materials management strategy, controls on how construction materials are handled and stored to prevent uncontrolled releases to ground and the design of earthworks, foundations, ground gas mitigation and the AC cable trench and trenchless installation locations. The site must also comply with storage regulations for hazardous materials and implementing operational and environmental procedures and controls to limit the potential for uncontrolled releases to occur to ground.

Policy Analysis and Mitigation

6.2.64 Policy M11 (Safeguarding of Mineral Resources) within the Lincolnshire Mineral and Waste Local Plan Core Strategy and Development Management Policies (June 2016) states that, '*planning permission will be granted for development in a Safeguarding Area provided that it would not sterilise mineral resources within the Mineral Safeguarding Areas or prevent future minerals extraction on neighbouring land*'. NGVL has avoided mineral safeguarding areas in the routeing and siting and is therefore compliant with this policy.

Cumulative Effects

6.2.65 A cumulative assessment has been undertaken to take in to account both inter-project and intra-project effects the findings of which are set out in Chapter 28 of the ES.

6.3 Other Determining Factors

6.3.1 NGVL has given due consideration to electric and magnetic fields (EMFs) produced by the proposed converter station and onshore high voltage DC bipole cables (proposed onshore elements of the Project). The converter station will be voltage source converter (VSC) technology and operate using both direct current (DC) and AC frequencies. The DC cables will operate in a bipole arrangement at ±525kV carrying 1400 Megawatts (MW) of power.

6.3.2 All equipment that generates, distributes or uses electricity produces EMFs. The power frequency of alternating current equipment in the UK is 50 Hz, and AC equipment will produce electric and magnetic fields with a principal frequency of 50Hz. These EMFs are known as Extremely Low Frequency (ELF) EMFs. DC equipment produces steady state electric and magnetic fields and these are referred to as static fields. All static and alternating fields can have different effects, but in both cases, there are exposure limits set by independent organisations, designed to prevent all established effects of EMFs on people.

6.3.3 The Project uses both AC and DC technology, so both static and alternating electric and magnetic fields will be produced. The effects are discussed in Appendix ** and conclude that the new VSC converter station will be designed to ensure that it is compliant with International Commission on Non-Ionising Radiation Protection (ICNIRP) public exposure guidelines for EMFs outside the boundary fence. It has been demonstrated that the DC cables would be compliant with exposure limits so there will be no significant EMF effects resulting from the Project. There is some scientific evidence of possible effects at lower levels, and the electricity industry takes this evidence seriously and recognises that it can generate public concern however the evidence has been extensively reviewed, and the UK Government have not considered it appropriate to implement any restrictions or guidelines on the basis of this evidence.

7 Summary and Conclusions

7.1 Summary

National Policy

7.1.1 The importance of the development as essential national and European infrastructure which is in the public interest along with the locational requirements of the type and scale of development proposed remain material considerations which weigh in favour of the proposed development.

Environmental Statement

7.1.2 The reporting of the results of the EIA in the ES ensure that the LPAs and statutory consultees as well as other interested parties including local communities are aware of the Scheme's environmental impacts and whether these may be significant or not.

7.1.3 The EIA of the UK Onshore Scheme has identified and assessed the likely significant effects which would result from its construction and operation. Through careful siting and routeing as well as embedding mitigation within the base scheme design and the provision of further mitigation where possible and appropriate, NGVL has prevented or reduced a number of potentially significant environmental effects. However, given the scale of the Scheme a small number of significant environmental effects are unavoidable and as such will remain following mitigation. As set out above, the majority of significant environmental effects will occur during construction of the Scheme and whilst significant they will be temporary lasting for the duration of construction works only. Where significant environmental effects are predicted to be permanent these relate to above ground components of the Scheme only (the proposed converter station and the permanent access road).

7.1.4 The proposed DC cable route is not predicted to result in significant environmental effects in the long term. Significant environmental effects are predicted to occur during construction only. This includes effects on residents and visitors in proximity of the proposed DC cable route who may experience significant noise and/or visual effects as well as some roads which will be used during construction where increases in traffic flows as a result of construction traffic are predicted to be significant. However, it should be noted that whilst some significant environmental effects are predicted these will not occur along the full length of the proposed route for the duration of construction but rather for short periods of time whilst the proposed route is constructed in sections.

7.1.5 The proposed converter station is predicted to result in temporary and permanent significant environmental effects. Temporary significant effects are predicted on landscape character and visual amenity. Permanent effects on landscape character and visual amenity have been mitigated as far as possible through the inclusion of landscape planting within the base scheme

design, however, significant effects will remain. Permanent significant effects are also predicted as a result of:

- Physical impacts on heritage receptors within the proposed converter station site; these have been mitigated as far as possible through commitments to pre-construction investigation and recording of heritage receptors.
- The permanent loss of BMV agricultural land as a result of the proposed converter station's permanent land take is considered acceptable. Whilst over 20 hectares (ha) will be lost the assessment notes over 90 % of land within the district is classed as BMV.

7.1.6 By embedding the majority of mitigation measures within the base scheme design for which planning permission is being sought NGVL are committed to their implementation. Should planning permission for the Scheme be granted NGVL are committed to reducing the Scheme's environmental effects as far as practicable in finalising the detailed scheme design.

Planning Balance

7.1.7 Planning legislation requires that applications for planning permission must be determined in accordance with development plan policies unless material considerations indicate otherwise

7.1.8 Having regards to the clear need and national policy support for the proposed development and local level policy compliance and balancing the weight afforded to identified material planning considerations alongside mitigation measures proposed, the proposed development is considered to be policy compliant and there are no material planning considerations in place which would override this position.

Appendix 1 Development within the Lincolnshire Wolds AONB

Introduction

Approximately 9km of the proposed 67.16 km cable route passes through the south-western edge of the Lincolnshire Wolds Area of Outstanding Natural Beauty (AONB). This will involve the installation of two buried cables.

The legal framework for AONB is provided by the Countryside and Rights of Way Act 2000, the purpose of which is to 'conserve and enhance the natural beauty' of these areas. The Lincolnshire Wolds AONB was designated in 1973. The Lincolnshire Wolds AONB Management Plan 2013 – 2018 (Ref A1) states "…*This recognised the area's unique landscape and distinctive 'sense of place'. The Landscape Character Assessment (CCP414, 1993), acknowledged the following outstanding qualities as detailed in support of our current vision statement:*

A unique physiography (geology and topography) – The physical geography of the Lincolnshire Wolds is unusual and fascinating. The Wolds is the highest upland landscape in eastern England between Yorkshire and Kent and has a complex geology; nowhere else in Britain has a chalk landscape been so extensively modified by glaciations. These have given rise to some of its most striking features including numerous steep-sided and open ended combes.

A scenic, working landscape – The high scenic quality of the Wolds depends almost entirely upon the area's use for agriculture. Much of its charm is derived from the seasonally changing field and cropping patterns; the rural scenes of farming activity; and the traditional villages and farmsteads in brick and pantile. Overall approximately 70% of the AONB is in arable cultivation, with 14% as pasture or rough grazing and 4.5% woodland cover (Defra Agricultural Census & Forestry Commission stats, 2010). It is widely recognised that much of the attractiveness of the Wolds today is a result of the activities of generations of landowners and farmers.

A major archaeological resource – The Wolds has a rich legacy of prehistoric sites and a wealth of historic landscape features. Most of Lincolnshire's long barrows are in the Wolds, with a high concentration of round barrows, together with many important ancient trackways including the ridge top routes of the Bluestone Heath Road and the Caistor High Street. The Wolds also has one of the largest densities of deserted and shrunken medieval villages …in the country.

