NAVITUS BAY WIND PARK

ENVIRONMENTAL STATEMENT
NON-TECHNICAL SUMMARY
DOCUMENT 6.3
APRIL 2014

Pursuant to Regulation 5(2)(a) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

Version 1.0

NAVITUSBAY

[redacted]

1 INTRODUCTION

1.1 PURPOSE

1.1.1 The proposed Navitus Bay Wind Park (the Project) is an offshore wind farm of up to 970 megawatts (MW) of generating capacity located west of the Isle of Wight in the English Channel.

1.1.2 This Non-Technical Summary (NTS) document summarises the Environmental Statement (ES) (Document 6.1) for the Project. The ES provides information on likely significant impacts of the construction, operation, maintenance and decommissioning phases of the Project on existing physical, biological and human environments and details mitigation measures proposed.

1.1.3 Although this NTS provides a full summary, for more detailed information readers should refer to the full ES which is divided into four main volumes with supporting appendices (Document 6.2).

1.2 THE APPLICANT

1.2.1 Navitus Bay Development Limited (NBDL) is a British company registered in the UK formed following a joint venture between Eneco and EDF Energy to develop the Project.

1.2.2 Based in Warwick, Eneco Wind UK Ltd is a subsidiary of the publicly owned Dutch utility, Eneco BV – a company dedicated to supplying energy that is reliable, affordable and clean. The UK portfolio includes six onshore wind projects with 17.5 MW in operation, 94 MW under construction, 82.5 MW consented and 69MW in planning. Eneco UK also owns and operates a 10 MW solar farm.

1.2.3 EDF Energy is one of the UK's largest energy companies and the largest producer of low-carbon electricity. Electricity is generated from its nuclear power stations, wind farms, coal and gas power stations and combined heat and power plants. EDF Energy has recently constructed a 62 MW offshore wind farm in Teesside, off the North East coast. It also has over 500 MW of onshore wind farms in operation or under construction in the UK.

[1] This figure has been calculated with a site specific capacity factor of 35% and is based on an average annual UK domestic household electricity consumption of 4,266 kWh (Source, DECC).

[2] Based on Office of National Statistics census data (2011).

[3] Based on a figure of 430g CO_2/KWh, calculated using Renewable UK's CO_2 Reduction (pa) in tonnes methodology (Source: Renewable UK's UK Wind Energy Database).

