



<b>Transboundary screening undertaken by the Planning Inspectorate (the Inspectorate) on behalf of the Secretary of State (SoS) for the purposes of Regulation 32 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations)</b>	
<b>Project name:</b>	Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions
<b>Address/Location:</b>	Extensions to the existing Sheringham Shoal and Dudgeon offshore wind farms located off the North Norfolk Coast; an export cable extending to landfall at either Bacton or Weybourne; and an onshore electrical cable traversing north Norfolk to a substation near Norwich, Norfolk.
<b>Planning Inspectorate Ref:</b>	EN010109
<b>Date(s) screening undertaken:</b>	First screening – 24 January 2020 following the Applicant’s request for a scoping opinion Second screening – 8 November 2022 following submission of the application documents
<b>EEA States notified/consulted:</b>	First screening: Netherlands and Belgium notified Second screening: Netherlands (re-notified) and Belgium (consulted)

<b>FIRST TRANSBOUNDARY SCREENING</b>	
<b>Document(s) used for transboundary Screening:</b>	Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions ('the Scoping Report') (October 2019)
<b>Screening Criteria:</b>	<b>The Inspectorate’s Comments:</b>
<b>Characteristics of the Development</b>	<p>The Proposed Development comprises extensions to the existing Dudgeon Offshore Wind Farm (OWF) and the existing Sheringham Shoal OWF which are located off the North Norfolk Coast. The Dudgeon Extension Project (DEP) component covers 92.6km<sup>2</sup> and would comprise up to 34 turbines and the Sheringham Extension Project (SEP) component covers 103.5km<sup>2</sup> and would comprise up to 27 turbines. Each turbine would have a maximum rotor diameter of up to 300m and a maximum tip height of 326m.</p> <p>There are three potential development options:</p> <ul style="list-style-type: none"><li>(i) DEP and SEP together;</li><li>(ii) DEP only; or</li></ul>

	<p>(iii) SEP only.</p> <p>The offshore elements of the Proposed Development would comprise turbines, array cables, one or two offshore substation(s) and potentially interlink cables, cable protection and scour protection. Offshore export cables would connect an offshore substation to the landfall, of which there are currently two alternative options (Weybourne and Bacton).</p> <p>From the landfall, onshore export cables would connect to a new onshore substation which would be located as close as practical to the existing National Grid substation at Norwich Main located south of Norwich. The new onshore substation would be connected to the Norwich Main substation via a grid connection. Energy balancing infrastructure may also be incorporated in the form of a battery storage solution.</p> <p>There are two options for the electrical infrastructure depending on the ownership and phasing of the Proposed Development. There would either be an integrated solution with the transmission infrastructure serving both DEP and SEP together, or two standalone connections (within the same overall corridors).</p>
<p><b>Location of Development (including existing use) and Geographical area</b></p>	<p><b>Offshore</b></p> <p>The DEP array would be located 31km from the Norfolk coast at its closest point and the SEP array would be located 17.5km from the Norfolk coast at its closest point. The following existing uses are present within DEP:</p> <ul style="list-style-type: none"> <li>• oil and gas blocks licensed for exploration and production;</li> <li>• the Shearwater to Bacton gas pipeline (which also routes parallel to the proposed Bacton export cable corridor);</li> <li>• the Durango to Waveney gas production pipeline.</li> </ul> <p>The Perenco operated Waveney gas platform is located approximately 0.55km from the DEP.</p> <p>Gas pipeline PL27, linking the Viking gas field and the Theddlethorpe Gas Terminal on the Lincolnshire coast, runs parallel and approximately 500m from the DEP.</p> <p>There are no pipelines or oil and gas licensing blocks in close proximity to the SEP.</p> <p>Both export cable options would traverse the export cable corridor for the proposed Hornsea Project THREE OWF.</p> <p>The export cables for the existing Dudgeon and Sheringham OWFs make landfall immediately to the west of the proposed DEP and SEP landfall option at Weybourne.</p> <p>The existing Dudgeon export cable is located immediately west and adjacent to the proposed westerly export cable option.</p> <p>The Scoping Report states that the DEP and SEP are a minimum of 100km from any international territory boundary.</p>