A valued cultural landscape – The Wolds' landscape has been a source of cultural inspiration. The Tennyson family has a strong association with the area. Alfred, Lord Tennyson - the Poet Laureate - spent much of his formative years in the Wolds and it is featured in many of his works including 'The Brook'. The landscape has offered inspiration to many artists and writers over the years including the mid-19th century landscape painter Peter de Wint and more recently the author A. S. Byatt in the Booker Prize-winning novel 'Possession'."

Purpose of this Appendix

The scale of this development, albeit small in relation to the overall length of the UK onshore scheme and overall project, is recognised as a 'major development' in the context of national policy and as such it is appropriate to give due consideration to compliance with the NPPF and relevant local policy and guidance.

The following sections provide a high level overview of how the project has developed its overall route focusing here on where the cables will cross the AONB and then considers each of the NPPF tests (NPPF paragraph 116) in turn to conclude that the overall Scheme is compliant with the required exceptional circumstances and demonstrable public interest tests to meet NPPF requirements.

National Planning Policy Framework

The NPPF (Ref A2) indicates that "great weight should be given to conserving landscape and scenic beauty in AONB's, which have the highest status of protection in relation to landscape and scenic beauty" and NPPF paragraph 116 sets out the following approach for managing planning applications which fall wholly or partially, as is the case with this Project, within an AONB designation:

'Planning permission should be refused for major developments in these designated areas except in exceptional circumstances and where it can be demonstrated they are in the public interest. Consideration of such applications should include an assessment of:

- the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy;
- the cost of, and scope for, developing elsewhere outside the designated area, or meeting the need for it in some other way; and
- any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.'

Local Planning Policy

The existing East Lindsey Local Plan (Ref A3) was originally adopted in 1995 and the new East Lindsey Local Plan is currently being prepared. As set out in the NPPF, due weight can be given to relevant policies in existing plans to the extent that they are consistent with the NPPF. Further, from the date of publication, decision-makers can also give weight to relevant policies in emerging plans. Saved policy C11 of the East Lindsey Local Plan seeks to prevent development within the AONB that harms landscape features which contribute to the character, harm the historic significance or inhibit the quiet enjoyment of the AONB.

The emerging East Lindsey Core Strategy (Submissions Modification Draft March 2017) (RefA4), (policy SP23), supplements this approach, stating that the highest level of protection will be afforded to the Lincolnshire Wolds AONB. In addition, policy LP17 of the Central Lincolnshire Local Plan (CLLP) states the importance of landscape views from the perspective of the AONB highlighting the need to protect and enhance the landscape, particularly in respect of views in and out of development areas.

The overall Project is classed as 'major development' for planning purposes and the weight afforded to the AONB designation within national and local policy is fully acknowledged. The Project has embedded the policy tests within its route development process and engaged with key stakeholders such as Natural England, the Lincolnshire Wolds Countryside Service, Historic England, ELDC, LCC and landowners to

understand and recognise the policy status of the AONB. Development of the Project design was conducted on an iterative basis and engagement will continue with all relevant stakeholders throughout the Project lifetime.

Lincolnshire Wolds AONB Management Plan 2013 - 2018

The Lincolnshire Wolds Countryside Service (LWCS) has put in place the Lincolnshire Wolds AONB Management Plan 2013-2018 (Ref A1). The LWCS is a partnership between Defra, East Lindsey District Council, West Lindsey District Council, North East Lincolnshire Council and Lincolnshire County Council.

The Management Plan has been formally adopted by East Lindsey District Council and Lincolnshire County Council amongst others and has had formal approval from the Environment Agency, Historic England and Natural England. Therefore, the Project has had due regards to the AONB Management Plan and consulted with the LWCS in developing its proposals.

The Management Plan supports national policy and sets out its overarching goal to ensure that the Lincolnshire Wolds retains its unique landscape and special character, whilst maintaining and supporting its communities. The Management Plan states that it will be "a very important tool to help inform and guide future development management as delivered through the emerging Local Development Frameworks".

The plan recognises that the Lincolnshire Wolds is a living and working landscape and that the demands of modern living and development of new technologies should be seen as opportunities as well as threats. The plan promotes the undergrounding of electricity power cables, acknowledges that development, including infrastructure development, will need to be assessed on a case by case basis and sets out policies seeking to ensure that development is managed so as not to be detrimental to the landscape character of the AONB.

"*PP9 To ensure that where larger scale development must proceed within or adjacent to the AONB, because of other national interests, the highest regard is placed on minimising any impacts upon the primary purpose of the designation – the area's natural beauty.*"

Evolution of the UK Onshore Scheme

To understand why the proposed DC cable route passes through the Lincolnshire Wolds AONB there is a need to consider the Project as a whole and in particular the development of the UK Onshore Scheme (that part of the project within the UK).

The primary focus in developing the UK Onshore Scheme, including the proposed DC cable route has been to avoid or reduce environmental impacts as much as possible through careful routeing and siting; firstly, typically seeking to avoid designated sites or other sensitivities and secondly, where they are unavoidable, seeking to reduce the length of the route within these designations as much as possible or use less disturbing construction methods. The stages in the identification of the Project and the proposed DC cable route are outlined below. More detail is provided in the site selection, routeing and consultation feedback reports see Ref A7, A8, A9, A10, A11 & A12) which are available to view on the Project website

A key consideration in the development of the Project has been the identification of the connection point, which is the point on the National Electricity Transmission System (NETS) in Great Britain which the Project connects to. To secure a connection point for the Project, NGVL applied to NGET for a connection offer

following the same process as any other developer seeking a connection to the NETS. NGVL in conjunction with NGET explored 19 possible connection points. An assessment of the possible connection points was undertaken against a range of factors which resulted in the identification of Bicker Fen 400kV Substation as the preferred connection point. Further information on the process of identifying the connection point can be found in the ES document, chapter 2 (Ref A5) and the Strategic Options Report (Ref A6)

From here, the development of the UK Onshore Scheme has comprised two main steps; firstly, the identification and assessment of alternative landfall and converter station sites (Siting) and secondly the identification and assessment of alternative cable routes (Routeing). The approach to identifying and assessing alternative sites and routes has ensured the integrated and iterative consideration of potential impacts on the environment and local communities alongside technical and engineering factors and at key stages has also drawn upon feedback received from statutory and non-statutory consultees and members of the public. The overall aim of this approach has been to identify sites or routes which best balance these factors in order to establish the preferred landfall and converter station sites and preferred DC cable route corridor for which planning permission is being sought. In chapter 2 of the ES (Ref A5), Table 2.2 provides a summary of the key environmental siting and routeing considerations and Table 2.3 provides a summary of the key technical and engineering siting and routeing considerations. To compliment the approach to siting and routeing, a phased approach to consultation has been adopted to allow feedback from stakeholders to be fed into the decision-making process at points where it could influence siting and routeing. Further detail on the consultation process can be found in the Statement of Community Involvement (Ref A13) document which accompanies the planning application.

Following the identification of the connection point at the existing Bicker Fen 400kV Substation, a number of alternative landfall and converter station sites were considered in developing the UK Onshore Scheme (Siting). The following sections provide a summary on the identification of the landfall and converter station sites. More detailed information is contained in chapter 2 of the ES (Ref A5) which describes the approach, identification and assessment to landfall and converter station siting as well as feedback from consultation.

Six potential landfall sites were identified and assessed for potential impacts on the environment and local community, alongside preliminary technical and engineering factors, three of these were shortlisted and consulted on. The results of this assessment are reported in UK Onshore Scheme: Site Selection Report (April 2016) (Ref A7). Taking into account the findings of the technical and environmental assessments of the three shortlisted landfall sites as well as the feedback received in response to Phase 1 Consultation, NGVL identified 'LF1a' as the preferred the landfall site. The UK Onshore Scheme: Preferred Sites Report (August 2016) (Ref A8) provides an explanation of the selection of 'LF1a' as the preferred landfall site.

