

Department of Housing, Local  
Government and Heritage

**Foreshore Licence Application for  
Site Investigations for Wind Farm  
off Helvick Head**

EIA Screening Report and  
Environmental Report

Issue 1 | 27 April 2021

This report takes into account the particular  
instructions and requirements of our client.

It is not intended for and should not be relied  
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is undertaken to any third party.

Job number 280069-00

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# Document verification

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## 1 Introduction

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Arup has been appointed by the Department of Housing, Local Government and Heritage to assess the foreshore licence application, reference number FS0006982, for the site investigation to inform the design of a proposed windfarm off Helvick Head, Co Waterford. The Department's brief requires the assessment to be undertaken under the Foreshore Act 1933, as amended, and the EIA Directive. The assessment must include consideration of the potential impact on flora, fauna, habitats or the environment and to consider the applicants supporting documents on environmental matters.

Arup was commissioned to provide a Screening Report/Environmental Report and final recommendations taking into consideration the environmental aspects of the prescribed bodies observations and comments and the public submissions received.

This report responds to the Department's requirements.

## 2 Methodology

### 2.1 Information Made Available for Arup to Review

The information about the proposed development, which formed the basis for the Arup review, was the information contained in the application file on the Department's website: <https://www.gov.ie/en/foreshore-notice/2efc8-energia-application-for-site-investigation-liscence-for-windfarm-off-Helvickk-head/?referrer=http://www.gov.ie/en/publication/e3106-energia-application-for-site-investigation-liscence-for-windfarm-off-Helvick-head/>, which was accessed on 26 January 2021.

The information comprised:

- Application form and supporting documents
  - Application form [Applicant: Viridian Renewables ROI Ltd, date 18/04/2019]
  - Appendix 1 - Foreshore Licence Map [Aquafact drawings no. 1516-001 to 1516-006]
  - Appendix 2 – Schedule of Works [Site Investigation Schedule of Works Date 01/05/2019]
  - Appendix 3 - AA Screening Report [Appropriate Assessment Stage 1 Screening for Marine Surveys Off the Co Waterford Coast, Aquafact International Services Ltd, May 2019]
- Public Consultation
  - Public Submissions
  - Applicant's response to Public Submissions
- Prescribed Body Consultation
  - Prescribed Body Observations
  - Applicant's response to Prescribed Body Observations.

### 2.2 Methodology

Arup relied on the information from the applicants, the general public and the statutory bodies contained in the application file on the Department's website. In particular, Arup relied on the description of the baseline environment and the proposed works, and the commitments with regard to mitigation measures which would be implemented, provided by the applicant. Arup reviewed the significance of the effects on the environment of the proposed development. The review had regard to the Guidance on EIA Screening published by the European Commission, (EC, 2017). In coming to its conclusion in relation to the EIA screening, Arup used the checklist presented in the Guidance.

## 3 Background

Viridian Renewables ROI Ltd, the applicant, proposes to develop an offshore wind farm off the south coast of Ireland. The wind farm would have export capacity in the range 600MW to 1000MW.

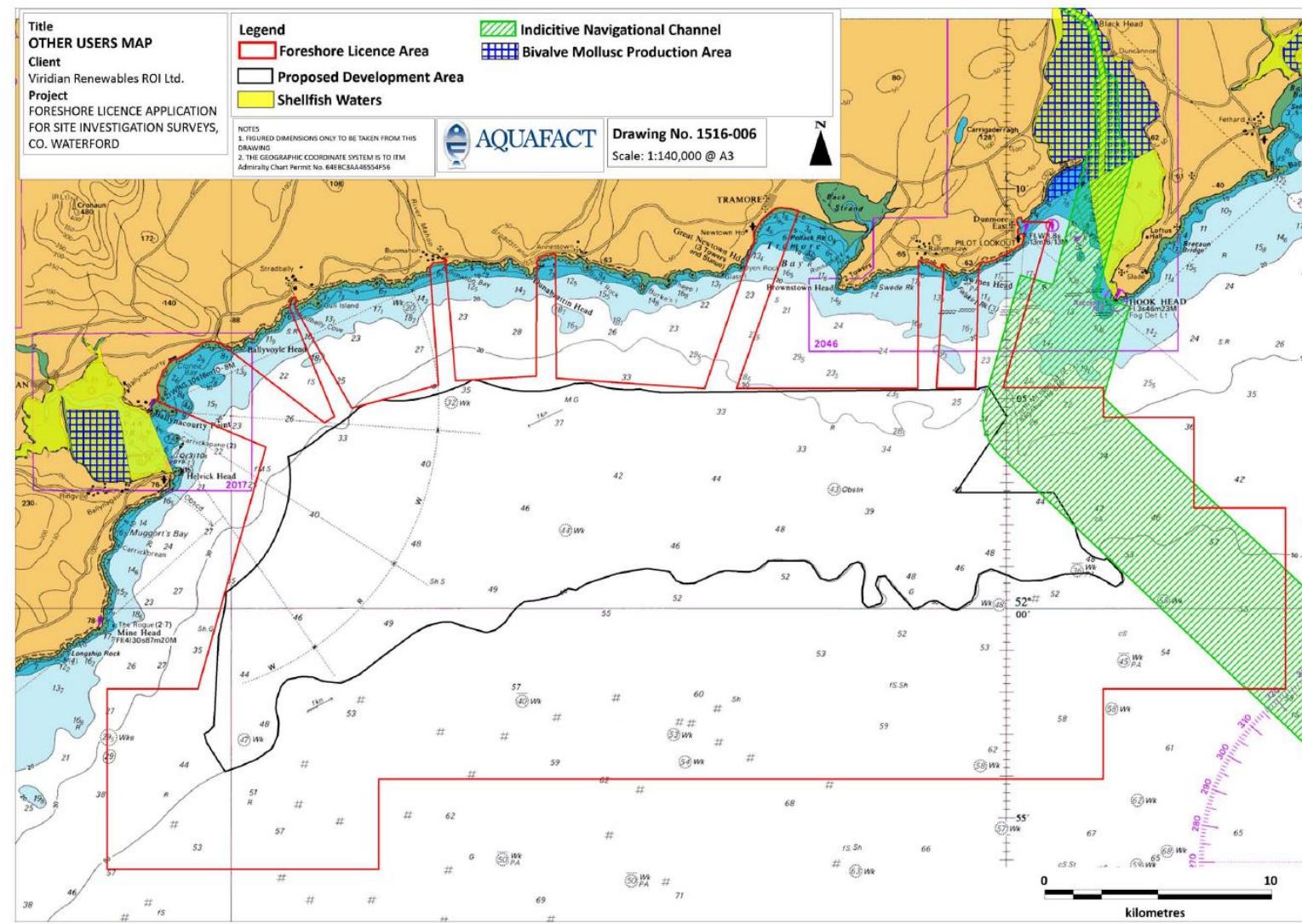
A site selection study was carried out for the offshore wind farm potential around the Irish coast. The study considered water depth, available area, distance from shore, seabed substrata, ecological constraints, conservation sites, access to grid, port facilities, navigational channels, existing infrastructure, existing foreshore leases (and lease applications). This assessment identified two preferred sites for consideration as potential offshore wind farm locations, one of these was off Helvick Head, Co Waterford.

