

Hornsea Offshore Wind Farm

Project Two

Environmental Statement
Volume 4 – Introductory Annexes

Annex 4.5.2 **Transboundary Impacts Screening Note**

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SMart Wind Limited

**Hornsea Offshore Wind Farm
Project Two – Environmental Statement**

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Annex 4.5.2 – Transboundary Impacts Screening Note

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Acronyms

Acronym	Full term
DCO	Development Consent Order
EEA	European Economic Area
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EMF	Electromagnetic Fields
EU	European Union
HRA	Habitats Regulations Assessment
IROPI	Imperative Reasons of Over-riding Public Interest
NSIP	Nationally Significant Infrastructure Project
PINS	Planning Inspectorate
REZ	Renewable Energy Zone
SAC	Special Area of Conservation
SCI	Site of Community Importance
SPA	Special Protection Area
UNECE	The United Nations Economic Commission for Europe

1 INTRODUCTION

- 1.1.1 This screening note presents the results of the transboundary impact assessment for the proposed Project Two development during its construction, operation and decommissioning.
- 1.1.2 Project Two is the second project proposed for development within the Hornsea Zone. The Hornsea Zone is being developed using a phased programme, which divides the zone into subzones. The first of the subzones to be developed was Subzone 1 (Project One), which was granted development consent by the Secretary of State for Energy and Climate Change in December 2014. Subzone 2 (Project Two) is the second of the subzones to be developed.
- 1.1.3 The Hornsea Zone is located in the southern region of the North Sea, covering an area of 4,735 km² (Figure 1.1). The western boundary of the Hornsea Zone is 31 km from the coastline of the East Riding of Yorkshire and the eastern boundary is 1 km from the median line between UK and Dutch waters. Subzone 2 is located in the centre of the Hornsea Zone and has a total area of 462 km². The western boundary of Subzone 2 lies 89 km from the coast of the East Riding of Yorkshire and the eastern boundary is 50 km from the median line between UK and Dutch waters (Figure 1.1).
- 1.1.4 Project Two will include up to two offshore wind farms and all associated offshore and onshore infrastructure required to connect to the existing National Grid substation located at North Killingholme, North Lincolnshire. Project Two will have a maximum generating capacity of 1,800 MW and include up to a maximum of 360 turbines located within Subzone 2, with turbine capacities ranging from 5 MW up to 15 MW being considered. Project Two comprises offshore generating stations with a capacity of more than 100 MW and therefore is a Nationally Significant Infrastructure Project (NSIP), as defined by Section 15(3) of the Planning Act 2008 (the 2008 Act).
- 1.1.5 Transboundary impacts relate to those impacts that may arise from an activity within one European Economic Area (EEA) state, that affect the environment or other interests of another EEA state. This report presents the screening assessment of potential onshore and offshore transboundary impacts associated with Project Two. This screening assessment sets out the issues that have been considered during consultation with other EEA states, and will continue to be considered on an on-going basis, in order to ensure that relevant transboundary impacts are identified and addressed.
- 1.1.6 Consultation undertaken to date with other EEA states is summarised in Table 3.1, and addressed in detail within the relevant offshore (Volume 2) and onshore (Volume 3) chapters of the Environmental Statement.