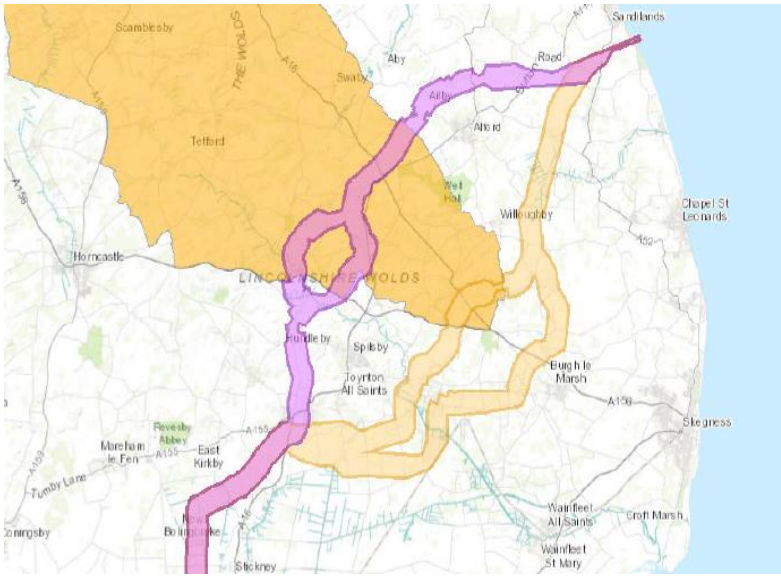
The overall objective of the converter station siting assessment was the identification of a preferred site at which the DC cables terminate and where electricity will be converted back to AC and carried via AC cables to be connected to the NETS at the existing Bicker Fen 400 kV Substation. A study area extending out 5 km in all directions from the connection point at Bicker Fen 400kV Substation was established. This was based on the technical requirements of the Project that are explained in chapter 2 of the ES (Ref A5). After consideration of a range of environmental and technical constraints at a high level, 21 potential converter station sites were identified and assessed for potential impacts on the environment and the local community, alongside preliminary technical and engineering factors, of which four sites were shortlisted and consulted on. The results of this assessment are reported in UK Onshore Scheme: Site Selection Report

(April 2016) (Ref A7). Taking into account the findings of the technical and environmental assessments of the four shortlisted converter station sites as well as the feedback received in response to Phase 1 Consultation, 'CS1' was identified as the preferred converter station site. The UK Onshore Scheme: Preferred Sites Report (August 2016) (Ref A8) provides an explanation of the selection of 'CS1' as the preferred converter station site.

Once the preferred landfall and converter station sites were identified (Siting), a number of alternative DC cable route corridors were considered in developing the UK Onshore Scheme (Routeing). The following sections provide a summary on the identification of the DC cable route corridor options. More detailed information is contained in chapter 2 of the ES (Ref A5) which describes the approach, identification and assessment to the DC cable route corridors, as well as feedback from consultation.

The overall objective of the routeing assessment was the identification of a preferred route corridor within which the detailed alignment of the DC cables could be developed. Routeing would typically seek to avoid designated sites or where they are unavoidable seek to reduce the route length within them as much as possible. The approach to selecting the preferred route corridor comprised of three steps, each step considered environmental and technical constraints as well as consultation on the DC cable route options. These steps included:

- Identification of a large cable route search area (based on shortlisted landfall and converter station sites). This would facilitate the identification of alternative route corridors between shortlisted landfall and converter station site options which were the subject of Phase 1 Consultation;
- The identification and assessment of five alternative route corridors (Route Corridor A, B, C, D and E). Different combinations of these route corridors resulted in a continuous route corridor which connects the preferred landfall site (LF1a) to the preferred converter station site (CS1). These combinations were identified as the Purple Route Corridor (comprising parts of RCA, RCD and RCE) and the Orange Route Corridor (comprising parts of RCB, RCD and RCE). Both purple and orange corridor options comprised two sub-options where both purple sub-options routed through the AONB and only one orange sub-option was routed through the AONB and one which would avoid it, as shown in Figure A1. These options were then taken forward to Phase 2 Consultation; and
- After assessing a range of factors and potential impacts, including the key consideration of routeing through the AONB, selection of a preferred route corridor resulted in the Purple Route Corridor option being taken forward which is discussed below.



Route Corridor Section Length*:

Orange West – 25.6 km

Orange East - 29.7 km

Purple West – 26.19 km

*Route Corridor section lengths in Figure A1 measure from the point of split in the north to where they re-join in the south.

Figure A1 Route Corridor Options in the vicinity of the AONB (shaded orange).

The decision to proceed with the purple route corridor was taken in December 2016 following consultation with key stakeholders the output of which was reported in the Preferred Route Corridor Report (December 2016) (PRCR) which is available to view on the Project website.

As set out in detail in the PRCR, the Purple Route Corridor comprised two sub-options both of which would require routeing through the AONB (for approximately 9 km), whilst the Orange Route Corridor comprised two sub-options one of which would require routeing through the AONB (for approximately 3 km) and one which would avoid it.

The decision to proceed with routeing partially within the AONB was carefully considered by reference to the NPPF and other policy requirements alongside stakeholder responses and Project requirements. The Project ultimately conclude that the Purple Route Corridor, in which the Scheme is located, was much less constrained from an engineering perspective and overall presented a more efficient option when considering complexity, duration and cost of construction. It benefits from comparatively better and more direct access from main roads thereby reducing the potential for traffic on local roads. Importantly, the preferred route corridor reduces the overall number of cable crossings required, including crossings of roads and other infrastructure as well as watercourses and drains. By routeing on more elevated land it avoids the lower lying area where a higher water table is present and therefore helps to reduce water management requirements during the construction period. It also avoids areas of challenging ground conditions including known peat deposits around Toynton St Peter and more sensitive soils in the lower lying fenlands which would be more challenging to reinstate.

Since the PRCR was issued the Project has continued to develop and refine the detailed route design in parallel with and informed by more detailed environmental and technical assessments as well as continued dialogue with key stakeholders. In March 2017, the Project confirmed that it was promoting the following route options as the preferred as explained in chapter 2 of the ES (Ref A5);

- Selection of the eastern sub-option at Langton;
- Selection of the western sub-option at South Forty Foot Drain, and;

- Narrowing of the route corridor along the majority of its length from 1 km to 200 m, in which the proposed DC cable route (described in chapter 5 of the ES) has been finalised.

NPPF Tests

The following sections consider the individual NPPF tests to conclude that the proposed development accords with the relevant policy tests demonstrating that it meets the exceptional circumstances test and is in the public interest.

The Need for the Development

The need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy.'

Overall Need including National Considerations

It is recognised that in order to have a competitive, sustainable and secure supply of energy, there is a need to invest in new infrastructure and diversify the way in which the UK energy market operates. Interconnectors are a fundamental part of this, enabling electricity to flow between countries and markets and can be used to both import and export power as required.

NGVL has undertaken a detailed examination of the need for the Project and this is also summarised within Section 1 of this planning statement and chapter 3 of the ES (Ref A14).

The development of Viking Link is supported by European, national and local policy and provides clear and substantial benefits for both Great Britain and Denmark in meeting national and European objectives. These include:

- the connection of the electricity networks in Great Britain and Denmark and in turn connection of both countries to the wider European electricity market and the stimulation of competition of the European market to facilitate the optimal use of resources across European Union (EU) Member States;
- improving the security of energy supply between European countries by the provision of access to a wide range of electricity generation sources and as a means to import or bring in extra electricity supply to meet demand at any time; and
- assisting in the utilisation of surplus energy which cannot be readily stored in the country of origin but can be utilised by other European countries and, in turn, improving the reliance upon sustainable energy supplies and reducing the use of fossil fuels and nuclear energy.