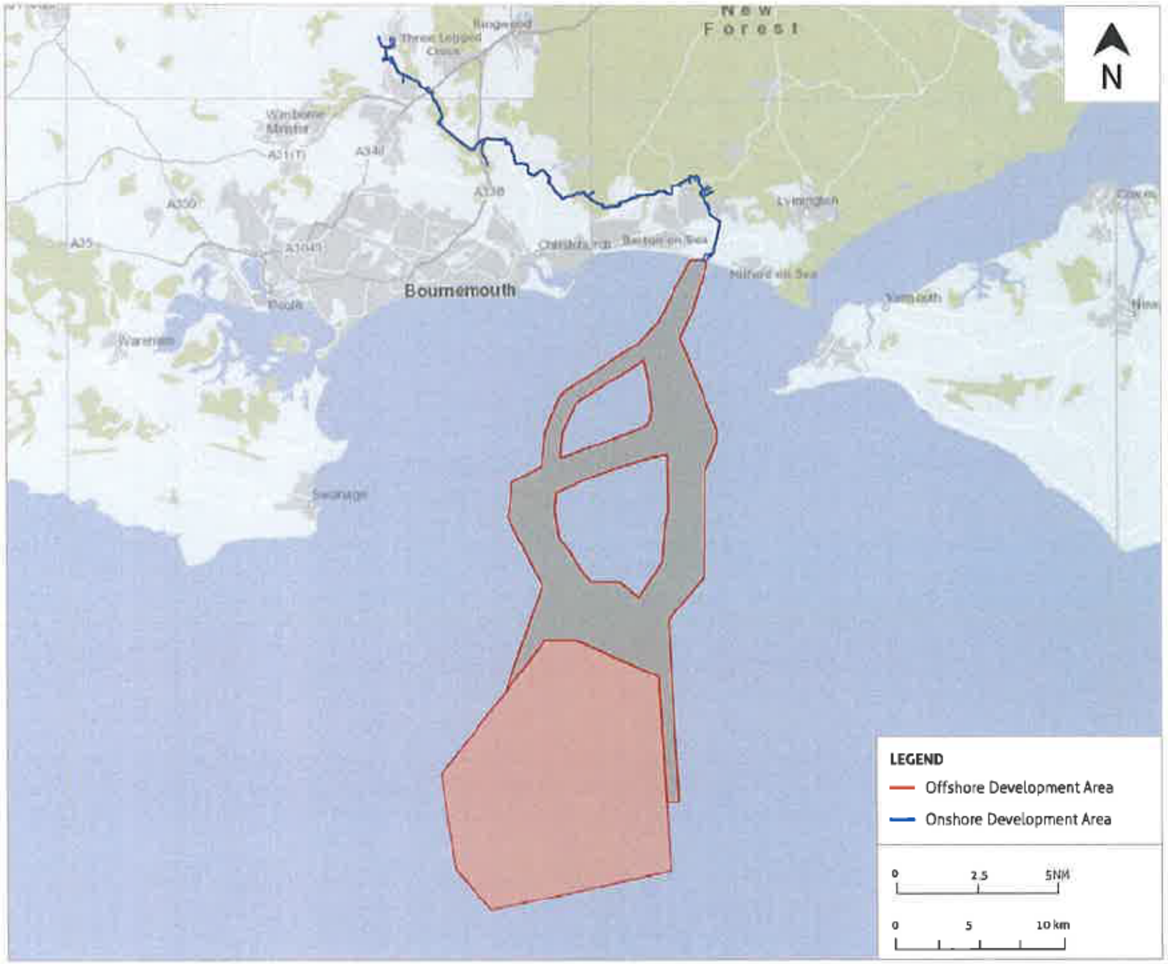
1.3 THE PROJECT

1.3.1 The Project comprises both offshore elements and associated onshore infrastructure. Figure 1 shows both areas of the overall Project. The Offshore Development Area comprises the Turbine Area and the Export Cable Corridor. The Onshore Development Area consists of a cable Landfall, the Onshore Cable Corridor and the Onshore Substation.

1.3.2 The offshore elements of the Project include wind turbine generators and associated foundations connected by subsea inter-array cables that are, in turn, connected to offshore substation platforms. These are located within the Turbine Area and convert the electricity generated by the turbines to a higher voltage. The electricity is transferred via export subsea cables to a point onshore where they will meet the onshore transmission cables at Taddiford Gap, between Barton-on-Sea and Milford-on-Sea. The onshore cables will be buried underground along a distance of approximately 35 km to a new substation built by NBDL at Three Legged Cross, north of Ferndown, East Dorset. Within the Turbine Area there will be a meteorological mast which would provide information about the wind (speed and direction etc.) at the project site, check the output of the wind turbines and monitor performance.

1.3.3 The expected maximum installed capacity of the Project is 970 MW. In an average year the Project would generate enough electricity for around 710,000 homes,[1] which is equivalent to eight times the number of homes in Bournemouth or nearly 12 times the number on the Isle of Wight.[2] The energy produced would also lower harmful carbon dioxide emissions by up to 1,290,000[3] tonnes per year.

Figure 1 – Map of Offshore and Onshore Development Areas



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5.2 ONSHORE

5.2.1 The onshore elements of the Project would be located in the Counties of Hampshire and Dorset and comprise the electrical infrastructure to allow the electricity generated by the offshore wind turbines to be transferred into the National Grid transmission system, connecting at the existing 400 kV substation at Mannington.

5.2.2 The onshore elements comprise the cable Landfall at Taddiford Gap, between Barton-on-Sea and Milford-on-Sea, the Onshore Substation at Three Legged Cross, north of Ferndown and the Onshore Cable Corridor of approximately 35 km that would connect these sites and pass through the local authority areas of New Forest District Council, Christchurch Borough Council and East Dorset District Council, as well as the New Forest National Park Authority. The key onshore parameters are shown in Table 2.

5.2.3 All onshore construction would be undertaken in accordance with a Construction Environmental Management Plan (CEMP) and other topic specific plans, to be agreed with local authorities. A Code of Construction Practice (CoCP) (Document 8.5) sets out the basis for these plans and outlines the measures that contractors would be required to adopt and implement. These measures have been developed based on those identified during the EIA process and are set out within the ES. They include strategies and control measures for managing the potential environmental effects of construction and limiting disturbance from construction activities as far as reasonably practicable. The CoCP has been developed in consultation with the local planning authorities and included in the DCO application.