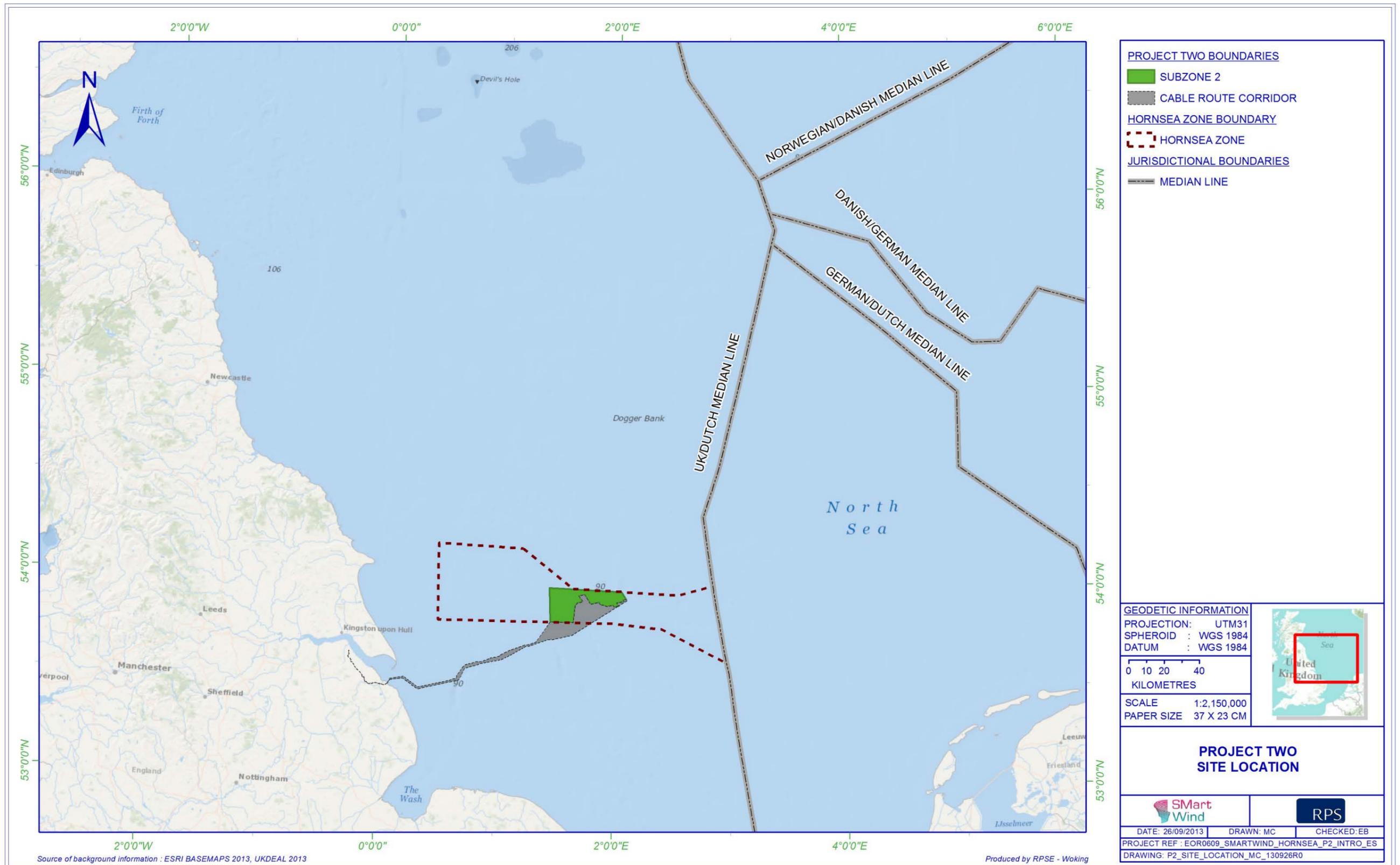


Figure 1.1 Location of the proposed Project Two offshore wind farm within the Hornsea Zone.

2 LEGISLATIVE CONTEXT

2.1 Environmental Impact Assessment

2.1.1 The need to consider transboundary impacts has been embodied by The United Nations Economic Commission for Europe (UNECE) Convention on Environmental Impact Assessment in a Transboundary Context, adopted in 1991 in the Finnish city of Espoo and commonly referred to as the 'Espoo Convention'. The Convention requires that assessments are extended across borders between Parties of the Convention when a planned activity may cause significant adverse transboundary impacts.

2.1.2 The Espoo Convention has been implemented by the European Council Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment, which was amended by Directive 97/11/EC, Directive 2003/35/EC and Directive 2009/31/EC. In 2011, the initial 1985 Directive and its three amendments were codified by Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment (the EIA Directive). The EIA Directive is transposed into UK law by the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (as amended) (the EIA Regulations). Regulation 24 of the EIA Regulations requires that where the Planning Inspectorate (PINS) is of a view that an EIA application will have significant effects on the environment of another EEA state, or PINS receives a request for involvement from another EEA state, it must undertake a prescribed process of consultation and notification.

2.1.3 PINS *Advice Note 12: Development with significant transboundary impacts consultation* (PINS, 2012a) sets out the procedures for consultation in association with an application for a Development Consent Order (DCO), where such development may have significant transboundary impacts. The note sets out the roles of PINS, other UK Government departments and developers. In respect of the latter, developers are advised to:

- Undertake consultation with specific EEA states where they believe there may be significant impacts on the environment of that state;
- Consider consulting with environmental bodies within that state and with relevant interest groups;
- Undertake any such consultation at an early stage (developers are advised that this may help to avoid any delays at the examination stage or even refusal due to lack of time to fully consider transboundary issues);

- Where necessary collate the names and contact details for relevant EEA states, working with other developers, to help to ensure consistency of approach and to save time and effort (Advice Note 12 includes a list of contacts for some EEA states);
- Share such contact details with PINS;
- As part of the scoping process, identify the possible significant transboundary impacts, or consider why there would not be any significant impacts on another EEA state (the Advice Note advises the use of a screening matrix as a way of presenting this information); and
- Send a draft application and Final Environmental Statement to the relevant EEA state(s) and any identified environmental bodies within that state, as soon as these are sufficiently detailed to enable meaningful comments to be made to developers about the potential significant impacts and any mitigation measures proposed.

2.1.4 Advice Note 12 also sets out the process for the screening of transboundary impacts. A screening matrix will be used to assist PINS in determining the likelihood of significant impacts on the environment of another EEA state. Regulation 24 of the EIA Regulations requires all NSIPs to be screened on a case by case basis, based in part on information supplied by the developer. The Advice Note states that in order to assist PINS, developers should carry out their own preparatory work to complete a screening matrix.

2.1.5 PINS will consider certain NSIPs as likely to have significant transboundary impacts, including offshore generating stations in a Renewable Energy Zone (REZ), unless developers can demonstrate otherwise. The Advice Note recommends therefore that developers should, when preparing documents for consultation and application, consider that PINS may notify the relevant EEA state of their particular project.

2.1.6 This technical annex has been undertaken in parallel with PINS' duty under Regulation 24 of the EIA Regulations to continue notification of transboundary impacts throughout the application process. The content of this technical annex provides the following information in relation to transboundary impacts:

- The location of Project Two in relation to the jurisdiction of other EEA states;
- A review of the Project Two Scoping Report (SMart Wind, 2012) and Scoping Opinion (PINS, 2012b) in relation to transboundary impacts;
- A summary of transboundary consultation completed to date;
- A screening matrix for transboundary impacts associated with Project Two; and
- A concluding statement on transboundary impacts.

2.2 Habitat Regulations Assessment

2.2.1 Article 6(3) of the Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (the 'Habitats Directive'), requires an 'appropriate assessment' to be prepared where a plan or project is likely to have a significant effect upon the network of European (Natura 2000) designated sites. These include Special Areas of Conservation (SACs), candidate SACs, Special Protection Areas (SPAs), potential SPAs, Sites of Community Importance (SCIs) and also Ramsar sites. These sites may be located within the UK or in another EEA state.

2.2.2 The Habitats Directive is transposed into UK law by the Offshore Marine Conservation (Natural Habitats, & c.) Regulations 2007 (as amended) (the 'Offshore Habitats Regulations') for sites beyond 12 NM and the Conservation of Habitats and Species Regulations 2010 (as amended) (the 'Habitats Regulations') for sites onshore and within 12 NM.