The Project provides a responsible and efficient way of addressing energy needs in both Great Britain and Denmark and will provide the capability to import or export 1400 MW of power. Viking Link is vital for the achievement of the following national and European objectives:

- Affordability - Viking Link interconnects Great Britain and Denmark which in turn connects to the wider European electricity market. This level of interconnection should help create downward pressure on wholesale electricity prices in both Britain and Denmark through cross border trade in electricity and shared use of the cheapest generation sources, facilitating competition in the European market and the optimal use of resources across EU Member States. Viking Link will benefit both countries by helping to provide a secure supply of affordable electricity and by increasing the market for producers.

- Improving diversity, continuity and security of supply - Interconnection provides access to a wide range of electricity generation sources and is a means to bring in extra supplies when not enough is being generated in Great Britain or Denmark to meet the need at that time. This increases energy continuity and security if demand rises or energy generation falls suddenly in one country and also acts as an important balancing tool to improve the stability of the electricity transmission systems.
- Sustainability - Interconnectors are an important means to help manage the fact that electricity cannot be stored efficiently at a large scale and not all electricity sources can generate consistently and predictably. They do this by providing a means to transfer surplus energy between countries when too much is generated at once to be used domestically. This should make a significant contribution to forging a lower carbon economy in Great Britain, Denmark and Europe and to helping with the challenge of retiring fossil fuel and nuclear plants in the Great Britain and of supporting neighbouring wholesale and supply markets.

In summary, the Project is satisfied that there is a clear and robust European, national and local policy imperative for the delivery of the Project and therefore the need for the Project as required by NPPF can be satisfactorily demonstrated.

In respect of the economic context of need, the impact of permitting or refusing the development upon the local economy is considered below.

Impact on the local economy if permitted

Chapter 13 (Socio-Economics and Tourism) of the ES (Ref A15) sets out and reports upon the potential impacts upon the local economy in the scenario whereby planning permission is granted for the Scheme. The chapter notes there are a range of potential positive impacts upon the local economy which includes job creation, the procurement of local services and materials and indirect spend within the local economy during the construction period.

The construction of the Scheme would bring about indirect employment opportunities, with the potential to draw from the local labour market. Such indirect employment opportunities could include supplementing the Contractor's labour force and the linking into the local supply chain for materials and other resource.

In addition to the labour force deployed in delivering/supporting the construction of the Scheme, other local economic benefits are likely in respect of temporary living accommodation use for construction workers, along with the associated expenditure within the local service sector. In the scenario where planning permission is granted for the Scheme, there are clear benefits to the local economy when taken as a whole over the construction period and including both direct and indirect benefits.

Impact on the local economy if refused

Should planning permission be refused for the Scheme, then all of the potential benefits as described above would not be realised. There would be no new direct jobs created throughout the construction phase, nor would there be any new indirect employment to support the local labour force and associated increased economic activity within the local area. This would therefore represent a missed opportunity to positively impact upon the local economies of the areas that the Scheme passes through.

Scope for developing outside the AONB

the cost of, and scope for, developing elsewhere outside the designated area, or meeting the need for it in some other way.

Strategic Alternative Options

As detailed in chapter 2 of the ES (Alternatives) (Ref A5) there are two possible scenarios, in respect of the strategic alternative options; one in which Viking Link is not developed and one in which it is developed.

There are a range of challenges facing the UK's electricity sector over the next few years with a decline in the traditional energy economy including the closure of coal fired generating plants and nuclear power stations as well as many combined cycle gas turbines reaching the end of their working lives, which impacts on the security of energy supply. The UK needs to ensure that there is sufficient electricity capacity to meet current and future demands at all times, including a 'margin' of spare capacity to accommodate unforeseen fluctuations in supply or demand and to mitigate such risks as extreme weather events.

Viking Link has a capacity of 1400 MW which will assist in making up any shortfall in electricity capacity. One MW of electricity is enough to supply the average power requirement for around 2000 homes for an hour so Viking Link has capacity to supply over a million homes for an hour.

If Viking Link wasn't constructed additional generating capacity would have to be provided to make up any shortfall such as new power stations or wind farms for example. If this was the case, the following should be noted:

- New power stations or wind farms to offset the Viking Link capacity would have a greater land take and an increased permanent loss of land than Viking Link.
- The new power stations or wind farms would have more visible structures leading to a greater visual impact.
- Wind farms wouldn't be able to provide capacity onto the electrical network on a still day as the wind turbines wouldn't be turning/generating whereas Viking Link could import onto the electrical network (depending on market conditions).
- Wind generated energy, by its very nature, is intermittent. Interconnectors, such as Viking Link, can provide capacity over longer periods at various capacity levels and are an effective way to manage fluctuations in supply and demand, by enabling energy from one geographical market to be used in another market.
- If there is a situation of excess power, power stations and wind farms would have to stop generating whereas as an interconnector like Viking Link could export the surplus capacity to a region where the level of demand is higher so that it is fully utilised (depending on market conditions). This supports the achievement of European renewable and climate change targets. It will also reduce the demand for non-renewable energy sources.

Viking Link not being developed also raises the point about the UK's ability to achieve the interconnection targets set out in the EU's 2030 climate and energy framework of 10% by 2020 and 15% by 2030 would be significantly reduced.

In identifying the UK Onshore Scheme, NGVL has given consideration to a range of alternatives at both a strategic and detailed level. This has included consideration of alternative connection points to the NETS, alternative landfall and converter station sites and alternative cable route corridors. In assessing these alternatives NGVL has undertaken a series of specialist studies considering technical, environmental and

economic factors as well as undertaken consultation with statutory and non-statutory consultees, stakeholder organisations, landowners and members of the public.

The preferred Scheme promoted in December 2016 within the PRCR, established the general location and arrangement of its component parts, further refinement has been undertaken in parallel with the EIA to inform a greater level of design definition and further consider potential environmental impacts and opportunities for mitigation. In line with the iterative approach adopted by NGVL in developing the Scheme, the planning application submission retains the route through the AONB as it is considered that on balance the Scheme remains compliant with national and local policy.

Further detail on NGVL's consideration to the range of alternatives can be found in Chapter 2 (Alternatives) of the ES. A more detailed assessment of the identification of the final route corridor adjacent to and within the AONB is set out below.

Route Corridor Options within and adjacent to the AONB

As outlined above the assessment and identification of the final Route Corridor did consider an option outside of the Lincolnshire Wolds AONB (Orange East Route Corridor).

The key reasons for discounting the Orange Route Corridor and selecting the Purple Route Corridor are summarised in the UK Onshore Scheme: Preferred Route Corridor Report (December 2016) (Ref A11). This assessment concludes that the environmental impacts, construction requirements and cost of the Purple Route Corridor are substantially preferable to those of the Orange Route Corridor.

The key constraints affecting the Orange Route Corridor compared to the Purple Route Corridor relate mainly to a combination of topography, surface and groundwater, as well as proximity to settlements and access from the local road network. These constraints adversely affect different sections of the Orange Route Corridor both inside and outside of the AONB.

Topography and Surface Water Features

The Orange Route Corridor runs through low lying land which would require over 100 more crossings of watercourses and drains compared to the Purple Route Corridor within the AONB. A large number of these provide an important function in relation to land use and flood risk management. Having fewer crossings is considered to be preferable as it results in less interaction with current and future management of maintained drains. Construction works within the Orange Route Corridor would therefore be more complex requiring additional plant and machinery for the trenchless crossings needed. The table in Figure A2 shows that the Purple East Route Corridor that has been chosen as the preferred DC cable route has a significantly lower number of watercourse crossings especially compared to the Orange East Route Corridor that avoids the Lincolnshire Wolds AONB.