## 4 Description of the Proposed Development

### 4.1 Location

The application area lies within Ireland's 12 nautical mile limit, in an area off the south coast of Ireland, extending from Mine Head, Co Waterford, to Hook Head, Co Wexford. The proposed wind farm area is 5km from Helvick Head and is a minimum of 5km from shore. The seven cable corridors come ashore at Ballynacourty Point, Stradbally Cove, Bunmahon, Dunabattin Head, Tramore, Ballymacaw and between Swines Head and Dunmore East. There are nine potential landfall sites, one each for the Ballynacourty Point, Stradbally Cove, Bunmahon, Dunabattin Head and Tramore cable corridors, and two each for the Ballymacaw and Swines Head to Dunmore East cable corridors.

The area considered suitable for the proposed wind farm development is 326km<sup>2</sup>, with the 50m water depth contour forming the seaward limit and the inner limit approximately following the 30m water depth contour. The proposed survey area consists of a larger area of c.810km<sup>2</sup> plus the seven inshore cable corridors of c. 60km<sup>2</sup>. Figure 1 shows the application area, delineated by a red line and the proposed wind farm development area delineated by a black line.



**Figure 1: Map of Application Area (red line), wind farm development area (black line) (Source: Licence Application - Foreshore Licence Map)**

## 4.2 Proposed Site Investigation

The surveys will include:

- Geophysical survey
- Geotechnical and sediment sampling
- Environmental/ecological surveys
- Fisheries and Shellfish
- Marine mammals/reptiles and seabirds
- Marine mammals acoustic monitoring
- Oceanographic and meteorological survey.

## 4.3 Survey Summary

**Table 1** provides information on each of the elements of the works and an indication of the survey duration. The survey locations are shown on the maps in the application. The locations are indicative and the survey location could be up to 250m from each coordinate given or location shown.

**Table 1: Summary of Surveys and Indicative Programme**

| <b>Activity</b>                           | <b>Location</b>   | <b>Proposed Sample Numbers</b>  | <b>Vessel Size</b>   | <b>Indicative Timings*</b>   |
|---|---|---|--|--|
| Geophysical Survey                        | Proposed wind farm area and inshore cable route corridors | <ul style="list-style-type: none"> <li>Multibeam echosounder: swath width approx. 6 times water depth, depending on equipment.</li> <li>Side scan sonar: swath width based on water depth, expected to be approx. 25m with 50% overlap between each swath.</li> <li>Sub-bottom profiling using ‘pinger’ system, high-resolution acoustic seismic surveys (sparker/boomer) or similar, seismic energy source, or similar; swath width normally 4 – 6 times water depth</li> <li>Magnetometer survey: survey spacing 25m, with additional runs if any magnetic signal is recorded.</li> </ul>   | Max length 50 – 60m; smaller vessel with shallower draft in shallower water, and larger vessel outside 10m depth contour | Spring 2020 (3-month campaign, mid-April to mid-July)  |
| Geotechnical Survey and Sediment Sampling | Proposed wind farm area and inshore cable route corridors | <p>139 no. boreholes, 100mm diameter, up to 70m depth.<br/> Drawing 1516-003 shows 253 borehole locations in the proposed wind farm area and 10 borehole locations in the intertidal zone of the cable route corridors. Up to 130 boreholes will be executed in proposed wind farm area and up to 3 boreholes in the intertidal zone of within 1 to 3 cable routes.</p> <p>160 no. cone penetration test (CPT), 50 - 62mm diameter, up to 70m depth.<br/> Drawing 1516-003 shows 253 CPT locations in the proposed wind farm area, 59 CPTs along cable corridors and 10 CPTs in the intertidal zone of the cable route corridors. Up to 130 CPTs will be executed in proposed wind farm area, up to 30 (approx. 1 per km) within one to three cable corridor routes and up to 3 in the intertidal zone of within 1 cable corridor route.</p> <p>70 no. vibro core/surface grab, 100mm diameter, up to 6m depth.<br/> Surface grab sample by box corer or similar vibro core.<br/> Drawing 1516-003 shows 40 vibrocore/grab locations in the proposed wind farm area and 55 locations along the cable corridors. Up to 40 will be executed in the proposed wind farm area and up to 30 (approx. 1 per km) within one to three cable corridor routes.</p> | No information provided on vessel  | Summer 2020 (2 months August – September), completion of campaign<br>Spring/summer 2021 (4 - 5 months) |
|   | Up to 3 cable route landfalls from lower to upper shore   | 30 no. trial pits, machine dug using an excavator (either from boat or from land depending on access), typically 3m x 1m in area and up to 5m depth.  | No information provided on vessel  |  |