2.2.3 Regulation 61 of the Habitats Regulations sets out the procedure for the assessment of the implications of plans and projects on European sites. Under Regulation 61, if the proposed development is not directly connected with or necessary to the management of a European site and is likely to significantly affect the site, the competent authority must undertake an appropriate assessment of the implications for that site in view of that site's conservation objectives (Regulation 61(1)). PINS *Advice Note 10, Version 4, Habitat Regulations Assessment* (PINS, 2013a) recommends a four stage process:

- Stage 1 Screening - Test of Likely Significance: Determining whether the plan or project "either alone or in-combination with other plans and projects" is likely to have a significant effect upon a European site(s);
- Stage 2 Appropriate Assessment - Where likely significant effects are identified during screening, determining whether, in view of the European site's conservation objectives, the plan or project would have an adverse effect (or risk of adverse effect) on the integrity of the site. If not, the plan can proceed;
- Stage 3 Alternatives - Where the plan or project cannot be shown to avoid an adverse effect on the integrity of a site, there should be an examination of alternative solutions; and
- Stage 4 Assessment of "imperative reasons of overriding public interest" (IROPI) - If it is not possible to identify alternative solutions that would avoid an adverse effect on integrity, it will be necessary to establish IROPI. This is not considered a standard part of the process and will only be carried out in exceptional circumstances. In the event of a negative appropriate assessment compensatory measures must also be included with the Habitats Regulations Assessment (HRA) report, which are considered during Stage 4 if there are no alternatives identified during Stage 3.

2.2.4 The stages of the process are collectively referred to as the HRA to clearly distinguish from the appropriate assessment, which is a single step within the whole HRA process.

2.2.5 Advice Note 10 also describes the information which is required to be submitted with the DCO, and highlights the requirement for consultation and engagement with relevant bodies. Where significant effects are likely upon European sites in other EEA states consultation is required with the competent authorities of those states. It follows therefore that developers should commence engagement with these authorities at the screening stage of the HRA.

2.2.6 The Habitats Regulations Assessment Report for Project Two (SMart Wind, 2015a) is presented alongside the Environmental Statement. The HRA considers all terrestrial, marine and coastal European Sites that are potentially affected by onshore and offshore activities associated with Project Two, and provides the information required for a HRA to be undertaken by the Secretary of State. Advice has been sought through consultation with the statutory authorities through the Scoping Opinion (PINS, 2012b) and is presented in Table 3.1. A specific programme of consultation was undertaken through the Project Two Evidence Plan for matters relating to the HRA (SMart Wind, 2015b), which includes any required assessment of transboundary impacts upon European sites.

3 CONSULTATION

3.1.1 The following European Union (EU) ministries and industries were consulted during the Phase 1 and Phase 2 Consultation for Project Two:

- Belgium ministries/representatives:
 - Flemish Government - Environment Nature and Energy Department;
 - Ministère de la Santé Publique et de l'Environnement;
 - Ministry of Brussels;
 - Federale Overheidsdienst Mobiliteit en Vervoer;
 - Royal Belgian Ship-owners Association;
 - Ministry of Wallonia;
 - Federal Public Service Health, Food Chain Safety and Environment;
 - Sydvestjysk Fiskeriforening; and
 - Rederscentrale.
- Danish ministries/representatives:
 - Danish Ministry of the Environment;
 - Danish Maritime Authority;
 - Danmarks Rederiforening; and
 - Danmarks Fiskeriforening/ Danish Fishermen's Association.
- German ministries/representatives:
 - Federal Ministry for the Environment Nature Conservation and Nuclear Safety;
 - Wasser-und Schifffahrtsverwaltung des Bundes;
 - Verband Deutscher Reeder; and
 - BSH Bundesamt für Seeschifffahrtund Hydrographie.
- French ministries/representatives:
 - Ministère des Affaires étrangères;
 - Armateurs de France;
 - Préfecture Maritime de la Manche et de la Mer du Nord;
 - Secrétariat Général de la Mer;
 - FROM Nord; and
 - CME Organisation de Producteur.

- Dutch ministries/representatives:
 - Ministry of Infrastructure and the Environment – Directorate General for Spatial Development and Water Affairs;
 - Rijkswaterstaat - Dutch Ministry of Infrastructure and Environment;
 - Rijkswaterstaat - Ministerie van Verkeer en Waterstaat;
 - Royal Association of Netherlands Ship Owners;
 - Ministry of Transport, Public Works and Water Management;
 - Policy Officer Nature and Spatial Planning - Dutch Fish Product Board; and
 - Vis Ned.
- Norwegian ministries/representatives:
 - Ministry of Environment;
 - Norges Rederiforbund; and
 - Norwegian Maritime Directorate.
- Portuguese ministries/representatives:
 - Ministère des Affaires étrangères.
- Republic of Ireland ministry/representatives:
 - Department of Environment.
- Spanish ministries/representatives:
 - Ministerio de Medio Ambiente y Medio Rural y Marino;
 - Director General de Calidad y Evaluación Ambiental; and
 - Director General de Asuntos Generales y de Coordinación de Políticas del.
- Swedish ministries/representatives:
 - Implementation and Enforcement Department; and
 - Marine Standards Department.
- Commercial shipping industries in Belgium, Sweden, The Netherlands, Denmark, Spain, Germany, Russia, Finland, Norway, Greece, the USA, Switzerland, Cyprus; and
- Norwegian Fishing Vessel Owners Union.

3.1.2 From the above comprehensive list of EU ministries and industries consulted, responses regarding Project Two were only received from the Belgian, Dutch and Danish Authorities. Full details of all consultation undertaken to date with other EEA states for onshore and offshore topic chapters are presented in the relevant chapters of the Environmental Statement. A summary of the key issues raised during consultation for Project Two and how these have been addressed in the production of this Environmental Statement are set out in Table 3.1 below.