	Total crossings	Watercourse crossings
Purple West (AONB)	76	53
Purple East (AONB)	50	32
Orange West (AONB)	99	75
Orange East (Outside AONB)	144	113

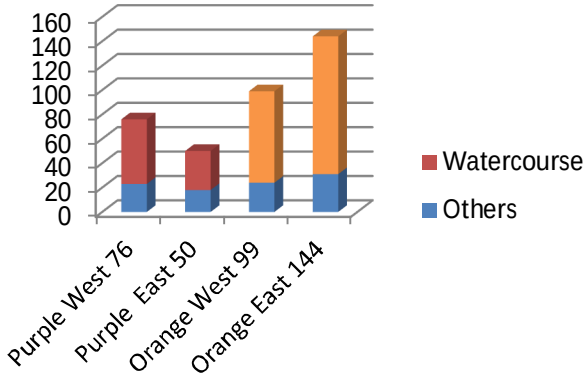


Figure A2 Crossing comparison table

In environmental terms, the greater construction activity required for the greater number of crossings would increase impacts on the local community (including noise, visual and dust effects), on agricultural land as a result of greater land take requirements and on the local road networkas a result of increased traffic movements due to the need for additional plant and machinery.

In engineering terms, the construction works would be more difficult taking longer to be completed and costing more compared to the Purple Route Corridor. The construction works would also be more complex due to the increased number of crossings which also increases the number of joint bays required. Crossings are complex, take longer to construct over and have a higher cost than the installation of cables across agricultural land due to the crossing techniques that have to be utilised).

It can be seen from Table A1, that there is a 13% increase in length of cable between the Orange East and the Purple East route corridors and, in turn, the number of watercourse crossings alone increases by 253%, with other crossings, such as local roads, increasing by a further 72%. The higher elevation of the Purple Route Corridor means that the ground is better drained and that the water table is lower than in other parts of Lincolnshire albeit with a few localised exceptions where the route encounters spring lines. The Orange Route Corridor is expected to encounter a higher water table as it falls within low-lying land as evidenced by the numerous Internal Drainage Board (IDB) maintained drains throughout the Orange Route Corridor.

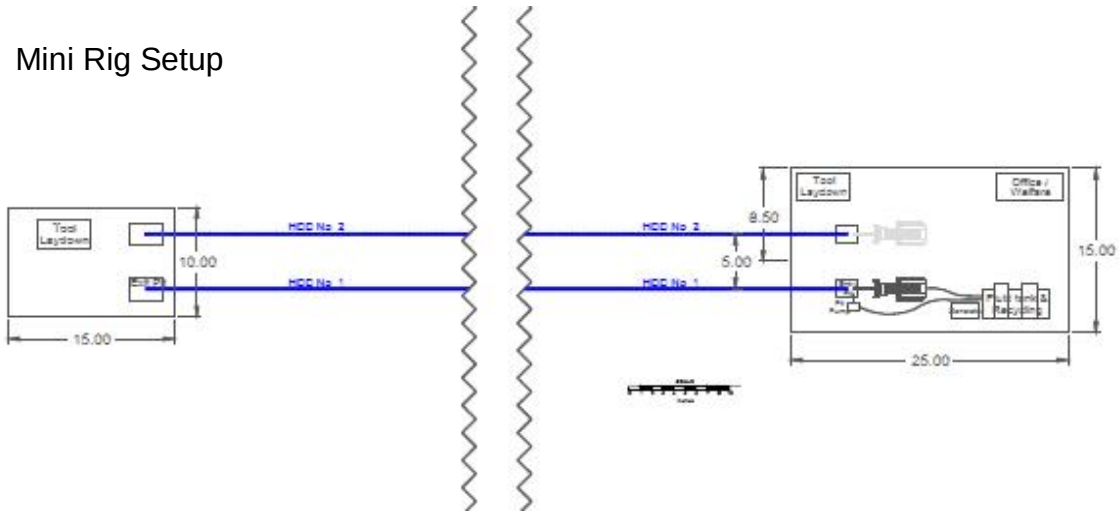
Comparing the separate sections of the Purple East Route Corridor (NGVL's preferred route corridor) and the Orange East Route Corridor that runs outside the AONB, the latter corridor option requires 94 additional crossings. The cable route design, time and cost impacts would therefore increase in line with these additional crossings. Assuming trenchless crossing techniques are used and assuming a standard cost for each crossing, the expected increase in costs for the 94 additional crossings on the Orange East Route Corridor is 188%. If assessing the watercourse crossings alone for which the IDBs have specifically declared a preference for trenchless methods, it would be a 253% increase in costs. This significant increase in cost is despite only a 13% increase in route length. The following table summarises this comparison.

Route Corridor	Total crossings	Watercourse crossings	Route Length
Purple East (AONB)	50	32	26.2
Orange East (outside AONB)	144	113	29.7
% increase from Purple East to Orange East	188%	253%	13%

Table A1 Analysis of impacts of number of crossings

In addition to the number of crossings there would be the need for an increase in route length of 3.5 km with the associated impacts on the community. The optimum cable section lengths proposed for the Project to allow for standard UK road transportation is 900 m so along with the cost of the additional cable it would also introduce 3 new joint bays to allow the cable to be connected. National Grid Interconnector Holdings always seeks to minimise the number of joints in order to ensure that the cable is robust, performs effectively and continues to provide a secure and enduring connection, thus minimising future impacts on the community should faults occur.

Trenchless methods of cable installation including Horizontal Directional Drilling (HDD) or Auger bore techniques require a larger working area on both sides of the obstacle to accommodate the crossing works and associated equipment to accommodate control units, welfare facilities, electricity supplies etc. The equipment needed in these sites varies depending on the length and depth of the crossing, ground conditions and size of ducting method chosen. Typically, one pipe/duct per cable would be installed. The HDD machines are surface-mounted units and are easily set up whilst an Auger bore crossing requires an area to be excavated with ground shoring and a thrust block to be installed at pipe design depth. Figure A3 below provides illustrative layouts of the larger working areas required either side of a trenchless crossing.



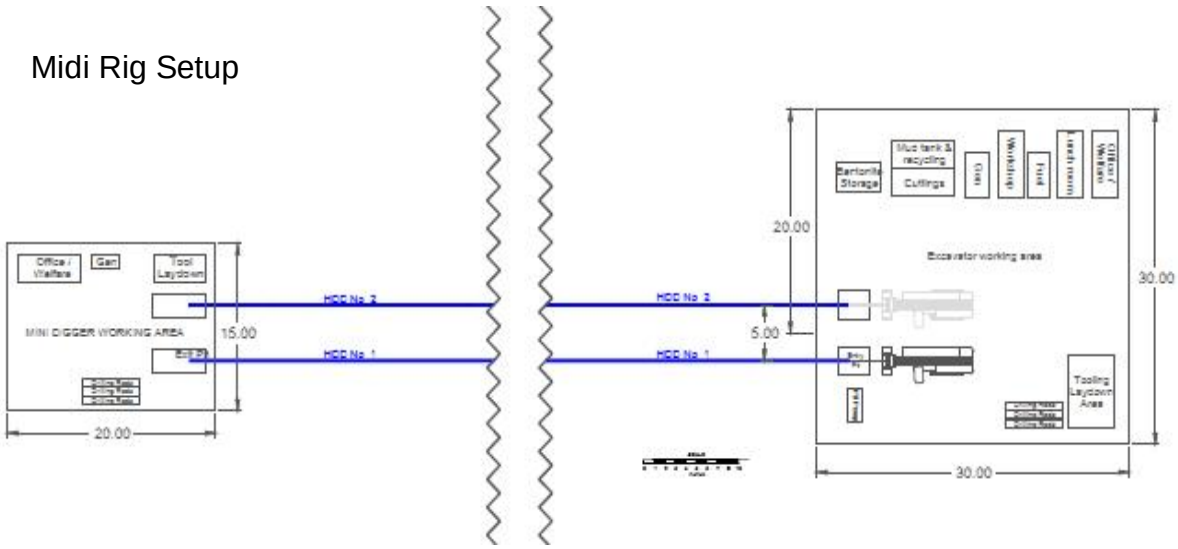


Figure A3 Illustrative working area layout for Mini and Midi HDD rigs

The Orange Route Corridor, particularly in sections outside of the AONB, is in much lower lying land where a higher water table is present. In order to excavate trenches and install the cable this would require more extensive dewatering and water management than would be required in the Purple Route Corridor. Similar to the impact of additional watercourse crossings this would result in:

- Greater environmental effects as a result of increased construction activity and greater land take requirements for dewatering and water management areas. This includes impacts on local residents as a result of increased construction activity, on agricultural land as a result of greater land take and on hydrology as a result of dewatering.
- In engineering terms the construction works would be more difficult requiring additional land take for plant and machinery as well as the provision of settlement lagoons and as a result construction within the Orange Route Corridor would take longer to be completed and cost more compared to the Purple Route Corridor.

A higher water table along the Orange Route Corridor makes it more likely to make contact with ground water when excavating the trench in which the cables are to be installed. If ground water is encountered, it would need to be pumped out of the trenches to allow safe installation of the cable. Dewatering systems to handle high ground water typically involve a well-pointing system, where pipes are driven into the ground to below the trench base level. The well point pipes are installed every few meters and then connected to a header pipe and vacuum pumping system. The water pumped out of the ground is processed in a settlement system to clean it before it is discharged into a nearby watercourse. The pumps would be powered by portable generators. The layout in Figure A4 shows a typical well-point dewatering system. By going through the higher Purple Route Corridor it is expected to encounter a lower water table, except in specific areas, and this will significantly reduce the associated works and impacts on the local environment that come as a result of extensive ground water dewatering operations. These constraints are not insurmountable but would increase drainage requirements during construction and have the potential to increase the complexity of construction, length of the construction programme as well as the overall cost of the installation works.

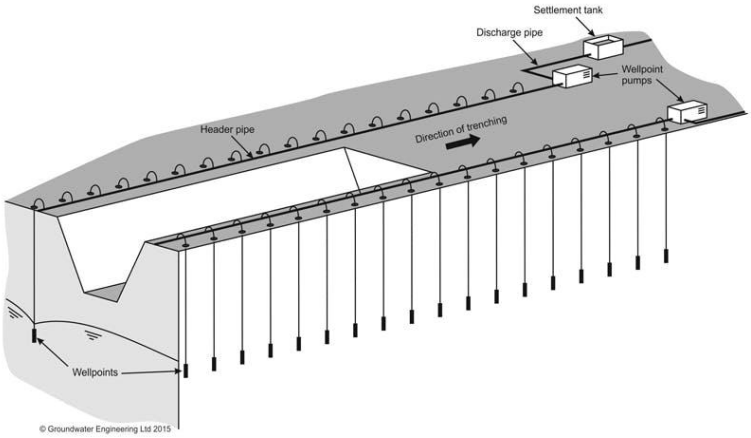


Figure A4 – Typical layout of vacuum ground dewatering system

Proximity to Settlements

Outside of the AONB the Orange Route Corridor is in closer proximity to a number of settlements increasing the number of residents who would be affected by construction related disturbance. This would be further amplified by the extended construction programme which would be required as well as the proximity of the Orange Route Corridor to Triton Knoll Offshore Wind Farm's export cable which would also result in potential cumulative effects as a result of overlapping construction programmes. The Purple Route Corridor is generally located further away from settlements as well as avoiding Triton Knoll Offshore Wind Farm's export cable. As a result of this and the shorter construction programme, the impacts of the Purple Route Corridor on local residents are considered to be less.

Agriculture and Soils

The impact on agricultural land would be greater in the Orange Route Corridor due to the more sensitive soils which are present. These soils are also more difficult to reinstate which could lead to longer term impacts on agricultural land. The impact on agricultural activities in the Orange Route Corridor would be further amplified by a combination of the increased temporary land take required to undertake construction works and the extended construction programme which would delay returning affected land back to agricultural use. In the Purple Route Corridor the soils are less sensitive and in combination with less land take and a shorter construction programme, impacts are considered to be less.

Sections of the Orange Route Corridor would require routeing within peat deposits which are avoided by the Purple Route Corridor. In engineering terms peat does not provide suitable cover for the cable as it is subject to shrinkage which could reduce the cover level above the cable and hence protection to the cable. Once operational this would require greater monitoring to ensure sufficient cover and protection is provided. The concern with peat is that cables need to be installed in ground that can efficiently transfer the heat generated from the electric current passing along a cable into the cable sheath and then into the surrounding ground, which needs to be thermally suitable ground. If the heat cannot be efficiently transferred then the cable will develop a resistance to the electric current, and therefore affect the flow of electricity along the cable. Peat and other organic materials act as heat insulators so are not considered thermally suitable ground for cable installation. Where areas of peat are found within a cable trench it will

need to be removed and replaced with a more thermally suitable material such as selected soil or sand. This may require the cable trenches to be dug wider and deeper in localised areas to allow the peat to be removed and replaced to provide an environment to transfer the heat away from the sheath of the cables, and allow them to work at their most efficient temperature. An impact of the discovery of large sections of peat will be the need for excavators and Heavy Goods Vehicles (HGVs) to collect the excavated material and dispose of it. The same volume of new thermally suitable materials will then need to be imported to sites generating large numbers of HGV movements.

Access from the Local Road Network

Access to the Orange Route Corridor both inside and outside of the AONB is more constrained than the Purple Route Corridor which broadly follows the A16. In order to access the Orange Route Corridor construction traffic would be required to use smaller, local roads increasing the impact of construction on local residents and/or would require the development of additional temporary access roads which would increase land take and environmental impacts (including temporary loss of agricultural land and additional requirements for dewatering as outlined above).

Ecological Sites

The Orange Route Corridor has a greater potential to affect sensitive ecological sites or habitats such as the Burgh-le-Marsh Lincolnshire Coastal Grazing Marshes Project (LCGMP). A route avoiding settlements within the Orange Route Corridor, in order to reduce impacts on local residents, would partly cross the LCGMP. The nature of the ground conditions within the LCGMP area would require dewatering as part of the construction works which could impact on these habitats in the long term as reinstatement would be more difficult. In comparison, the Purple Route Corridor generally avoids sensitive ecological sites and those which it is in close proximity to would not be impacted in the longer term.

In summary, NGVL are confident that the promotion of any alternative cable route corridor to avoid the AONB would carry a disproportionate cost burden and would precipitate far greater environmental impacts and more substantial disruption to local residents and businesses than the proposed route through the AONB.

More specific consideration of the environmental impacts on the AONB as a result of the Scheme is considered below, along with the impacts upon the functionality of the AONB as a recreational feature.

Potential Effect of the Development on the AONB and Mitigation

Any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.

The preceding sections of this report have considered the substantial constraints to providing a viable alternative to the DC cable route being secured through the AONB. Evidence has been provided of an 'avoidance' approach and that the extent of the route that passes through the AONB has been minimised so far as it is reasonably possible. This demonstrates a robust approach and respects the fact that development should only occur within the AONB as a last resort. The analysis below considers the predicted impacts to occur and any 'material' harm as a result.