| Activity                             | Location   | Proposed Sample Numbers   | Vessel Size  | Indicative Timings*                      |
|--------------------------------------|--|---|--|--|
|                                      |  | Drawing 1516-003 shows 10 trial pit locations in the intertidal zone of cable corridors. It is anticipated that trial pits will be excavated at up to 3 locations. At each location up to 10 trial pits may be excavated from the lower shore to the upper shore.   |  |  |
| Environmental/ecological sampling    | Intertidal zone of cable corridors at up to 3 cable corridor landfalls | 3 no. sets of: <ul style="list-style-type: none"> <li>• 3 no. cylindrical hand cores (20cm deep, 15cm diameter)</li> <li>• 1 no. 1kg sample by surface trowel</li> </ul>  | N/a  | Summer 2019 (3 years duration, seasonal) |
|                                      | Subtidal in proposed wind farm area and inshore cable route corridors  | At up to 100 locations: <ul style="list-style-type: none"> <li>• 3 no. 0.1m<sup>2</sup> Day Grab</li> <li>• 1 no. 1kg sample from Day Grab</li> <li>• Rallier du Baty dredge for faunal analysis</li> <li>• Drop down video/ROV survey</li> <li>• SCUBA survey</li> </ul> Exact survey type will depend on sediment type, habitat type and depth. Sample location will be based in part on marine survey and will be randomised across area based on sediment type and depth. | Approx. 20m, however if combined with geophysical surveys, vessel up to 50 – 60m max may be used |  |
| Fisheries and Shellfish              | Inshore cable route area and offshore survey area                      | Survey type and methods will be dictated by the Sea Fisheries Protection Authority, if they require a survey.   | No information provided on vessel  |  |
| Marine mammals/reptiles and seabirds | Inshore cable route area and offshore survey area                      | <ul style="list-style-type: none"> <li>• Monthly vantage point surveys from representative number of landfall sites</li> <li>• Monthly boat-based surveys</li> <li>• Breeding bird surveys</li> </ul>   | Approx. 20m, however if combined with geophysical surveys, vessel up to 50 – 60m max may be used |  |
| Marine mammals acoustic monitoring   | Proposed offshore survey area and                                      | 4 CPODs will be deployed at any one time. The CPODs will be deployed using Sonardyne LRT acoustic releases with sacrificial mooring. The CPODs will be recovered every 3 months.  | No information provided on deployment vessel   | 18 – 24 months                           |

| <b>Activity</b>                  | <b>Location</b>   | <b>Proposed Sample Numbers</b>   | <b>Vessel Size</b>                           | <b>Indicative Timings*</b>   |
|----------------------------------|---|--|--|--|
|                                  | inshore cable route corridors                                   | At each recovery, the CPODs will be relocated so that over 18 – 24 months, CPODs will be deployed at 32 locations across the survey area. CPOD mooring anchor will be a 50kg weight  |  |  |
| Oceanographic and meteorological | Proposed offshore survey area and inshore cable route corridors | Up to 4 acoustic doppler current profilers (ADCPs) to measure currents and waves at 4 locations. Trawl resistant mooring and acoustic release.<br>At up to 3 locations, deployment of a Seawatch/EOLOS wind lidar buoy. Given the low profile of these buoys, a 3m high marker buoy will be located nearby. These will be moored to the seabed with single point moorings, consisting of clump weight, chain and rope. | No information provided on deployment vessel | Wind resource monitoring - on award of Foreshore Licence (min 12 months, max 36 months); Oceanographic monitoring spring/summer 2020 (period of up to 24 months) |

\*Application was submitted in April 2019

## 4.4 Baseline Environment

There are no known developments, renewable energy or otherwise in the area of the proposed wind farm and inshore cable route corridors.

### 4.4.1 Habitats

Water depths in the offshore survey area range from 25m in the north eastern part of the area to 50m along the southern boundary. The seabed substrate ranges from muddy sand in the western part of the area to sand and coarse sediment moving eastwards, with rock present along the northern and southwestern parts.

Water depths in the cable corridors range from a maximum of c. 35m to the high tide mark. Sediment type in this area ranges from muddy sand in the west, to sand and rock in the east. There is a coarse sediment and sand channel running into Waterford Harbour.

There are no Annex I habitats within the proposed wind farm area or cable corridor routes. There are Annex I mudflats and sandflats not covered by seawater at low tide (1140) in Tramore Bay, 1.3km north east of the cable route corridor. Waterford Harbour contains the Annex I habitats estuaries (1130), mudflats and sandflats not covered by seawater at low tide (1140) and reefs (1170), all of which are outside the survey area. Hook Head is surrounded by the Annex I habitats reef (1170), large shallow inlet bay (1160), and vegetated sea cliffs of the Atlantic and Baltic coasts (2130). These all lie outside the proposed wind farm area but the reef habitat overlaps the offshore survey area. This area will only be surveyed for seabirds and mammals.

The nine potential landfalls are located in sandy beach areas. Shores comprising clean sand (coarse, medium and fine-grained) and muddy sands may be duned or rippled as a result of wave action or tidal currents. Littoral sands exhibit varying degrees of drying at low tide depending on the steepness of the shore, the sediment grade and the height of the shore. The more mobile sand shores are relatively impoverished and support a limited range of species, ranging from barren, highly mobile sands to more clean stable sands supporting communities of isopods, amphipods and a limited range of polychaetes. More species rich communities of amphipods and polychaetes and, on the lower shore, bivalves have developed with the increasing stability in finer sand habitats. Muddy sands are the most stable within this habitat complex. Species assemblages include lugworm, Baltic tellin, cockle and a range of polychaetes, amphipods and dense populations of sand mason.

### 4.4.2 Annex II Species

Grey seal (*Halichoerus grypus*) are present at the site throughout the year during all aspects of its annual life cycle. The Saltee Islands SAC (site code 000707) is the nearest site designated for the protection of grey seals. The SAC is 9km east of the offshore survey area and 17km from the wind farm area.

Harbour seal (*Phoca vitulina*) usage of the southeast coastline is rare but they may be present in small numbers in the area.

Harbour porpoise were recorded in the area, with concentrations off Ram Head, Dungarvan, the mouth of Waterford Harbour and Hook Head. There were few sightings in the wind farm area. Harbour porpoise can be difficult to see from any distance and the lack of sightings offshore are likely to reflect the fact that many sightings were made from land. The lack should not be interpreted as few animals in the wind farm area. Sightings have occurred in all months, with a peak of numbers during the winter.

Bottlenose dolphins (*Tursiops truncatus*) are regularly recorded off the County Waterford coast. Most sightings are close inshore with only one within the wind farm area. July and August had most sightings.

The River Barrow and River Nore SAC (site code 002162) is designated for the Annex II species: Atlantic salmon (*Salmo salmar*), sea lamprey (*Petromyzon marinus*), river lamprey (*Lampetra fluviatilis*) and twaite shad (*Alosa fallax fallax*). Sea lamprey and river lamprey are migratory species and have the potential to be present in the area in certain months. Atlantic salmon has the potential to pass through the area when migrating to and from their natal rivers in certain months. Similarly, twaite shad have the potential to be present in the area.