- 3.1.3 In addition to the above formal consultation, consultation meetings were held for Project One with the German Authorities: Bundesamt für Seeschifffahrt und Hydrographie (BSH) Maritime and Hydrographic Agency on 18 December 2012 and with the Dutch Authorities: Rijkswaterstaat North Sea (Dutch Ministry of Infrastructure and Environment) on 13 March 2013 with respect to Project One. An invitation for consultation on Project One was also sent to the Belgium, Danish and French Planning and Consenting Authorities, although no response was received. These meetings covered transboundary HRA issues including connectivity between sites and species and the relevant advice from Project One was applied within the assessment of Project Two. Further details are presented in the relevant chapters of the Environmental Statement.
- 3.1.4 In order to meet the Secretary of State's own obligations under Regulation 24 of the EIA Regulations, a transboundary screening assessment was undertaken by PINS for Project Two in January 2013, (PINS, 2013). The assessment was based on the information presented within the Scoping Report produced as part of the Project Two EIA process in October 2012 (SMart Wind, 2012). Under Regulation 24 and on the basis of the Project Two Scoping Report, the Secretary of State concluded that Project Two was likely to have a significant effect on the environment in another EEA state. The action required under Regulation 24 of the EIA Regulations was notification of transboundary issues through consultation with other EEA states. The PINS Project Two transboundary screening assessment (PINS 2013) was sent to Denmark, Netherlands, Norway, Germany, France, Belgium, and Iceland. One response to consultation was received from the Dutch Ministry of Infrastructure and Environment (Table 3.1).

Table 3.1 Summary of key issues raised during Project Two consultation undertaken to date for Project Two transboundary impacts.

Consultee	Consultation type	Date issue raised	Issue raised	How/where addressed
Planning Inspectorate (PINS)	Scoping Opinion	November 2012	The Secretary of State notes that the Scoping Report has acknowledged the potential for transboundary impacts and recommends that the Applicant should provide to the Secretary of State as soon as possible any additional available information about potential significant transboundary effects and identify the affected state(s).	Consultation with other EEA states has commenced and is on-going. See consultation entries below for more detail.
			The Environmental Statement will need to address the potential for transboundary impacts in each topic area and summarise the position on transboundary effects of the proposed development, taking into account inter-relationships between any impacts in each topic area.	Considered in the screening assessment and matrix presented in Section 4 and Table 4.2.
			The Secretary of State recommends that the baseline data is comprehensive, relevant and up-to-date. Consideration should be given to the need to obtain relevant information from other European states and the need to ensure that transboundary issues are identified and addressed.	Baseline data collection in support of the EIA for Project Two has been on-going within the Hornsea Zone from 2010 to 2013. Consultation with other EEA states has commenced and is on-going. See consultation entries below for more detail.
			The Secretary of State agrees that offshore impacts to local and regional Air Quality can be scoped out on the basis of the information in the Scoping Report.	No assessment required.
			The Secretary of State agrees that transboundary impacts associated with impacts to onshore Ecology and Nature Conservation, the Historic Environment, and flood risk impacts can be scoped out. This is based on the assumption that the onshore development will not affect any features which are linked ecologically, or in terms of heritage to any non-UK features of interest.	No assessment required for onshore Ecology and Nature Conservation, the Historic Environment, and flood risk impacts.
			The Secretary of State requires that consideration should be given to the cumulative effect of the onshore and offshore elements of the project and the potential for transboundary impacts.	The cumulative effects of the onshore and offshore elements of Project Two are considered where relevant for individual topic areas in the screening assessment and matrix presented in Sections 4.2 (offshore) and 4.3 (onshore) and Table 4.2.
			The Secretary of State notes the extensive number of statutory designations and proposed designations in and around the proposed site. The location of sites designated by other European Member States is noted. Transboundary impacts are likely to be a key consideration in the assessment process for Hornsea Project Two, and the Secretary of State welcomes the intention as stated in the Scoping Report to assess potential impacts to the integrity of nature conservation designations beyond the UK EEZ.	Considered in the screening assessment and matrix presented in Sections 4.2 (offshore) and 4.3 (onshore) and Table 4.2.

Consultee	Consultation type	Date issue raised	Issue raised	How/where addressed
PINS	PINS Transboundary screening based on Hornsea Project Two, Environmental Impact Assessment Scoping Report, October 2012	January 2013	<p>Under Regulation 24 of the EIA Regulations and on the basis of the current information available from the Developer, the Secretary of State is of the view that the proposed development is likely to have a significant effect on the environment in another EEA State.</p> <p>In reaching this view the Secretary of State has applied the precautionary approach (as explained in the Planning Inspectorate's Advice Note 12: Transboundary Impacts Consultation); and taken into account the information currently supplied by the Developer.</p> <p>Action: Transboundary issues notification under Regulation 24 of the EIA Regulations is required.</p> <p>States to be notified: Netherlands, Denmark, Germany, Iceland, Norway, France, and Belgium (potential impacts to Natura 2000 sites; potential impacts to fishing activities and navigation).</p> <p>Note: The Secretary of State's duty under Regulation 24 of the EIA Regulations continues throughout the application process.</p>	Transboundary consultation has been carried out with the relevant EEA states (see paragraph 3.1.1) for both Project One and Project Two. Where issues raised during consultation for Project One were considered relevant to Project Two, these have been considered in the Project Two assessment.
Belgium Federal Public Service Health, Food Chain Safety and Environment Directorate - General Environment	Phase 4 response to Project One Draft Environmental Statement – Relevant comments regarding Project Two	March 2013	The Belgian Authority would like to be informed officially of the outcome of the consultation process before the application for Project Two is submitted to the UK authorities.	On-going consultation with the Belgian Authority will continue for Project Two, in line with requirements set out in the Planning Act 2008.
Belgium Federal Maritime Transport Administration	Phase 4 response to Project One Draft Environmental Statement – Relevant comments regarding Project Two	March 2013	The Belgium Authority requested the Navigational Risk Assessment for Project One should be taken into account when evaluating Project One and Project Two, and what are the implications of Project One and Project Two on the sea route Zeebrugge - Hull (historical route).	Acknowledged. All issues related to Navigation Risk will be assessed in detail in Volume 2, Chapter 7: Shipping and Navigation.
Rijkswaterstaat (Dutch Ministry of Infrastructure and Environment)	Response to PINS Transboundary screening for Project One	April 2013	Requested that The Netherlands would like to continue to participate in consultation on Hornsea Project Two.	Acknowledged. A consultation meeting with Dutch Authorities was held in March 2013.
Danish Maritime Authority	Phase 2 Consultation	July 2014	No comment.	Noted.
Danish Nature Agency (Department for Water Planning and Sea Environment)	Phase 2 Consultation	July 2014	No comment.	Noted.