The starting point for the consideration of any potential harmful impacts is the consideration of the scope and nature of the development. The proposed DC cable route will be completely buried below ground and therefore following completion of the construction works there will be no permanent and/or significant impacts that will materially affect either the landscape character or the visual amenity value of the AONB. The planning system is principally designed to consider the impacts of development where it can interact and impact upon other developments, and environmental features and designations. The only visual representation once the scheme is constructed will be a series of discreet and low level cable marker points (See Drawing No. VKL-08-39-G-500-019 UK Onshore Scheme Illustrative Cable Marker Post Details) that identify the location of the route for safety purposes. As a consequence, taking the nature of the proposed Scheme as a whole, any permanent impacts on the AONB from either a landscape character or visual aspect are not considered to be detrimental. This is confirmed by the landscape and visual assessment in the ES (Ref A16) which concludes that there will be no significant effects on landscape character or visual amenity within the AONB.

It is acknowledged that existing hedgerows and trees are recognised as important landscape features within the AONB. The proposed DC cable route design has sought to avoid large tree features such as woodland and will be refined during the detailed design to avoid individual mature trees and minimise hedge loss where possible. Where existing landscape features (hedges, trees and other vegetation) need to be removed then, in conjunction with landowner and stakeholder engagement, they will be replaced on a 'like for like' basis as deemed necessary and where they are considered to contribute to the landscape value of the AONB.

The temporary impacts associated with the Scheme during the construction phase are likely to be more significant including vehicles, plant and the stockpiling of materials. Notwithstanding this, these impacts and any resulting effects are short term only, with the full reinstatement of the land in and around the cable corridor taking place following completion of construction; these short terms effects are not considered to be of such an extent that they will result in a long term permanent detrimental effect which would lead to non-compliance with identified policy.

Whilst it is the case that designated areas like AONBs are not specifically created for their recreational value it is recognised that management for recreational enjoyment can play a supportive role in respect of the status and protection of an AONB. This is recognised in the Lincolnshire Wolds AONB Management Plan. Temporary impacts from the Scheme may include visible evidence of construction, increased impacts on the local road network, possible short term impacts on tourism due to the additional demands placed on local accommodation by construction workers (although this can also be recognised as a positive impact on the local economy particularly outside the main tourist season), along with any direct impacts on recreational activities such as Public Rights of Way (PRoW) access. The Scheme within the AONB will result in a buried cable and as such any impacts will be temporary occurring during the construction phase but are all considered to be manageable by NGVL working in conjunction with stakeholder and landowners. In addition the Scheme will deliver a series of process driven documents such as an Access Management Strategy, Construction Phase Environmental Management Plan (CEMP) and Construction Phase Traffic Management Plan (TMP) which will support management of the temporary works both within and out with the AONB designation.

The socio-economics assessment within the accompanying ES, notes that much of the tourism drawn to the AONB consists of a large proportion of day visitors, who are unlikely to be affected by the Scheme,

particularly in view of an anticipated construction programme that if delivered in phases would simply displace tourists to other parts of the AONB. It also reflects on the wider draw from coastal Lincolnshire resorts that form part of a package of tourism destinations within the wider area. Taking these factors into account, it is considered that no detriment would result to the recreational opportunities associated with the AONB.

Conclusion

As has been detailed above, it is considered that the Scheme meets with the requirements of the NPPF in only allowing new development within an AONB in exceptional circumstances and accords with the aims and policies set out in the AONB Management Plan and local policy.

There is clear need for the Project which is in the public interest. The route through the AONB provides the optimum route for the project and any impacts will be temporary and short term and can be effectively moderated. There would be no detrimental long term impacts as a result of the Scheme.

With the mitigation set out in the Environmental Statement it is considered that the delivery of the proposed Scheme will not conflict with the purposes of the AONB designation, nor will it result in long term permanent harm to the environmental value or recreational usage of the AONB. Furthermore, it is considered that the Scheme can be successfully accommodated within the AONB without material harm occurring.

References

Ref A1 Lincolnshire Wolds Area of Outstanding Natural Beauty Management Plan 2013 -2018

Ref A2 Department for Communities and Local Government (March 2012) National Planning Policy Framework

Ref A3 East Lindsey Local Plan 1995

Ref A4 East Lindsey Core Strategy Submissions Modification Draft March 2017

Ref A5 UK Onshore Scheme Environmental Statement Volume 2 Document ES-2-A.02 Chapter 02 Development of the UK Onshore Scheme (Alternatives) August 2017

Ref A6 National Grid Viking Link (April 2016) Strategic Options Report

Ref A7 National Grid Viking Link (April 2016) UK Onshore Scheme: Site Selection Report

Ref A8 National Grid Viking Link (August 2016) UK Onshore Scheme: Preferred Sites Report

Ref A9 National Grid Viking Link (August 2016) UK Onshore Scheme: Phase 1 Consultation Feedback Report

Ref A10 National Grid Viking Link (September 2016) UK Onshore Scheme: Route Corridor Selection Report

Ref A11 National Grid Viking Link (December 2016) UK Onshore Scheme: Preferred Route Corridor Report

Ref A12 National Grid Viking Link (December 2016) UK Onshore Scheme: Phase 2 Consultation Feedback Report

Ref A13 National Grid Viking Link (July 2017) UK Onshore Scheme: Statement of Community Involvement

Ref A14 UK Onshore Scheme Environmental Statement Volume 2 Document ES-2-A.03 Chapter 03 Description of the UK Onshore Scheme August 2017

Ref A15 UK Onshore Scheme Environmental Statement Volume 2 Document ES-2-B.09 Chapter 13 Socio-economics & Tourism August 2017

Ref A16 UK Onshore Scheme Environmental Statement Volume 2 Document ES-2-B.07 Chapter 11 Landscape & Visual August 2017

Appendix 2 Electric & Magnetic Fields (EMF)

Introduction

This assessment considers Electric and Magnetic Fields (EMFs) produced by the proposed converter station and onshore high voltage Direct Current (DC) bipole cables (proposed onshore elements of the Viking Link). The converter station will be voltage source converter (VSC) technology and operate using both DC and AC frequencies. The DC cables will operate in a bipole arrangement at ±525kV carrying 1400 Megawatts (MW) of power.

All equipment that generates, distributes or uses electricity produces EMFs. The power frequency of alternating current equipment in the UK is 50 Hz, and AC equipment will produce electric and magnetic fields with a principal frequency of 50Hz. These EMFs are known as Extremely Low Frequency (ELF) EMFs. DC equipment produces steady state electric and magnetic fields and these are referred to as static fields.

All static and alternating fields can have different effects, but in both cases, there are exposure limits set by independent organisations, designed to prevent all established effects of EMFs on people.

The Viking Link uses both AC and DC technology, so both static and alternating electric and magnetic fields will be produced. The effects are discussed in this statement.

Electric Fields

Electric fields depend on the operating voltage of the equipment producing them. They are measured in V/m (volts per metre). The operating voltage of the equipment is a relatively constant value. Electric fields are shielded by most common building materials, trees and fences. Electric fields diminish rapidly with distance from the source.

As a consequence of their design, some types of equipment do not produce an external electric field. This applies to underground cables (both AC and DC) and gas insulated switchgear (GIS), which are enclosed in a metal sheath (a protective metal layer within the cable) and have solid metal enclosures respectively. This equipment will be used for the Viking Interconnector.

Magnetic Fields

Magnetic fields depend on the electrical currents flowing and these vary according to the electrical power requirement at any given time. Magnetic fields are measured in µT (microteslas). They are not significantly shielded by most common building materials or trees but they diminish rapidly with distance from the source.