Table 2 – Onshore design parameters

ONSHORE DESIGN PARAMETERS	
PROJECT ELEMENT	**DESIGN PARAMETERS**
Landfall	• up to six offshore cables • up to six transition joint bays • two temporary construction compounds
Onshore Cable Corridor	• working width of generally 40 m • up to six cable circuits and fibre optics in six trenches • four temporary construction compounds
Onshore Substation	• electrical footprint of approximately 3 hectares (ha) • maximum height of electrical equipment – 11 m • maximum height of GIS* building – 14 m • maximum height of lightning masts – 19 m • ground raising above elevated ground level – up to 1 m • one temporary construction compound
Working Hours	• generally, construction site working will be during normal working hours (08.00 – 18.00 Monday to Friday and 08.00 – 13.00 Saturday), with no activity on Sundays or public holidays • exceptions will be required where seven days working and/or 24 hours working are required for specific construction activities such as Horizontal Directional Drilling (HDD) works.

* Gas Insulated Switchgear

a) Landfall

5.2.4 The connection between the onshore and offshore cable circuits will be made at the Landfall at Taddiford Gap using a technique known as Horizontal Directional Drilling (HDD), which enables the cables to be installed underground beneath the cliffs and the beach. The drilling would be undertaken within the two temporary construction compounds set well back from the cliff to allow for predicted future coastal erosion (minimum of 50 years). The offshore cables would then be installed within the drilled bores under the cliffs and joined to the onshore cables at transition joint bays, one for each cable circuit, below the ground.

5.2.5 Work at the Landfall would take approximately six months within a two year period, scheduled to run in parallel with the main construction period for the onshore cable route.

b) Cable Corridor

5.2.6 Up to six cable circuits (each made up of three single-core cables) would be buried underground within trenches running from the Landfall to the Onshore Substation along the Onshore Cable Corridor shown in Figure 8. Each trench would contain a single circuit, so up to six trenches would be required.

5.2.7 Typically, the cables would be buried to a depth of 1.2 m although the final depths will be dependent on local conditions and may differ, for example, if required to pass beneath other utilities.

5.2.8 Cables would be supplied in lengths of between 700 and 1,200 m and sections of cables would need to be joined together along the route. The joining of cables would be made in specially constructed joint bays which would also be used for access to repair or test cables if required.

5.2.9 Temporary fencing would be erected along the Onshore Cable Corridor during construction for safety, with provision made for private land access, where possible, and as required by the landowners.

5.2.10 The topsoil and subsoil would be removed and stored separately within the working width of the cable corridor to avoid mixing. All necessary vegetation clearance would be undertaken in accordance with the requirements of landowners and stakeholders and in line with the measures outlined in the CoCP. Required drainage works would be undertaken to protect land and waterways and contain any movement of sediment.

5.2.11 The onshore cables would be buried within a working width of approximately 40 m. This provides enough room for the six cable trenches, temporary working areas for the storage of soils and a temporary access road as depicted in Figure 9. Access routes to the working width and construction compounds located along the Onshore Cable Corridor will be temporary and all of these, including the haul road through the cable corridor, would be removed and the land reinstated once construction is complete.

5.2.12 The need for cable installation using trenchless techniques, such as HDD, has also been identified for a number of other locations along the route to avoid impacts to, for example, sensitive ecological sites or major roads and rivers, where these are crossed by the Onshore Cable Corridor.

Figure 8 – Indicative working width for cable installation

c) Onshore Substation

5.2.13 A new substation is proposed at Three Legged Cross, which would connect to the existing National Grid 400 kV substation at Mannington. The building itself would occupy a maximum area of 3 hectares (ha) and the total area of the new substation site would be approximately 8 ha. Buildings required to house the substation components would be up to 14 m high, with lightning masts reaching a maximum of 19 m. A range of earthworks and site levelling would be required to construct the substation, with a temporary construction compound established to provide adequate space for the contractor's plant, storage and welfare facilities.

5.2.14 The substation design includes planting and landscaping to make sure that visibility of the structures is minimised as far as possible.

5.2.15 Construction for the Onshore Substation would be programmed to fit with the Onshore Cable Corridor and offshore construction.

5.2.16 All construction activities at the Landfall and along the Onshore Cable Corridor would be temporary, with land reinstated to its former use after construction. Whilst construction activities at the substation would also be temporary, the substation would be an operational structure. At the end of its operational period, the onshore project elements would be decommissioned. A decommissioning plan will be agreed with the relevant authorities upon cessation of the Project.

5.2.17 The construction programme for the onshore works would be undertaken in three broad stages over a period of five years as follows:

5.2.18 Pre-construction, year 1:

- specialist site clearance activities, such as tree or hedgerow clearance;
- specialist vegetation clearance, habitat protection and species relocation works; and
- site preparation activities, such as temporary fencing and demarcation of cable corridor and construction compounds.