Consultee	Consultation type	Date issue raised	Issue raised	How/where addressed
Danish Nature Agency (Department for Nature and Woods)	Phase 2 Consultation	July 2014	The Department for Nature and Woods presuppose that there will be consideration, both in the construction phase as well as in the operational phase, to secure for transboundary effects that can harm or damage breeding or resting places in the natural habitats for those animal species listed in the Habitat directive, Annex IV (harbour porpoise and all whales).	It is expected that an EPS licence (or consent under the DCO dispensing with the need for an EPS licence) will be required for the Project Two development where piling of foundations are proposed. However, given the wide ranging nature of harbour porpoise (and other mammal species, including during breeding periods) and the larger extent of available habitat elsewhere, there is the potential for animals from SACs/SCIs to avoid the disturbed area during piling activity utilising habitat elsewhere in non-disturbed areas (Volume 2, Chapter 4: Marine Mammals). Therefore, significant impacts associated with construction noise (piling) are not anticipated to occur on breeding or resting places for species listed in Annex IV of the Habitats Directive (SMart Wind, 2015a).
Belgium Ministry of Environment (Departement de l'Environnement et de l'eau)	Phase 2 Consultation	July 2014	Project Two is unlikely to have an effect on the Walloone Region.	Acknowledged.
Rijkswaterstaat (Dutch Ministry of Infrastructure and Environment)	Phase 2 Consultation	July 2014	As a result of reviewing the documents regarding Project Two we see no inevitable ecological concerns regarding the Project Two alone. Also we can confirm that we see no inevitable nautical and/or navigational concerns regarding Project Two alone. However, when more windfarms are to be realized in this area, especially when realizing Project Three, cumulative effects could possibly occur. Either with respect to smooth and safe shipping (shipping corridors) or related to ecological aspects. Therefore, we would like to be kept informed on such developments. We would also like to stay involved in reviewing the cumulative effects and other effects of ecological, nautical, navigational and fisheries aspects.	Acknowledged

Consultee	Consultation type	Date issue raised	Issue raised	How/where addressed
Rederscentrale (Belgian Commercial Fisheries Agency)	Phase 2 Consultation	July 2014	<p>The area proposed for the Hornsea Wind Farm is of great value to our fleet. In 2009 the ICES rectangle 37F2 produced over € 500.000 worth of catches.</p> <p>Fishing activity in these rectangles will be strongly limited due to the placing of the turbines as well as the cable routes connecting the wind farm with the mainland. Wind turbines in the Hornsea Wind Farm will cause limited access to the fishing grounds located more north of the Hornsea area.</p> <p>Therefore turbines are to be placed in such a way that trawling is still possible in the future. We strongly suggest that the fishing industry is being consulted on spacing, the laying of the cable route and the mutually connection of the wind farms so future fishing activity is guaranteed.</p> <p>Displacement of fishing activity will have a cumulative effect on the profitability of the fishing vessels as well on the state of other fish stocks as the fishing effort in other areas will increase. We suggest that more research with recent data on this cumulative (financial) impact is required.</p> <p>We strongly suggest that in the future the same income is guaranteed to our fishermen. If at any point a loss of income is detected, we'd suggest that a procedure to compensate that loss of income is established.</p> <p>Especially during construction, when the safety zone prevents access to traditional fishing grounds, this compensation is needed.</p> <p>Because of the above mentioned interests, it is clear that the Rederscentrale wants to be involved as a stakeholder during the process.</p>	<p>The issues raised have been previously addressed between Rederscentrale and SMart Wind Ltd via a Statement of Common Ground (January 2014) where it was agreed that the impacts on Belgian fishermen during construction are unlikely to be significant, assuming that 500 m construction safety zones will be applied for and used around active construction areas and platforms. In addition, it is agreed that, during operation Belgian owned and operated commercial fishing vessels have stated that they would be able to fish within the turbine corridors in safe conditions.</p> <p>The process of agreement on the final turbine layout will be subject to consultation by the MMO with the MCA under condition 9 (1) (a) of the draft deemed Marine Licences.</p> <p>With respect to cable routing, as agreed in the Statement of Common Ground between between Rederscentrale and SMart Wind Ltd. (January 2014), cables shall be installed using a best practice approach, where practicable minimising as far as possible effects on longer term fishing operations.</p> <p>With regard to profitability of fishing effort and financial impact, SMart Wind does not consider that there is a requirement to provide funding for research activities with respect to fisheries interests.</p>

4 SCREENING OF TRANSBOUNDARY IMPACTS

4.1 Introduction

- 4.1.1 In accordance with the requirements of Advice Note 12, (PINS, 2012a), a screening matrix for potential transboundary impacts associated with Project Two is presented in Sections 4.2 and 4.3 for offshore and onshore activities, respectively, and summarised in Table 4.2. This screening matrix has been based upon the assessment of impacts, as presently known, as well as any consultation with relevant statutory and non-statutory bodies that has taken place. This matrix has been reviewed and updated as the EIA and associated consultation activities have progressed and informs the transboundary impacts assessed within the Project Two Environmental Statement.
- 4.1.2 The screening matrix considers all potential transboundary impacts that may occur from all phases of Project Two (i.e., construction, operation and maintenance, and decommissioning). The matrix also addresses the predicted spatial and temporal scale of potential transboundary impacts for those interests that have been taken forward for assessment within the Environmental Statement.
- 4.1.3 Potential effects upon European designated sites within other EEA states (as well as those in the UK) are considered separately within the screening process for the Habitats Regulations Assessment (SMart Wind, 2015a).
- 4.1.4 The distance of Project Two from the boundary of the Exclusive Economic Zone (EEZ) or 'median line' of other EEA states considered is presented in Table 4.1.

Table 4.1 Summary of approximate distance to nearest Exclusive Economic Zone (EEZ) (median line) of other EEA states.