AC magnetic fields arising from electric cabling and equipment are found in all areas where electricity is in use (e.g. in offices and homes). In UK houses, typical AC magnetic fields will be in the range of 0.01 – 0.2 µT, with higher values in localised areas close to electrical appliances.

The earth also produces its own DC magnetic field, which in the UK is around 48 µT, but this can vary due to geomagnetic material such as rocks.

Legislation and Policy Guidance

There are no statutory limits on EMFs in the UK. It is the responsibility of the Public Health England (PHE) to recommend guidelines for exposure to EMFs. In 2004 it recommended that the UK adopt the 1998 guidelines from the International Commission on Non-Ionizing Radiation Protection[8] which cover 50 Hz frequencies. The Government accepted this recommendation, stating that the guidelines should be applied in the terms of EU Recommendation 1999/519/EC[9]. The EU recommendation also includes guidance on static field exposure limits, taken from ICNIRP's guidance on static magnetic fields[10]. These are the guidelines that currently apply in the UK.

The 50 Hz guidelines and their application are explained in the Code of Practice, 'Power Lines: Demonstrating compliance with EMF public exposure guidelines – a voluntary Code of Practice'[11] published by the Department of Energy and Climate Change (DECC). It is the electricity industry's policy to comply with Government guidelines on EMF, and this Code of Practice forms an integral part of this policy. This application does not include new overhead lines. However, this assessment has been performed in line with the principles of the Code of Practice. This Code of Practice covers 50 Hz fields specifically, but the overall principles of demonstrating compliance have been applied to the DC assessment also, using the appropriate exposure limits.

There has been extensive research to establish whether or not long term exposure to fields at lower levels than the ICNIRP guidelines might be a cause of ill health in humans, and this research has been extensively reviewed by bodies such as the HPA and the World Health Organization (WHO). There is some evidence to suggest that high magnetic fields may be associated with an increased risk of one particular disease, childhood leukaemia. However, the weight of scientific evidence is against electric and magnetic fields causing ill health in humans at levels below the ICNIRP guideline limits. The government has addressed this uncertainty by adopting precautionary measures set out in the Code of Practice 'Optimum Phasing of high voltage double-circuit Power Lines'[12], which the electricity industry follows, where appropriate.

---

[8] International Commission on Non Ionising Radiation Protection (1998) Guidelines for Limiting Exposure to Time-Varying Electric, Magnetic and Electromagnetic Fields, Health Physics

[9] EU Council (1999) Recommendation of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz) (1999/519/EC)

[10] International Commission on Non Ionising Radiation Protection (1994) Guidelines on limits of exposure to static magnetic fields, Health Physics

[11] Department of Energy and Climate Change (2011) Power Lines: Demonstrating compliance with EMF public exposure guidelines. A voluntary Code of Practice

[12] Department of Energy and Climate Change (2011) Optimum Phasing of high voltage double-circuit Power Lines. A voluntary Code of Practice

The evidence that leads to some health concerns about EMFs from electric power systems is specific to AC fields, at 50 Hz, and does not apply to DC fields. The fact that humans have evolved in the Earth's DC magnetic field makes it unlikely that there are any adverse health effects from any sources of fields at levels below the guideline limits.

The policies followed in this chapter resulted from a comprehensive risk assessment performed at a National Level. The Codes of Practice[11] effectively represents the conclusions of a health impact assessment conducted nationally and applied generically to all power lines, cables and substations.

Method

Assessment of Significance

The assessment considers magnetic fields produced by the proposed HVDC converter station and the onshore HVDC cables. The final asset configuration and manufacturer for the converter station are not finalised, so the worst case assumption in terms of magnetic field exposure has been considered for this assessment.

Magnetic fields have been assessed as per the conditions set out in the Code of Practice4 and compared with UK Government exposure guideline levels. The onshore underground HVDC cables are a bipole design with a maximum cable rating of 1400 MW. The cables will be installed onshore in an open cut trench, where cables are a minimum of 1.5m deep and minimum separation of 0.5m.

The 1998 ICNIRP guidelines are based on the avoidance of known adverse effects of exposure to EMF at frequencies up to 300 GHz, which includes the 50 Hz EMF associated with electricity transmission. This equates to public exposure limit for uniform AC magnetic fields exposure of 360 µT4.

For static magnetic fields, the recommended exposure limit used in the EU recommendation is 40 000 µT (40 millitesla). However ICNIRP's 1994 guidance3 states that there are potential indirect effects, such as injuries due to flying ferromagnetic objects and potential interactions with implantable medical devices which could occur at the levels below the exposure limits. Therefore a lower restriction of 500 µT should be considered where indirect effects may be an issue. The assessment would demonstrate a significant impact if non-compliance with the EMF exposure limits was demonstrated using the principles set of in Codes of Practice 'Power Lines: Demonstrating compliance with EMF public exposure guidelines – a voluntary Code of Practice'4.

Prediction and Assessment of Significance of Potential Impacts

Converter Station

The proposed converter station will be VSC technology. Until a manufacturer for the equipment has been appointed and the detailed configuration for the equipment confirmed a full assessment cannot be performed. However, specific EMF design criteria will be incorporated into the proposed converter station's technical specification to ensure that the finalised design is compliant with public exposure limits at and beyond the converter station boundary. These specifications will ensure the following criteria are employed in the design:

- Static magnetic fields at the boundary fence of the proposed converter station site will not exceed the ICNIRP public exposure limits defined above; and
- AC magnetic fields at the boundary fence of the proposed converter station site shall not exceed the general public exposure limit defined above.

High Voltage Direct Current Cables

The onshore underground HVDC cables will be installed in an open cut trench. As the cables operate as a bipole system, the current in each cable runs in opposition leading to a significant cancellation of the magnetic field. The magnetic field for the design has been calculated at 1m above ground using the maximum current rating of the cable. Table 1 shows the calculated magnetic field, including the maximum field and the field at perpendicular distances from the centre of the cables. All of the calculations are independent of the Earth's geomagnetic field.

Calculated DC magnetic field 1 m above ground				
Cable burial depth	Maximum Calculated field	10m from centre of cables	50m from centre of cables	100m from centre of cables
1m	12.4 µT	0.67 µT	0.01 µT	0.01 µT

Table 1: Calculated Magnetic fields for HVDC Cables

The calculations of magnetic fields demonstrate that the highest field produced by the onshore HVDC cables would be 12.4 µT at the minimum depth of 1.5m. All calculations were performed in accordance with the conditions set out in the Code of Practice4; using the maximum rating of the cables at 1 m above ground and ignoring harmonics. The calculated magnetic fields for all installation methods are all below the precautionary level of 500 µT for static fields and are therefore compliant with exposure limits and present no indirect effects.

Mitigation

No mitigation is required for the proposed substation, converter station or cables as the assessment has demonstrated EMFs are within UK Government guideline levels.

Conclusion

The new VSC converter station will be designed to ensure that it is compliant with ICNIRP public exposure guidelines for EMFs outside the boundary fence. It has been demonstrated that the HVDC cables would be compliant with exposure limits so there will be no significant EMF effects resulting from the Viking Link. There is some scientific evidence of possible effects at lower levels, and the electricity industry takes this evidence seriously and recognises that it can generate public concern however the evidence has been extensively reviewed, and the UK Government have not considered it appropriate to implement any restrictions or guidelines on the basis of this evidence.

CONTACT US

You can find out more information by:

calling our freephone number:
0800 731 0561

Sending an email to:
vikinglink@communityrelations.co.uk

Writing to our freepost address at:
FREEPOST VIKING LINK

Visiting our website at:
www.viking-link.com

If you, or someone you know, would like information in Braille, audio, large print or another language, please call us on the freephone number above.