	<p>The nearest European Economic Area (EEA) state to the Proposed Development has not been identified.</p> <p><b>Onshore</b></p> <p>The two landfall options (Weybourne and Bacton) are located within the county of Norfolk. The Bacton option is located west of the existing Bacton Gas Terminal and its associated offshore pipelines.</p> <p>The onshore cable route options are largely agricultural in nature. Settlements within or adjacent to the study area include, but are not limited to, Sheringham, Saxthorpe, Cawston, Easton, Hethersett, North Walsham, Marsham and Norwich. There is a patchwork of non-agricultural land across the study area, which includes areas of woodland and water bodies (e.g. rivers, lakes and ponds).</p>
<p><b>Environmental Importance</b></p>	<p><u>Fish and shellfish ecology</u></p> <p>The fish and shellfish assemblage likely to be present in the vicinity of the extension projects includes pink shrimp, brown shrimp, the shrimp <i>Pandalina brevirostris</i>, long clawed porcelain crab, whiting, dab, velvet crab, brown crab, squid, gobies, common dragonet, Thornback ray, spotted ray, the starry smooth-hound, smooth-hound, lesser spotted dogfish, lesser weaver fish and Atlantic herring.</p> <p>There is a spatial overlap between the Proposed Development and spawning and/or nursery areas for sandeel, whiting, lemon sole, sole, cod, herring, mackerel, plaice and Thornback ray.</p> <p><u>Marine mammals</u></p> <p>The marine mammals likely to be present in the vicinity of the Proposed Development are harbour porpoise, white-beaked dolphin, minke whale, harbour seal and grey seal.</p> <p><u>Offshore ornithology</u></p> <p>The key bird species observed at DEP and SEP are:</p> <ul style="list-style-type: none"> <li>• Sandwich tern, kittiwake, common guillemot, razorbill, gannet, lesser black-backed gull (seabirds present during the breeding season);</li> <li>• red-throated diver, common guillemot, kittiwake, razorbill (seabirds present during the non-breeding season); and</li> <li>• little gull, common tern, Arctic tern and skua species (seabirds present during passage periods).</li> </ul> <p><u>Commercial fisheries</u></p> <p>The sea off North Norfolk and within the Greater Wash area has long supported exploitable populations of a range of shellfish species, including crab, lobster, cockles, whelks, mussels and brown shrimp.</p> <p>The Scoping Report states that historical consultation with fisherman indicates that the Proposed Development is located</p>

within extensive potting grounds targeting crab, lobster and whelk.

#### Shipping and navigation

There are shipping routes in between the existing Dudgeon and Sheringham Shoal OWFs, as well as between Sheringham Shoal OWF and the North Norfolk coast. These are used primarily by cargo vessels, tankers and passenger vessels.

These routes would be crossed by either of the two offshore export cable options, but the proposed extension areas avoid the main shipping lanes.

#### Offshore archaeology and cultural heritage

The key cultural features which form the Historic Seascape Character (HSC) include:

- palaeolandscapes;
- World War II defence area;
- wreck hazards and both historic and current navigation activities;
- fishing - both historic (from the Medieval period onwards) and current; and
- a current industry and communications character associated with renewable energy, hydrocarbon pipelines and submarine telecommunications cables.

The Scoping Report acknowledges the potential for archaeological remains to be present on, or buried within, the seabed, as yet undiscovered.

#### Designated sites

Both offshore corridor options cross the Cromer Shoal Chalk Beds Marine Conservation Zone (MCZ), the Greater Wash Special Protection Area (SPA) and the Norfolk East Water Framework Directive (WFD) coastal water body. The Weybourne corridor option is partly located within the Norfolk North WFD water body and the Bacton landfall location is located within the Southern North Sea Special Area of Conservation (SAC) winter area.

The Norfolk Valley Fens SAC, River Wensum SAC and Paston Great Barn SAC are located within the onshore cable route options.

In addition, the following European designated sites are located within 20km of the Proposed Development:

- North Norfolk Coast Ramsar site;
- The Wash and North Norfolk Coast SAC;
- North Norfolk Coast SPA and SAC;
- Breydon Water SPA and Ramsar site;
- Great Yarmouth and North Denes SPA;