#### 4.4.3 Annex IV Species

All cetaceans are included in Annex IV. Common dolphin (*Delphinus delphis*) have been sighted mainly around Hook Head and almost exclusively in the winter period. They have been reported in the inshore area and the wind farm area.

Risso's dolphin (*Grampus griseus*) have been sighted to the east of the offshore survey area with concentrations off Kilmore Quay, with one sighting in the wind farm area. Most sightings were in the summer months, May to September.

There were two records of killer whale (*Orcinus orca*) in the general area of the wind farm.

There were 78 sightings of dolphins or possible harbour porpoise which could not be identified to species level, most of which were inshore of the wind farm area.

Fin whales (*Balaenoptera physalus*) have been recorded in the study area. All records were from November to February with a peak in January.

Minke whales (*Balaenoptera acutorostrata*) were recorded regularly in the study area.

Humpback whales (*Megaptera novaengliae*) have been recorded in the area. Nearly all sightings were of single individuals sighted during January and February.

There were sightings of whales which could not be identified to species level. Most were recorded inshore along the coast and not within the proposed wind farm area.

#### 4.4.4 Species of Conservation Concern

Shearwaters, storm petrels, gannets, gulls, fulmar, cormorant, shag, terns and auks are common across the study area. The majority of the birds breed in colonies located on the southwest and south coasts of Ireland while others overwinter in Irish waters. Other species such as shearwater and skua are passage migrants that use the area as a migratory corridor. North of the proposed wind farm area, the coastline formed by high cliffs, between Newtown Cove in the east and Ballyvoyle in the west, and the land adjacent to the cliff edge is designated as the Mid-Waterford Coast SPA (site code 004193). Chough, peregrine, cormorant and herring gull are the special conservation interests of the site. Other breeding populations of the site are fulmar, shag, guillemot, razorbill and black guillemot.

West of the wind farm area and inshore, the sea cliffs and land adjacent to the cliffs form the Helvick Head to Ballyquin SPA (site code 004192). Chough, peregrine, cormorant herring gull and kittywake are the special conservation interests of the site. Other breeding populations of the site are razorbill, fulmar, shag, guillemot, great black-backed gull and black guillemot. Raven, house martins, rock pipit and stonechat also breed at the site.

The species from the two SPAs forage in the study area.

Dungarvan Harbour, which lies inshore and northwest of the wind farm area and Tramore Back Strand, which lies inshore and north of the study area, are designated as SPAs (site codes 004032 and 004027, respectively) for wintering waterfowl. The species from these two SPAs are confined to intertidal wetlands and will not occur in the windfarm area.

#### 4.4.5 Designated Natura 2000 Sites

The Hook Head SAC (Site Code 000764) borders the proposed wind farm area on its eastern side. Table 2 lists the Natura 2000 sites in or around the area of the proposed site investigations.

**Table 2: Natura 2000 Sites in or around the Area of the Proposed Site Investigations**

| Designate site  | Distance to proposed wind farm area |
|---|-------------------------------------|
| <b>Sites inshore of the proposed wind farm area</b>   |                                     |
| River Barrow and River Nore SAC (Site Code 002162)  | 11 km north east                    |
| Tramore Dunes and Back Strand SAC (Site Code 000671)  | 5.7km north                         |
| Helvick Head SAC (Site Code 000665)   | 4.4km west                          |
| Helvick Head to Ballyquin SPA (Site Code 004192)  | 4.3km west                          |
| Dungarvan Harbour SPA (Site Code 004032)  | 5.7km west                          |
| Mid Waterford Coast SPA (Site Code 004193)  | 5 to 6km north                      |
| Tramore Back Strand SPA (Site Code 004027)  | 5.6km north                         |
| <b>Sites located around the proposed wind farm and within the inshore cable route areas</b> |                                     |
| Bannow Bay SAC (Site Code 000697)   | 15km north east                     |

| <b>Designate site</b>                                    | <b>Distance to proposed wind farm area</b> |
|--|--|
| Ardmore Head SAC (Site Code 002123)                      | 13km west                                  |
| Bannow Bay SPA (Site Code 004033)                        | 16.3km north east                          |
| Saltee Islands SAC (Site Code 000707)                    | 16.8km east                                |
| Blackwater River SAC (Cork/Waterford) (Site Code 002170) | 20km west                                  |
| Blackwater Estuary SPA (Site Code 004028)                | 20km west                                  |
| Keeragh Islands SPA (Site Code 004028)                   | 21.8km north east                          |
| Saltee Islands SPA (Site Code 000707)                    | 22.8km east                                |
| Ballyteige Burrow SAC (Site Code 000696)                 | 24.3km north east                          |
| Ballyteige Burrow SPA (Site Code 004020)                 | 25km north east                            |

#### **4.4.6 Aquaculture, Shellfish Growing Waters and Fish Spawning**

The proposed wind farm area is 7.6km from aquaculture operations in Dungarvan Harbour, Co. Waterford.

Dungarvan Bay and Waterford Harbour shellfish waters are 7.1km and 8.5km, respectively, from the proposed windfarm development area.

Dungarvan Bay bivalve mollusc production area and Waterford bivalve mollusc outer production area are 5.1km and 6.8km, respectively, from the proposed windfarm development area.

The proposed windfarm development area overlaps small parts of the cod, haddock and whiting spawning grounds and cod, whiting, hake, horse mackerel and mackerel nursery grounds. Herring nursery and spawning areas overlap parts of the cable corridors. The South East Regional Inshore Fisheries Forum (SERIFF) noted that the area is a fishery spawning and recruitment area for herring and key inshore species such as lobster and crab.

#### **4.4.7 Potentially Contaminated Sediment**

Historically, there was a tannery and a cadmium factory in the vicinity of Clonea Strand, close to one of the cable route corridors. There is the potential for sediments contaminated with heavy metals (lead, chromium, cadmium) in the area.

#### **4.4.8 Commercial Fishing**

In its submission, SERIFF stated that the inshore operations of 50 plus boats are dependent on the survey area. A fishery for crustaceans including lobster, crab and shrimp occupies the entire inshore zone along the coast where the survey for the cable routes are indicated. Shellfish/ bivalve fisheries such as scallop occupy a large proportion of the proposed wind farm site. Whitefish and pelagic fisheries exist throughout all the proposed wind farm and cable route survey areas.