5.2.19 Primary construction, years 2 and 3:

- topsoil stripping and installation of temporary access roads, associated drainage and pollution control measures;
- temporary ground improvement measures, where necessary;
- all cable duct installation works, including the excavation of the cable trench, installation of trench wall support systems where necessary, installation of the ducts and backfill of the trench with excavated and appropriate selected material;
- construction of joints bays;
- cable pulling and jointing for the first stage; and
- re-instatement as appropriate.

5.2.20 Cable and jointing works, in years 2 to 5:

- cable pulling;
- cable jointing; and
- reinstatement.

Figure 9 – Map of Onshore Development Area

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6 ENVIRONMENTAL IMPACT ASSESSMENT (EIA) METHODOLOGY

6.1 EIA PURPOSE AND PROCESS

6.1.1 The ES required to accompany the application for development consent has been prepared in accordance with the relevant legislation and guidance and has considered all of the phases of the Project: construction, operation & maintenance, and decommissioning at the end of its operational lifespan (25 years).

6.1.2 The purpose of EIA is to inform the decision-making process of the 'likely significant adverse effects' of a proposed project so that these can be assessed as part of the consenting process.

6.1.3 The Project has been assessed using a design envelope approach wherever flexibility is required as aspects of the Project, particularly offshore, remain at the time of application. These include the actual number of wind turbines that would be constructed, or the specific sizes. In such cases, the assessment has been based on a 'worst-case scenario basis'. This provides a meaningful assessment of the potential effects, while maintaining reasonable flexibility for future design refinements.

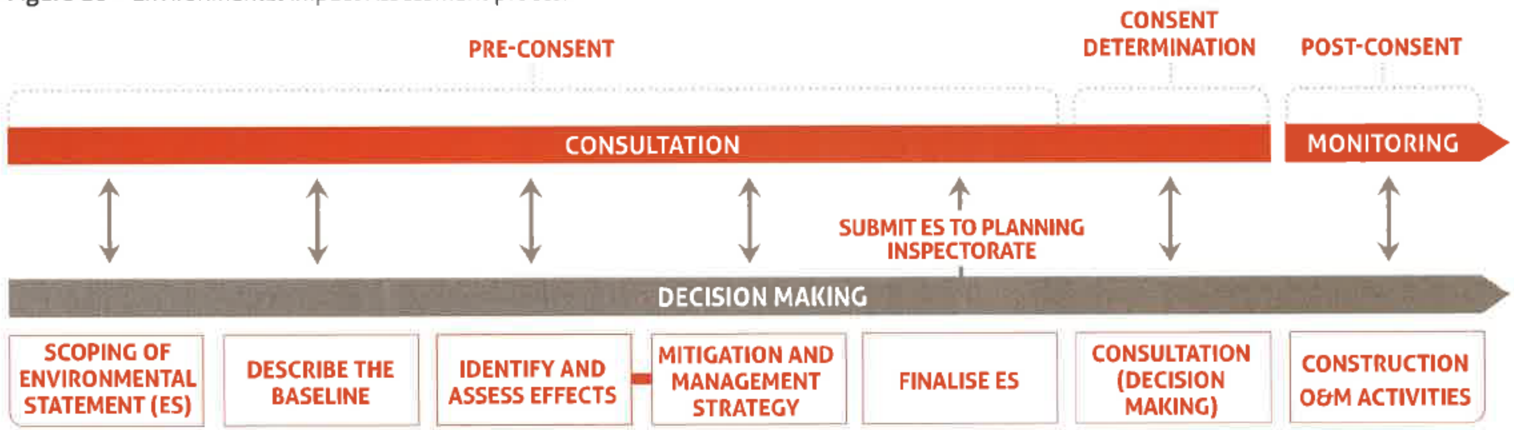
6.1.4 The use of the design envelope, often called the 'Rochdale Envelope', is recognised as an acceptable approach in the National Policy Statements and has been used in the majority of previous offshore wind farm ESs.

6.1.5 The EIA has followed four main steps:

- scoping of the issues to be assessed in the ES;
- collection of baseline data, through surveys and desk based work, to describe the existing environmental conditions;
- identification and assessment of likely significant impacts; and
- identification of mitigation measures and any management strategies that could be applied to reduce significant and other impacts.

6.1.6 The overall process that has been followed for this EIA is depicted in Figure 10.

Figure 10 – Environmental Impact Assessment process



6.2 SCOPING

6.2.1 Scoping is the process of identifying the issues to be addressed in the ES. A Scoping Report was prepared, which set out details of the proposed scope of environmental assessments to be undertaken for both the offshore and the onshore elements of the Project, and a Scoping Opinion was received from the Infrastructure Planning Commission (IPC) (now the Planning Inspectorate) in November 2011.