	<ul style="list-style-type: none"> <li>• Overstrand Cliffs SAC;</li> <li>• Winterton-Horsey Dunes SAC; and</li> <li>• The Broads SAC and SPA.</li> </ul>
<b>Potential impacts and Carrier</b>	<ul style="list-style-type: none"> <li>• Impacts to highly mobile designated/protected species through air or water e.g. disturbance, displacement, loss of habitat, barrier effects, collision mortality, electro-magnetic fields (EMF) and indirect impacts to prey species;</li> <li>• Impacts to foreign commercial fishing fleets and international shipping e.g. displacement and loss of traditional fishing grounds, collision risk and indirect impacts through the displacement of fish species; and</li> <li>• Disturbance impacts to archaeological assets.</li> </ul>
<b>Extent</b>	<p><u>Fish and shellfish ecology, marine mammals and offshore ornithology</u></p> <p>The extent of potential transboundary impacts has not been specifically identified in the Scoping Report. However, the mobile nature of these species and the potential for transboundary impacts has been acknowledged.</p> <p><u>Commercial fisheries</u></p> <p>The Scoping Report states that the majority of fishing vessels targeting the area in and around the proposed extensions are UK-based. However, Dutch and Belgian beam trawlers have been recorded operating to the east of the extension areas.</p> <p><u>Shipping and navigation and offshore archaeology and cultural heritage</u></p> <p>The extent of potential transboundary impacts has not been specifically identified in the Scoping Report. No non-UK features have been identified at this stage.</p> <p><u>Designated sites</u></p> <p>The Scoping Report does not identify whether designated nature conservation sites within another EEA State would be directly affected by the Proposed Development.</p>
<b>Magnitude</b>	<p>The magnitude of potential transboundary impacts has not been identified in the Scoping Report. Likely significant transboundary effects will be assessed within the Environmental Statement.</p>
<b>Probability</b>	<p>The probability of potential transboundary impacts occurring has not been specifically identified in the Scoping Report. Likely significant transboundary effects will be assessed within the Environmental Statement.</p>
<b>Duration</b>	<p>Construction is predicted to take approximately four years for an integrated grid option or six years for separated grid options. The anticipated date of construction has not been specified in the Scoping Report. The Scoping Report states</p>

	that the OWF is anticipated to operate for a minimum of 30 years. The duration of specific potential impacts has not been identified in the Scoping Report. Likely significant transboundary effects will be assessed within the Environmental Statement.
<b>Frequency</b>	The frequency of potential impacts has not been identified in the Scoping Report. Likely significant transboundary effects will be assessed within the Environmental Statement.
<b>Reversibility</b>	The reversibility of potential impacts has not been identified in the Scoping Report. Likely significant transboundary effects will be assessed within the Environmental Statement.
<b>Cumulative impacts</b>	<p>The Applicant's cumulative impact assessment (CIA) has not yet been completed but will be presented within the Environmental Statement.</p> <p>The Scoping Report states that offshore cumulative impacts may come from interactions with the following activities and industries:</p> <ul style="list-style-type: none"> <li>• other offshore wind farms;</li> <li>• aggregate extraction and dredging;</li> <li>• licensed disposal sites;</li> <li>• navigation and shipping;</li> <li>• commercial fisheries;</li> <li>• sub-sea cables and pipelines;</li> <li>• potential port/harbour development; and</li> <li>• oil and gas activities.</li> </ul> <p>Onshore plans or projects that may be considered include (but not limited to):</p> <ul style="list-style-type: none"> <li>• other offshore wind farm infrastructure present onshore;</li> <li>• other energy generation infrastructure;</li> <li>• building/housing developments;</li> <li>• installation or upgrade of roads;</li> <li>• installation or upgrade of cables and pipelines;</li> <li>• coastal protection works; and</li> <li>• National Grid works.</li> </ul> <p>The full list of ongoing plans or projects to be included in the CIA will be developed as part of on-going consultation with technical consultation bodies.</p>
<p><b><u>Transboundary screening undertaken by the Inspectorate on behalf of the SoS</u></b></p> <p>Under Regulation 32 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) and on the basis of the current information</p>	

available from the Applicant, the Inspectorate is of the view that the Proposed Development **is likely** to have a significant effect on the environment in an EEA State.

In reaching this view the Inspectorate has applied the precautionary approach (as explained in its Advice Note Twelve: Transboundary Impacts), and taken into account the information currently supplied by the Applicant.

**Action:**

Transboundary issues notification under Regulation 32 of the EIA Regulations is required.

**States to be notified:** Netherlands and Belgium due to impacts on commercial fisheries.

**Date:** 24 January 2020

**Note:** The SoS' duty under Regulation 32 of the EIA Regulations continues throughout the application process.

**SECOND TRANSBOUNDARY SCREENING**

<b>Document(s) used for transboundary Screening:</b>	Sheringham Shoal and Dudgeon Offshore Wind Farm Extension Projects Environmental Statement (ES) (August 2022) and Habitats Regulations Assessment (HRA) Report to Inform Appropriate Assessment (RIAA) (August 2022)
<b>Date screening undertaken:</b>	Re-screened on 8 November 2022 and on receipt of application documents for acceptance for Development Control Order (DCO) examination

**Transboundary re-screening undertaken by the Inspectorate on behalf of the SoS**

Following submission of the DCO application which included the ES and RIAA, the Inspectorate has reconsidered the transboundary screening decision made in January 2020. Changes have been made to the Proposed Development that is the subject of the DCO application since the previous transboundary screening decision was made.