In its submission, the National Inshore Fisherman's Association and National Inshore Fisherman's Organisation (NIFA/NIFO) stated that its members carry out a wide range of fishing activity in the survey area: demersal and pelagic trawling for whitefish, prawns and pelagic fish; static netting for whitefish and shellfish and potting for a wide range of shellfish species. NIFA/NIFO members have fished the area for years and it accounts for a significant part of their economic returns. Proximity to shore allows them to operate with a degree of safety. They operate vessels 6 – 14m overall length which limits the operational range. In many cases their traditional landing sites would not be suitable for larger vessels.

Individual fishermen also made submissions regarding their fishing operation in the survey area and make the point that the fishing activities occur year-round.

#### **4.4.9 Cultural Heritage**

The area is rich in coastal, intertidal and underwater cultural heritage, particularly shipwreck sites and associated artifacts. There are 12 shipwrecks indicated on application map Drawing 1516-001, which is uses the relevant Admiralty chart as the background, in the offshore survey area and four adjacent to the offshore survey area.

#### **4.4.10 Navigational Safety Considerations**

There is a Commissioners of Irish Lights (CIL) aid to navigation within the offshore survey area.

The indicative navigational channel from Waterford Harbour is adjacent to the eastern boundary of the wind farm area and the offshore survey area extends to include the indicative navigational channel. Refer to **Figure 1**. The Marine Survey Office noted, in its observation, that shipping traffic approaches the navigational channel for Waterford Harbour from the west as well as from the east. A Navigational Risk Assessment was submitted to the Marine Survey Office.

#### **4.4.11 Sports Fishing and Angling**

In its observation, Inland Fisheries Ireland provided information on the sports fishing and angling significance of the survey area. The Colligan River, which enters Dungarvan Harbour, and the Mahon and Tay Rivers are all significant sea trout angling rivers. The overall area has a high value as a marine sport fishing zone, both for shore angling and boat fishing. The beaches at the mouth of the Colligan at Dungarvan are particularly prized for a range of sport fish species. The wrecks in the area create an oasis type feature on the seabed and are a magnet for a range of fish species. Wrecks are marks of angling significance for deep-water anglers and charter boat skippers.

#### **4.4.12 Leisure Boating and Recreational Activities**

No information is provided in the application on leisure boating in the survey area or on recreational activities onshore at the cable corridor landfalls, which all appear to be sandy beaches.

#### **4.4.13 Copper Coast UNESCO Global GeoPark, Waterford Greenway and South East Coastal Drive**

Several of the submissions from the public provided information on the Copper Coast UNESCO Global GeoPark. The coastal area from Tramore to Dungarvan is designated as the Copper Coast UNESCO Global GeoPark for its geological and archaeological features and natural landscapes. The Waterford Greenway is a pedestrian and cycle path which follows the coast eastwards from Dungarvan before turning inland. The South East Coastal Drive is sign-posted from the western boundary of County Waterford and follows the coastline eastwards all the way to Tramore. The Copper Coast UNESCO Global GeoPark, the South East Coastal Drive, and the western part of the Waterford Greenway follow the coast to the north of the survey area.

#### **4.4.14 Other Plans or Projects in the Area**

A foreshore licence application was submitted to the Department of Housing, Planning and Local Government (FS0006983) by SSE on 19th March 2019, subsequent to the submission of the Helvick Head application. This application, known as the Celtic Sea Array, was for the site investigation of an area located c.15km south of the Helvick Head survey area boundary. With the exception of two potential cable corridors, which are minimal relative to the overall area, the two applications do not overlap.

### **4.5 Potential Impacts of the Proposed Development**

The potential impacts of the proposed works are outlined below.

#### **4.5.1 Habitats and Species**

##### **Noise and Vibration associated with Site Surveys**

The multi-beam and single beam echosounders, side-scan sonar and sub-bottom profiler are noise emitting technologies. The sound levels and frequencies of the sources are very high. The AA Screening Report stated that they are at higher frequency than the frequencies which the most sensitive cetacean frequencies are capable of hearing.

Acoustic disturbance could occur during the site investigations due to the use of a wide range of frequencies during geophysical surveys and localised noise production during geotechnical operations. The geophysical surveys and geotechnical works had been planned for spring and summer months. Site investigations between March and August would result in less exposure to more sensitive species. With the implementation of best practice guidance, the AA Screening Report stated that it is very unlikely that there will be negative residual impacts from the proposed site surveys on marine mammals in the area and also it is very unlikely that any animals would be killed or injured.

Atlantic salmon are functionally deaf above 0.38kHz. Salmon are not sensitive to and will not be impacted by the very high frequencies associated with the multi-beam and single beam echosounders and the lower frequency sub-bottom profiling is unlikely to impact them. Salmon will hear vessel noise. However, noise from an additional vessel will not significantly impact on salmon passing through the area.

Lamprey are not sensitive to and will not be impacted by the very high frequencies associated multi-beam and single beam echosounders. Lamprey have poor hearing meaning they will not be impacted by sub-bottom profiling. Lamprey will hear vessel noise. However, noise from an additional vessel will not significantly impact on lamprey passing through the area.

Based on the known hearing capability of twaite shad and the operating frequencies of the various surveys, twaite shad will not be impacted by them.

Salmon and lamprey may be sensitive to the expected frequency produced by drilling and vibrocoring. Bottlenose dolphin will not be sensitive to this level of noise.

Trial pits will be excavated on the foreshore. The noise produced by the excavator will be very localised and is very unlikely to have a significant effect on marine mammals. Seals may avoid the immediate area.

Benthic invertebrates do not have auditory structures and will not be impacted by noise from survey activities. Benthic invertebrates may react to vibrations produced by the vibrocoring and may be disturbed by it.

## Vessel Noise

There will be a number of vessels associated with the survey works, which will contribute to ocean noise. Marine mammals are often seen in close proximity to human activity and exhibit some tolerance to anthropogenic noise and other stimuli. Baleen whales use shipping lanes and feed in rich fishing grounds occupied by large fishing vessels. Fin whales are thought to avoid ships by slight changes in heading or increasing the speed and duration of underwater travel but continue to call in the presence of vessel noise. Harbour porpoise are frequently observed near vessels but tend to change behaviour or move away. Seals show considerable tolerance to vessel activity but this does not exclude the possibility that it has an effect.