6.2.2 The scoping exercise highlighted a number of areas that consultees wished to see addressed within the ES. These responses, together with other consultation responses provided through the EIA process to date, have been taken into account in identifying the scope of the ES. This scope has also been informed by the nature, size and location of the project.

6.3 BASELINE CONDITIONS

6.3.1 The existing conditions have been identified from a range of site surveys and studies to characterise the onshore and offshore environments. These are known as 'baseline conditions'. The baseline conditions of the study area form the basis of the assessment, enabling the likely significant impacts of the Project to be identified.

6.4 ASSESSMENT OF POTENTIAL IMPACTS

6.4.1 The ES includes an assessment of the likely significant impacts during the construction, operation & maintenance and decommissioning phases of the Project. For this ES, the terms impact and effect are used in the following way. An effect is set in motion because of a particular activity and is usually measurable. An impact is a perceived change in the baseline as a result of an effect, which can be beneficial, adverse or neutral. The significance of an impact takes into account the magnitude of the effect and the sensitivity of the receptor (i.e. the person, species, habitat etc. that might be affected). Significance levels are defined separately for each topic using the terms major, moderate, minor or negligible. The level at which an impact is considered to be significant or not is specific to each topic, as described in the full ES. For clarity and simplicity in this NTS, impacts are reported as being either significant or not significant.

6.5 MITIGATION MEASURES ADOPTED

6.5.1 Mitigation measures that are incorporated into the design of the Project are referred to in the ES as 'measures adopted as part of the Project'. These measures are intended to prevent, reduce and where possible offset any significant adverse effects on the environment. These are effectively 'built in' to the impact assessment and as such, the assessment includes consideration of these measures. Development activities are also controlled through legislative compliance and standard good practice.

6.5.2 Further mitigation measures, which are additional (known as 'additional mitigation') to any measures adopted as part of the Project, may be required where significant adverse effects are predicted through the impact assessment. These mitigation measures, where they are considered necessary, are determined by the technical expert and agreed with the relevant stakeholders, where possible.

6.6 CUMULATIVE, INTERRELATED AND TRANSBOUNDARY IMPACTS

6.6.1 **Cumulative impacts** can occur where the effects from one project on a certain receptor (i.e. a person, species, habitat etc) that might be affected are combined with similar effects from another project or development on the same receptor i.e. they overlap both in space and time.

6.6.2 The purpose of considering cumulative impacts (assessed in all chapters of the ES) is to identify whether impacts from the Project in association with other plans and projects are more significant than those arising from just the Project alone, in order that additional mitigation measures can be identified and put in place.

6.6.3 The assessment of **interrelationships** considers all Project activities and their impacts on a single receptor. For example, noise from foundation piling could affect echo location ability by fish which are also being affected by high suspended sediments in the water from jetting which may prevent visual hunting for prey.

6.6.4 Where a significant impact is identified, mitigation measures are considered. For the purpose of this assessment, consideration has been given to all topics (see Volume D, Chapter 6 of the ES). It is also important to note that even residual impacts which have been assessed as negligible, have been included in the assessment. An impact taken in isolation may be assessed as not significant, but when considered together with other impacts, may give rise to an impact that is considered significant.

6.6.5 **Transboundary impacts** determine if the Project is likely to have significant effects on the environment of another European Economic Area State.

6.6.6 The potential for transboundary impacts has been considered in Volume D, chapter 7 of the ES.

6.7 HABITAT REGULATIONS ASSESSMENT (HRA)

6.7.1 Alongside the ES, consideration is being given to whether the Project could generate potential effects on European sites. The first stage of the HRA process has been supported in the HRA Screening Report (Document 5.3) and the HRA Report (Document 5.4) to provide the information necessary for the Secretary of State to undertake an Appropriate Assessment of the Project.

6.7.2 The HRA process undertaken for the Project identified a large number of European sites based on a range of selection criteria that were agreed with Natural England. The majority of the European sites (and their associated designated features) identified using these search parameters were subsequently screened out on the basis of information gathered through desk-study, field survey data analysis and mathematical modelling.

6.7.3 Likely significant effects on six European sites (including Ramsar sites) were identified that required further analysis within the HRA Report. After devising appropriate mitigation measures, the Project was determined to have no adverse effects on the integrity of any of the sites and therefore the further stages in the HRA process (i.e. assessment of alternatives and Imperative Reasons of Overriding Public Importance (IROPI)) were unnecessary.