Exclusive Economic Zone	Distance from Project Two to nearest border (km)
The Netherlands	49.3
Germany	202.3
Belgium	223.1
Danish	229.5
Norway	244.9
France	246.1
Iceland	1,147.6

4.2 Offshore Transboundary Impacts

Physical Environment

Marine processes

- 4.2.1 Potential transboundary impacts upon marine processes from Project Two activities were scoped out based on information provided within the Scoping Report (SMart Wind, 2012). Further consideration has been made during the EIA process following comments provided in the Scoping Opinion (PINS, 2012b) that the Environmental Statement will need to address the potential for transboundary impacts in each topic area (Table 3.1).
- 4.2.2 The offshore component of Project Two lies wholly within UK territorial waters; therefore there are no potential transboundary impacts upon marine geology anticipated. Further, preliminary assessment indicates that the predominant sediment type in Project Two is sands and gravels. As such, it is anticipated that impacts from the re-suspension of sediment when installing foundations and cables are likely to be localised and of temporary duration due to rapid resettlement of these sediment types. Transboundary impacts are therefore not expected.
- 4.2.3 It is therefore proposed that transboundary impacts upon marine processes are screened out of the EIA process.

Biological Environment

Benthic intertidal and subtidal ecology

- 4.2.4 The extent of any predicted impacts upon benthic intertidal and subtidal ecological receptors are likely to be limited in extent to the:
- Project Two offshore footprint (i.e., Subzone 2 and the proposed export cable route corridor);
 - A 50 km buffer around Subzone 2 and the proposed export cable route corridor for habitat loss; and
 - One tidal excursion for suspended sediment/deposition assessments.
- 4.2.5 Therefore no potential transboundary impacts upon benthic intertidal and subtidal ecology are anticipated and it is proposed that transboundary impacts on benthic intertidal and subtidal ecology are screened out of the EIA process.

Fish and shellfish ecology

- 4.2.6 There is the potential for transboundary impacts upon fish and shellfish ecology due to construction, operational and decommissioning impacts of Project Two. These include direct impacts due to underwater noise from piling operations and indirect impacts caused by loss of fish and shellfish habitat or disturbance to habitat due to increased suspended sediments and deposition from the placement/removal of foundations and cables in or on the seabed. These activities have the potential to directly affect Annex II migratory fish species that are listed as features of Natura 2000 sites in other EEA states, or species that are of commercial importance for fishing fleets of other EEA states. Indirect effects will include loss of or disturbance to fish spawning and nursery habitats in the North Sea that are important for migratory fish species either designated as Annex II species or of commercial importance to other EEA states.
- 4.2.7 Potential transboundary impacts upon fish and shellfish ecology and their nature conservation interests are further assessed in the Environmental Statement Volume 2, Chapter 3: Fish and Shellfish Ecology. Potential impacts on Natura 2000 sites with fish as a qualifying feature are assessed within the Habitats Regulations Assessment (SMart Wind, 2015a).

Marine mammals

There is the potential for transboundary impacts upon marine mammals due to the mobile nature of marine mammal species and the proximity of Project Two to the border of other EEA states. Direct impacts may occur due to underwater noise generated during construction and decommissioning, particularly construction piling during the installation of foundations. Indirect impacts may cause disturbance to prey (fish) species from loss of fish spawning and nursery habitat and suspended sediments and deposition. Marine mammal species that have been recorded during surveys within the Project Two marine mammal study area include those that are listed as Annex II species and are qualifying features of Natura 2000 sites in other EEA states.

- 4.2.8 Potential transboundary impacts upon marine mammals and their nature conservation interests are further assessed in the Environmental Statement Volume 2, Chapter 4: Marine Mammals. Potential impacts upon Natura 2000 sites with marine mammals as a qualifying feature are assessed within the Habitats Regulations Assessment (SMart Wind, 2015a).

Ornithology

- 4.2.9 There is the potential for transboundary impacts upon ornithological receptors due to the wide foraging and migratory ranges of typical bird species in the North Sea. In addition, a number of bird species that have been recorded during surveys within the Project Two ornithology study area include those that are listed as qualifying features of Natura 2000 sites in other EEA states.
- 4.2.10 Potential transboundary impacts upon birds and their nature conservation interests are further assessed in the Environmental Statement Volume 2, Chapter 5: Ornithology. Potential impacts upon Natura 2000 sites with birds as a qualifying feature are assessed within the Habitats Regulations Assessment (SMart Wind, 2015a).

Human Environment

Commercial fisheries

- 4.2.11 There is the potential for transboundary impacts upon commercial fisheries due to the possible constraints that Project Two may have on foreign commercial fishing activities operating in the area, including demersal trawling, beam trawling, demersal seining and other gears. In addition, fishing effort may be displaced from the Project Two area to alternative fishing grounds in other EEA states, which will have direct implications to that fishing ground.
- 4.2.12 Potential transboundary impacts are further assessed in the Environmental Statement Volume 2, Chapter 6: Commercial Fisheries.

Shipping and navigation

- 4.2.13 Commercial shipping across Project Two ranges from small cargo to large container ships and crude oil tankers. Passenger ferries also cross the area between the UK and Denmark and The Netherlands. The physical presence of the turbines within Subzone 2 will result in the deviation of some shipping routes around Project Two. There is also the potential for turbines to have an impact upon navigation aids and radar of commercial vessels of other EEA states.
- 4.2.14 Potential transboundary impacts are further assessed in the Environmental Statement Volume 2, Chapter 7: Shipping and Navigation.

Aviation, military and communication

- 4.2.15 Potential impacts upon aviation include potential disturbance to commercial helicopters transiting to oil and gas installations in the southern North Sea from UK airports. There are some platforms within the vicinity of Project Two that are located in the Dutch EEZ, however, these platforms are serviced from The Netherlands (i.e., from the east) and are not likely to be affected by the presence of Project Two.

4.2.16 Project Two is outside the range of any other EEA state's commercial radar. In addition, the military interests of other EEA states are outside the scope of the Project Two EIA process.

4.2.17 It is therefore proposed that transboundary impacts upon aviation, military and communication are screened out of the EIA process.

Marine archaeology and ordnance

4.2.18 Potential impacts upon marine archaeology and ordnance will be confined to the offshore footprint of Project Two and the extent of the tidal ellipse. No transboundary impacts are anticipated.