## Physical Disturbance

The risk of injury or mortality to marine mammals is considered low as:

- marine mammals in the immediate vicinity are likely to be short term and highly mobile as no critical habitats were identified within the proposed wind farm area
- any marine mammals, if present in the area, are exposed to small vessels on a regular basis and would be aware of their presence. The survey vessels during survey will be slow moving and thus any animals in the area would have sufficient time to avoid any collisions and thus injury and mortality.

- coring and drilling will be very local and of short duration in any one place.

The physical presence of the survey vessel may temporarily disturb birds present in the survey area. However, as the works are short-term and temporary in nature and given the alternative feeding grounds in the area, any disturbance caused by an additional survey vessel will be insignificant.

### **Collision Risk**

The collision risk is considered extremely low as marine mammals in the area are exposed to vessels on a regular basis and would be aware of their presence. The vessels will be slow moving and any animals in the area would have sufficient time to avoid a collision. Large whales, which are more vulnerable to collision risk, occur in the area during December to February.

The survey vessels will not pose a collision risk to seabirds foraging in the area.

### **Potential Disturbance to Life Cycle**

The risk of disrupting the life cycle of marine mammals is considered to be extremely low. Harbour porpoises, dolphins and seals are in the area for foraging throughout the year, minke whales in summer and fin and humpback whales in winter. There is no evidence that the survey area is an important foraging area. The geophysical and geotechnical surveys could cause relatively short-term localised displacement from the immediate area.

### **Habitat Disturbance**

All intrusive works will be located outside of Natura 2000 sites and Annex I habitats and, therefore, there will be no impact on these habitats or the conservation objectives of the respective Natura 2000 sites.

During the installation of the vibrocores and boreholes and the taking of grab samples and CPTs, small quantities of sediments will be released into the water column. The quantities released will be immeasurably small and the impacts on the surrounding seabed habitats will be negligible. Immediately following removal of the sampling device, the void in the seabed will fill in and leave only a minor impression on the seabed.

### **Contamination/Accidental Events**

The surveys will result in a slight and temporary increase in the number of vessels using the survey area, which will result in a theoretical increased risk of accidents and resultant fuel spillage. Theoretically, a hydrocarbon spillage in coastal waters could travel to the nearby intertidal habitats of Natura 2000 sites. However, it is unlikely that any spillage would be significant, given the nature and size of the vessels. The risk is considered very low as all vessels will be MARPOL compliant, as per standard good practice.

## 4.5.2 Aquaculture, Shellfish Growing Waters and Fish Spawning

Intrusive works in the proposed cable landfall corridor at Clonea Strand could have an impact on oyster farming in Dungarvan Harbour. There is the potential presence of sediments contaminated with heavy metals due to the historic presence of a tannery and a cadmium factory in the vicinity.

Habitat disturbance and the slight and temporary increase in the number of vessels using the survey area, which will result in a theoretical increased risk of accidents and resultant fuel spillage, could also potentially have a negative impact on aquaculture, shellfish growing waters and fish spawning areas.

## 4.5.3 Commercial Fishing

The survey activities will interact with the commercial fishing in the area. There is the potential that there will be spatial or temporal restrictions on fishing activity in the immediate vicinity of the vessels undertaking the geophysical and geotechnical investigations. Such restrictions would disrupt the fishing operations and have an negative economic impact on them. There is the potential that fishing operators, who normally operate in the survey area, would be displaced into adjoining areas. This could lead to conflict between static gear and static gear/mobile gear operators over the wider area and potential increased competition for both biological resources and space, which would have a negative impact on the economics of the all operations. The small vessels fishing in the survey area, typically 6 – 14m in overall length, have limited operational range and fishing in other areas may not be feasible.

Habitat disturbance and the slight and temporary increase in the number of vessels using the survey area, which will result in a theoretical increased risk of accidents and resultant fuel spillage, could also potentially have a negative impact on the fisheries in the area.

## 4.5.4 Navigational Safety

The surveys will result in a slight and temporary increase in the number of vessels using the survey area, which will result in a theoretical increased risk to navigational safety.

## 4.5.5 Cultural Heritage

While known cultural features will be avoided, there is the potential that the intrusive works would negatively impact on unknown coastal, intertidal or underwater cultural heritage features.

## 4.5.6 Sports Fishing and Angling

The survey activities will interact with the sports fishing in the area. There is the potential that there will be spatial or temporal restrictions on vessels in the immediate vicinity of the vessels undertaking the geophysical and geotechnical investigations, which would disrupt sports fishing. There is the potential that the target fish species would be impacted adversely by sound-generating and -propagating marine surveys.

## 4.5.7 Leisure Boating and Recreational Activities

The survey activities will interact with the leisure boating in the survey area. There is the potential that there will be spatial or temporal restrictions on vessels in the immediate vicinity of the vessels undertaking the geophysical and geotechnical investigations. There is also the potential that there will be spatial or temporal restrictions on recreational activities in the immediate vicinity of the geotechnical investigations and ecological sampling in the intertidal areas at the cable corridor landfalls.

## 4.6 Mitigation Measures

### 4.6.1 Marine Mammals

The best practice guidelines (DAHG, 2014) will be implemented for the geophysical surveys and a qualified and experienced marine mammal observer (MMO) will be employed aboard the survey vessels during all multibeam, single beam, side-scan sonar and sub-bottom profiling. MMO monitoring will include pre-start monitoring and ramp-up procedures ‘soft-start’.

### 4.6.2 Contamination Incidents/Accidents

All vessels will be MARPOL compliant, as per standard good practice, which will reduce the risk of contamination incidents and accidents. Refer also to **Section 4.6.5** below.

### 4.6.3 Aquaculture, Shellfish Growing Waters and Fish Spawning

In advance of the intrusive works, the applicant is committed to discussing the possibility of contaminated sediment in the Dungarvan/Clonea Strand area with DAFM and to investigate this issue prior to carrying out any relevant survey works. This will involve initial communication with the Marine Chemistry section of the Marine Institute to obtain any existing data for the area and seek their advice to determine if further investigation is required. If pre-existing heavy metal contamination is present in the sediments, the applicant will take the necessary measures to prevent dispersal towards the aquaculture operations.

The applicant will ensure that all parties involved in the survey works will comply with the relevant maritime and environmental legislation as well as best practise principles for works of this nature. A full risk assessment regarding accidental events will be undertaken by the contractor as part of the survey design.