**Change in the description of the Proposed Development**

The offshore components of the Proposed Development are listed in Table 4.5 (Offshore Scheme Summary, ES Chapter 4).

The Dudgeon Extension Project (DEP) and Sheringham Shoal Extension Project (SEP) and combined have changed as follows:

*Wind farm site area (array):*

- DEP increased to 114.75 km<sup>2</sup>
- SEP - reduced to 97.0 km<sup>2</sup>

*Number of turbines:*

- DEP – reduced to 17 – 30 turbines
- SEP – reduced to 13 – 23 turbines

There are minor changes to the maximum rotor diameters of up and maximum tip heights (Table 4.10: Key Wind Turbine Parameters, ES Chapter 4).

The closest points from wind farm sites to the UK coastline are as follows:

- DEP - 26.5km



- SEP - 15.8km

SEP and DEP are a minimum of 187km from any international territory boundary.

### **Updated Assessment of Potential Effects on the Environment in EEA States**

Sections 29.6 – 29.8 of ES Chapter 29 - Transboundary Impacts, sets out a summary of the potential impacts on transboundary receptors considered by the Applicant under the following headings:

- Benthic Ecology
- Fish and Shellfish Ecology
- Marine Mammal Ecology
- Offshore Ornithology
- Commercial Fisheries
- Shipping and Navigation
- Offshore Archaeology and Cultural Heritage
- Onshore Ecology and Ornithology
- Onshore Archaeology and Cultural Heritage
- Seascape and Visual Impacts

Transboundary impacts are excluded by the Applicant for all topics, although the Inspectorate makes the following observations:

#### *Benthic Ecology, Fish and Shellfish Ecology, Marine Mammal Ecology and Offshore Ornithology*

No adverse effects on site integrity are predicted from the Proposed Development on any European and international designated sites outside of the UK. Tables 4-2 (Benthic Ecology), 5-2 (Fish Ecology), 6-4 (Marine Mammals) and 7-6 (Offshore Ornithology) of the Applicant's HRA Screening Report (Appendix 1 to the RIAA) set out those European and international designated sites outside of the UK that were considered by the Applicant and the reasons for their conclusion that none of them need be screened in for further assessment.

#### *Commercial Fisheries*

The Applicant is of the view that ES Chapter 12 (Commercial Fisheries) has assessed the potential impacts on non-UK registered vessels operating within UK waters (including potential effects on Belgian, Danish, Dutch and French commercial fishing fleets) and therefore that transboundary impacts within UK waters have effectively been considered as an "intrinsic part" of the assessment.

The Inspectorate remains of the view that potential displacement of fishing effort from SEP and DEP into non-UK Exclusive Economic Zones (EEZ) could result in significant effects on Dutch and Belgian EEZs, given the adverse impacts on the mobile fishing fleets as a whole that are predicted by the Applicant.

#### *Shipping and Navigation*

The Applicant assesses transboundary impacts to international shipping routes in Sections 13.4.10, 13.5 and 13.6 of Chapter 13 of the ES. There are effects identified on main routes with destinations at European ports such as Rotterdam (Netherlands) and Zeebrugge (Belgium) and could require route deviations

The Applicant identifies transboundary impacts being expected at a "frequent frequency" but with a "negligible consequence". However, the impact has been assessed by the Applicant as one of "moderate adverse significance" although there is mitigation to reduce the risk to as low as reasonably practicable (ALARP) as part of a Formal Safety Assessment (FSA).



The Inspectorate is of the view that significant effects on the environment in Belgium and the Netherlands cannot be excluded on this basis.

**Conclusion**

Under Regulation 32 of the EIA Regulations and on the basis of the current information available from the Applicant, there is no change to the previous conclusion, and the Inspectorate remains of the view that the Proposed Development **is likely** to have a significant effect on the environment in an EEA State.

In reaching this view the Inspectorate has applied the precautionary approach (as explained in its Advice Note twelve: Transboundary Impacts); and taken into account the information currently supplied by the Applicant.

**Action:**

No new EEA States have been identified as being likely to have significant effects on their environment.

On a precautionary basis, notification letters will be re-sent to those States who did not respond to the previous Regulation 32 notification.

States to be re-notified:

The Netherlands (impacts to commercial shipping and fishing)

Belgium (impacts to commercial shipping and fishing) (NB: in response to the first transboundary screening notification, Belgium indicated a wish to be consulted)

**Date:** 8 November 2022

**Note:** The SoS' duty under Regulation 32 of the EIA Regulations continues throughout the application process.

**Note:**

The Inspectorate's screening of transboundary issues is based on the relevant considerations specified in the Annex to its Advice Note Twelve, available on our website at <http://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/>