4.2.19 It is therefore proposed that transboundary impacts upon marine archaeology and ordnance are screened out of the EIA process.

Seascape and visual resources, and historic landscape

4.2.20 Visual receptors are limited to passenger ferries and shipping vessels transiting between the UK and other EEA states. This impact is not considered to be significant due to the industrial nature of the existing seascape.

4.2.21 It is therefore proposed that transboundary impacts upon seascape and visual resources are screened out of the EIA process.

Infrastructure and other marine users

4.2.22 Potential impacts upon infrastructure and other marine users of other EEA states are limited to activities surrounding oil and gas operations. The only potential impact upon these operations may arise from the transit of Project Two construction vessels from European ports, should this construction strategy be adopted. The impact from these movements is considered to be minimal and the effects are not considered to be significant. The significance of these movements to other EEA states is considered to be minimal and as such no significant transboundary impacts are anticipated.

4.2.23 The effect of airborne noise arising from construction activities (primarily piling) and operational activities (primarily turbine blade rotation) will be low due to the attenuation of noise over the large distances involved. Receptors will include passengers on foreign vessels, fishermen (both of which will be transitory) and offshore oil and gas workforce, however, transboundary impacts are not considered significant.

4.2.24 It is therefore proposed that transboundary impacts on infrastructure and other marine users are screened out of the EIA process.

4.3 Onshore Transboundary Impacts

Geology and Ground Conditions

4.3.1 Potential transboundary impacts on geology and ground conditions were scoped out based on information provided within the Scoping Report (SMart Wind, 2012) as any impacts will be confined to a localised area within the onshore footprint of Project Two.

4.3.2 It is therefore proposed that transboundary impacts on geology and ground conditions are screened out of the EIA process.

Hydrology and Flood Risk

4.3.3 Potential transboundary impacts upon hydrology and flood risk were scoped out based upon information provided within the Scoping Report (SMart Wind, 2012) as any impacts will be confined to a localised area within the onshore footprint of Project Two. This was agreed in the Scoping Opinion (PINS, 2012b), (Table 3.1).

4.3.4 It is therefore proposed that transboundary impacts on hydrology and flood risk are screened out of the EIA process.

Ecology and Nature Conservation

4.3.5 Potential transboundary impacts upon hydrology and flood risk were scoped out based on information provided within the Scoping Report (SMart Wind, 2012) as Project Two will not affect terrestrial ecological features which are linked ecologically to any other EEA state's features of interest. This was agreed in the Scoping Opinion (PINS, 2012b), (Table 3.1).

4.3.6 It is therefore proposed that transboundary impacts on terrestrial ecology and nature conservation are screened out of the EIA process.

Intertidal Ornithology

4.3.7 Potential transboundary impacts upon intertidal ornithology were considered during the screening exercise undertaken in preparation of this Environmental Statement. This screening exercise identified that there was no potential for a transboundary effect with regard to intertidal birds from Project Two on the interests of other EEA states. This takes into account the localised and intermittent nature of the onshore works and the restriction of the timing of works to the period between April and September, avoiding the winter period when the largest numbers of migratory birds are present. The proposed working period does overlap with the passage periods for some species of migratory birds, however this issue has been considered for individual species and no impacts have been identified. Therefore no transboundary effects on intertidal birds are predicted from Project Two.

4.3.8 It is therefore proposed that transboundary impacts on intertidal ornithology are screened out of the EIA process.

Landscape and Visual Resources

4.3.9 Potential transboundary impacts upon landscape and visual were scoped out based on information provided within the Scoping Report (SMart Wind, 2012) as any impacts will be confined to a localised onshore area in the vicinity of Project Two. No transboundary impacts are anticipated.

4.3.10 It is therefore proposed that transboundary impacts on landscape and visual are screened out of the EIA process.

Historic Environment

4.3.11 Potential transboundary impacts upon historic environment were scoped out based on information provided within the Scoping Report (SMart Wind, 2012) as any impacts will be confined to a localised onshore area in the footprint of Project Two. This was agreed in the Scoping Opinion (PINS, 2012b) (Table 3.1).

4.3.12 It is therefore proposed that transboundary impacts on historic environment are screened out of the EIA process.

Land Use, Agriculture and Recreation

4.3.13 Potential transboundary impacts upon land use, agriculture and recreation were scoped out based on information provided within the Scoping Report (SMart Wind, 2012) as any impacts will be confined to a localised onshore area in the footprint of Project Two.

4.3.14 It is therefore proposed that transboundary impacts on land use, agriculture and recreation are screened out of the EIA process.

Traffic and Transport

4.3.15 Potential transboundary impacts upon traffic and transport were scoped out based on information provided within the Scoping Report (SMart Wind, 2012) as any impacts will be confined to a localised area of the UK road infrastructure.

4.3.16 It is therefore proposed that transboundary impacts on traffic and transport are screened out of the EIA process.

Noise and Vibration

4.3.17 Potential transboundary impacts upon noise and vibration were scoped out based on information provided within the Scoping Report (SMart Wind, 2012) as any impacts will be confined to a localised onshore area in the vicinity of Project Two.

4.3.18 It is therefore proposed that transboundary impacts on noise and vibration are screened out of the EIA process.

Air Quality and Health

4.3.19 Potential transboundary impacts to air quality are anticipated to be minor and localised in extent and will be confined to the duration of the construction phase only. Any potential impacts to health related to air quality will also be localised and confined to the onshore construction phase. Potential transboundary health impacts due to the generation of an electromagnetic field (EMF) around the onshore export cable route will be confined to the immediate vicinity of the onshore export cable route corridor.

4.3.20 It is therefore proposed that transboundary impacts on air quality and health are screened out of the EIA process.

Socio Economics

4.3.21 There is the potential for transboundary impacts arising from the activities of foreign shipping and navigation and foreign commercial fishing. In addition, potential transboundary impacts upon the economies of other EEA states may arise through the purchase of project components, equipment and the sourcing of labour from companies based outside the UK.