Procedural controls, stemming from industry-standard guidelines and best practice procedures will limit the possibility of accidental events. In the unlikely event of a spill occurring, BIM, as well as all other relevant statutory bodies, will be notified as soon as possible.

#### 4.6.4 Commercial Fishing

If a Foreshore Licence is granted, the applicant will appoint a fisheries liaison team, which will engage with all relevant fishing organisations and hold meetings with the local fishing community to provide details of planned surveys, gather information on existing fishing activity in the area and determine the potential for interaction. Appropriate actions will be taken to avoid or minimise interactions with ongoing fishing activities in the area during the course of the surveys.

In addition, the SFPA will be notified in advance of works so that small local fishing vessels can be informed of the works.

Refer to also to **Section 4.6.5** below.

#### 4.6.5 Navigational Safety

Commissioners of Irish Lights (CIL) standard navigational safety requirements will be adhered to with regard to lighting, positioning and mooring of all relevant buoys.

The applicant commits to carry out the following, as requested by the MSO:

- Undertake full consultation with local harbour authorities to assess any adverse impact on navigational safety and to determine mitigation measures where possible.
- To arrange with the MSO Dublin Office the production of a Marine Notice providing information on the proposed works along with commencement and completion dates.
- Co-operate fully with the Irish Coast Guard with respect to Navigational Safety radio broadcasts and with CIL regarding IALA compliance.

#### 4.6.6 Cultural Heritage

The applicant committed to undertaking an Underwater Archaeological Impact Assessment (UAIA) in advance of the intrusive geotechnical surveys, grab sampling and bore hole operations. The UAIA will be carried out as per the Department of Housing, Local Government and Heritage's recommendations in its observations on the application.

A 200m buffer will be applied to each shipwreck site and no intrusive works will be undertaken within the buffer.

#### **4.6.7 Sports Fishing and Angling**

The applicant confirmed that the duration of the noise-generating surveys will be reduced to the minimum necessary to collect results of sufficient quality. The applicant will reduce the number of sound-requiring test types to be employed to only those that are absolutely necessary.

#### **4.6.8 Leisure Boating and Recreational Activities**

No specific mitigation measures are proposed. The applicant noted that the recommendations outlined in the Department of Housing, Planning and Local Government Water and Marine Advisor's observations and committed to liaise in advance of the works commencing as requested.

## 5 Public and Prescribed Body Consultation

### 5.1 Public Submissions and Prescribed Body Observations

The submissions received from the public in response to the public consultation, the response from the applicant to those submissions and Arup's comments are summarised in **Table 3**. **Table 4** presents a summary of the observations made by the prescribed bodies and the response from the applicant to the observations.

**Table 3: Summary of Submissions from Public, Applicant's Response and Arup Comments**

| <b>Submission from the Public</b>  | <b>Applicant's Response</b>  | <b>Arup Comment</b>   |
|--|--|---|
| <p>Submission 1 (name redacted):</p> <ul style="list-style-type: none"> <li>• No consultation with inshore fishing sector</li> <li>• Level of inshore fishing grossly underestimated because it was mostly complied using AIS data</li> <li>• SI works will negatively affect financial viability of fishing enterprise</li> <li>• The observer fishes in area bounded by 51°53'N to 52°07'N from 006°51'W to 007°17'W for crustacean shellfish/whitefish/bivalve mollusc/pelagic fish, other species during months of August to December by means of pots/static nets; reliant for safe navigational passage to and from fishing grounds to safe harbours Helvick Head and Dunmore East; 11m crab boat;</li> <li>• Concerned that they will not be able to fish there anymore.</li> </ul> | <p>Prior to submitting the application, the applicant consulted with the Sea Fisheries Protection Authority (SFPA) and Bord Iascaigh Mhara (BIM). It is the applicant's understanding that both these bodies liaised with the local inshore fishing sector when responding to the consultation letters. The South East Regional Inshore Fisheries Forum response was submitted via BIM.</p> <p>The applicant considered fishing interests by reference to the Marine Institute's fisheries data (including spawning and nursery areas).</p> <p>If a Foreshore licence is granted the applicant will appoint a fisheries liaison team, will engage with all relevant fishing organisations and hold meetings with the local fishing community to provide details of planned surveys, gather information on existing fishing activity in the area and determine the potential for interaction. Appropriate actions will be taken to avoid or minimise interactions with ongoing fishing activities in the area during the course of the surveys.</p> | <p>Marine Institute's (MI) observation on the application was that considering the scale, timing and duration of the proposed works, it is considered that interaction with fishing activity will be limited and overall will not be significant. Based on the above, and considering the nature, scale and location of the proposed works, the MI is satisfied that the works will not have a significant impact on the marine environment in the survey area and will not have a significant impact on other legitimate users/users of the area.</p> <p>The Water and Marine Advisor of the Department of Housing, Planning and Local Government stated that if the works were conducted in accordance with the AA screening report, which included detailed method statements and assessment of impacts, the works as proposed will have no significant impact on the environment, navigation, fishing or the public use of the foreshore.</p> |