4.3.22 Potential transboundary impacts are therefore further assessed in the Environmental Statement Volume 3, Chapter 10: Socio Economics.

4.4 Summary of Transboundary Screening Matrix

4.4.1 Table 4.2 presents a summary of the Project Two transboundary screening matrix and highlights those topics that have been scoped or screened out of the transboundary impact assessment, and those that will be further assessed in the Environmental Statement.

Table 4.2 Summary of transboundary screening matrix for Project Two.

Topic Area	Project Two Transboundary Screening		
	Scoped / Screened Out	Further Assessment Required	Justification
Offshore			
Marine processes	Yes	No	Offshore components of Project Two are wholly within UK territorial waters. No transboundary impacts are anticipated.
Benthic and subtidal ecology	Yes	No	Potential impacts on benthic ecological receptors are likely to be limited in extent to Project Two (i.e., Subzone 2 and the proposed cable route corridor).
Fish and shellfish ecology	No	Yes	Potential for transboundary impacts due to construction, operational and decommissioning impacts of Project Two, which have the potential to affect fish spawning and nursery habitats in the North Sea, Annex II fish species listed as features of Natura 2000 sites in other EEA states or species that are of commercial importance for fishing fleets of other EEA states.
Marine mammals	No	Yes	Potential for transboundary impacts due to the mobile nature of Annex II marine mammal species listed as qualifying features of Natura 2000 sites in other EEA states and the distance of Project Two from the border of other EEA states. Potential impacts directly resulting from underwater noise during construction piling and from vessels, and indirectly due to disturbance to prey (fish) species.
Ornithology	No	Yes	Potential for transboundary impacts on bird species, due to the wide foraging and migratory ranges of bird species and as qualifying features of Natura 2000 sites in other EEA states.
Commercial fisheries	No	Yes	Potential for transboundary impacts on foreign commercial fishing activities operating in the area, including demersal trawling, beam trawling, demersal seining and other gears. Also fishing effort may be displaced from the Project Two area to alternative fishing grounds in other EEA states, with implications on those fishing grounds.
Shipping and navigation	No	Yes	Potential for transboundary impacts due to physical presence of the turbines within Subzone 2 causing deviation of some shipping routes around Project Two. Potential impact on navigation aids and radar of commercial vessels of other EEA states.
Aviation, military and communication	Yes	No	Project Two is outside the range of any other EEA state's commercial radar and military interests of other EEA states are outside the scope of the EIA. Oil and gas installations in other EEA states' waters in the southern North Sea are not serviced by UK airports. No transboundary impacts are anticipated.
Marine archaeology and ordnance	Yes	No	Potential impacts are confined to the offshore footprint of Project Two. No transboundary impacts are anticipated.
Seascape and visual resources, and historic landscape	Yes	No	Visual receptors are limited to passenger ferries and shipping vessels transiting between the UK EEZ and other EEA states. This impact is not considered to be significant due to the industrial nature of the existing seascape. No transboundary impacts are anticipated.
Infrastructure and other marine users	Yes	No	Possible transit of Project Two vessels in proximity to oil and gas installations from European ports – potential impacts are minimal and the effects are not considered to be significant. Airborne noise from construction and operational activities will be low due to the attenuation of noise over the large distances involved. No transboundary impacts are anticipated.

Topic Area	Project Two Transboundary Screening		
	Scoped / Screened Out	Further Assessment Required	Justification
Onshore			
Geology and Ground Conditions	Yes	No	Potential impacts confined to a localised onshore area in the UK. No transboundary impacts are anticipated.
Hydrology and Flood Risk	Yes	No	Potential impacts confined to a localised onshore area in the UK. No transboundary impacts are anticipated.
Ecology and Nature Conservation	Yes	No	Project Two onshore activities will not affect features which are linked ecologically to any non-UK features of interest. No transboundary impacts are anticipated.
Intertidal Ornithology	Yes	No	Project Two onshore activities will not affect intertidal ornithological species which are linked to any non-UK features of interest. No transboundary impacts are anticipated.
Landscape and Visual Resources	Yes	No	Potential impacts confined to a localised onshore area in the UK. No transboundary impacts are anticipated.
Historic Environment	Yes	No	Potential impacts confined to a localised onshore area in the UK. No transboundary impacts are anticipated.
Land Use, Agriculture and Recreation	Yes	No	Potential impacts confined to a localised onshore area in the UK. No transboundary impacts are anticipated.
Traffic and Transport	Yes	No	Potential impacts confined to a localised onshore area in the UK. No transboundary impacts are anticipated.
Noise and Vibration	Yes	No	Potential impacts confined to a localised onshore area in the UK. No transboundary impacts are anticipated.
Air Quality and Health	Yes	No	Potential impacts to air quality and health will be minor and localised in extent and will last for the construction phase only. Potential impacts to health related to EMF will be confined to the immediate vicinity of the onshore export cable route corridor. No transboundary impacts are anticipated.
Socio Economics	No	Yes	Potential transboundary impacts due to foreign shipping and navigation and foreign commercial fishing, and on the economies of other EEA states through the purchase of project components, equipment and the sourcing of labour from companies based outside the UK.

5 CONCLUSIONS

- 5.1.1 This technical annex has been prepared for the Project Two Environmental Statement in accordance with PINS Advice Note 12. The primary purpose of this note is to provide a screening assessment of potential transboundary impacts with the potential to affect other EEA states.
- 5.1.2 Consultation activities with other EEA states have taken place for Project Two (see paragraph 3.1.1). A programme of consultation was undertaken with Natural England through the Project Two Evidence Plan for matters relating to the HRA (SMart Wind, 2015b). International organisations/governments were also consulted as necessary with respect to any potential transboundary impacts identified. The Habitats Regulations Assessment (SMart Wind, 2015a) was consulted upon alongside the Draft Environmental Statement at Phase 2 Consultation, and included any required assessment of transboundary effects upon Natura 2000 sites.
- 5.1.3 As part of this technical annex an overall matrix presenting the potential for effects upon other EEA states is presented (Table 4.2). This matrix also outlines how these impacts have been considered within the EIA process.

REFERENCES

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