| Submission from the Public  | Applicant's Response  | Arup Comment  |
|---|---|---|
| <p>Submission 2 (name redacted):</p> <ul style="list-style-type: none"> <li>Observer referring to windmills south of Hook Head, the only scallop ground left in the whole country, 8 large scallop boats relying on this, not to mention how many small ones, as well as all beam trawl and other trawlers that rely on this ground for fishing, it will kill us.</li> </ul> <p>Submissions 3, 7, 9, 17, 25, 27 to 34 and 36 also relate to the proposed wind farm, not the proposed site investigations.</p>   | <p>The foreshore licence application is for survey works is not an application for the construction of a wind farm. The impact of a wind farm on scallop and trawling grounds will be assessed in the Environmental Impact Assessment report (EIAR) which will be produced on completion of the surveys. The EIAR will be subject to public consultation in the planning process and once the application is submitted. If a Foreshore licence is granted the applicant will appoint a fisheries liaison team to ensure that appropriate actions will be taken to avoid or minimise interactions with ongoing fishing activities in the area during the course of the surveys.</p>  | <p>The foreshore licence application is for survey works is not an application for the construction of a wind farm.</p> |
| <p>Submission 4: National Inshore Fisheries Forum (NIFF)</p> <ul style="list-style-type: none"> <li>No consultation with inshore fishing sector</li> <li>Fishermen working in the areas covered by the application</li> <li>Offshore renewables must not be at the cost of the livelihoods and way of life of inshore fishermen or coastal communities.</li> <li>Windfarms are being developed closer to shore, where the inshore fishing sector fish; safety and displacement have been highlighted, will small scale coastal fishers be excluded from the wind farm area.</li> <li>Good communication and consultation have proved effective for fishermen and applicants; foreshore applications for wind farms and interconnectors should be notified to the NIFF.</li> </ul> | <p>Prior to submitting the application, the applicant consulted with the Sea Fisheries Protection Authority (SFPA) and Bord Iascaigh Mhara (BIM). It is the applicant's understanding that both these bodies liaised with the local inshore fishing sector when responding to the consultation letters. The South East Regional Inshore Fisheries Forum response was submitted via BIM.</p> <p>If a Foreshore licence is granted the applicant will appoint a fisheries liaison team and is fully committed to engaging with all relevant fishing organisations sufficiently in advance of intrusive survey works. The impact of a wind farm on navigation will be assessed in the EIAR which will be produced on completion of the surveys. The EIAR will be subject to public consultation in the planning process and once the application is submitted.</p> <p>Any recommendations for the process are a matter for the Department.</p> | <p>See response to submission 1.</p>  |

| Submission from the Public  | Applicant's Response                 | Arup Comment                  |
|---|--------------------------------------|-------------------------------|
| <p>Submission 5 (name redacted):</p> <ul style="list-style-type: none"> <li>• No consultation with inshore fishing sector</li> <li>• Level of inshore fishing grossly underestimated because it was mostly complied using AIS data</li> <li>• SI works will negatively affect financial viability of fishing enterprise</li> <li>• Fishing for whitefish, other species 12 months of the year by means of demersal trawl/other;</li> <li>• Fishing for crustacean shellfish/whitefish/bivalve mollusc/pelagic fish, other species 12 months of the year by means of pots/demersal trawl/other.</li> <li>• Fish from shore out to 15 miles; based in Helvick Head, but sometimes land in Dunmore East and Youghal.</li> <li>• Observer has no other income and is concerned that they will not be able to fish in the application area anymore.</li> </ul> | Similar to response to submission 1. | See response to submission 1. |
| <p>Submission 6 (name redacted):</p> <ul style="list-style-type: none"> <li>• Observer has been fishing the grounds outlined for the past 30 years at shrimp, whitefish, lobsters, crab.</li> <li>• Will affect safety and income, as the wind turbines will be located on the grounds fished for those years.</li> </ul>   | Similar to response to submission 2. | See response to submission 1. |
| <p>Submission 8 (name redacted):</p> <ul style="list-style-type: none"> <li>• No consultation with inshore fishing sector</li> <li>• Level of inshore fishing grossly underestimated because it was mostly complied using AIS data</li> <li>• SI works will negatively affect financial viability of fishing enterprise</li> <li>• Fishing in area bounded by 51°52'xx"N 7°27'328"W; 52°03'81"N 7°03'91"W; 51°52'72"N 7° 34'38"W; 52°03'000"N 7°18'20"W;</li> </ul>   | Similar to response to submission 1. | See response to submission 1. |

| Submission from the Public   | Applicant's Response   | Arup Comment                         |
|--|--|--------------------------------------|
| <p>52°06'51"N to 7°25'10"W for crustacean shellfish/bi valve mollusc/pelagic fish, other species during months of January to December by means of static nets/demersal/mid-water trawl/ bottom dredge/hooks and lines/other; reliant for safe navigational passage to and from fishing grounds to safe harbours Helvick Head and Dunmore East; 11m crab boat;</p> <ul style="list-style-type: none"> <li>• Observer has fished these grounds for lifetime</li> <li>• Wind farm will be a danger to navigation in bad weather and at night and in foggy weather.</li> </ul>   |  |                                      |
| <p>Submission 10 South East Regional Inshore Fisheries Forum (SERIFF):</p> <ul style="list-style-type: none"> <li>• No consultation with inshore fisheries sector</li> <li>• Fisheries not a consideration in the site selection process</li> <li>• No level of inshore fishing described in the application</li> <li>• To section 2.9, which asks about proximity to sensitive locations and fish spawning area, the applicant mentions aquaculture and bi valve production areas but does not mention recognised fishery spawning and recruitment areas for herring and key inshore species such as lobster and crab.</li> <li>• Site works can affect financial viability of fishing enterprise, particular concern about sub-bottom profiler (sparker/boomer)</li> <li>• Two foreshore applications from 2 companies overlap to large extent for important inshore and other fishing areas of the southeast coast causing confusion</li> <li>• Inshore operations of 50 plus boats dependant on this area include crustaceans, including lobster, crab and shrimp occupy the entire inshore zone along the coast where the survey for the cable routes are indicated; shellfish/ bi valve such as scallop occupy a larger proportion of proposed wind farm site; whitefish and pelagic fisheries exist though all the wind farm and cable route areas</li> <li>• Requirement for overall spatial plan</li> </ul> | <p>Similar to response to submission 1.</p> <p>Following a review of the proposed works set out in the application, the Marine Institute found given the nature, scale and location of the proposed works, they will not have a significant impact on the marine environment and will not have a significant impact on legitimate uses/users of the area. The applicant will engage with fishermen sufficiently in advance of intrusive surveys and discuss their concerns regarding the types of surveys proposed.</p> <p>The applicant is aware of a separate foreshore licence application that was submitted on 19 March 2019 to the Department. The application, known as the Celtic Sea Array, is different from the applicant's proposed survey being an area located c. 15km south of the applicant's proposed survey area boundary. With the exception of two potential cable corridors, which are minimal in terms of overall area, the two applications do not overlap.</p> <p>Any recommendations for the process are a matter for the Department.</p> | <p>See response to submission 1.</p> |

| Submission from the Public   | Applicant's Response                 | Arup Comment                  |
|--|--------------------------------------|-------------------------------|
| <ul style="list-style-type: none"> <li>Policy and guidelines for foreshore licence applications must be reviewed</li> <li>Application form should require same consideration of fisheries as Natura 2000 sites</li> <li>Applicants should make available to stakeholder the likely impact of the activity (both survey techniques and final development e.g. turbines) on fisheries</li> <li>There is a genuine fear that the survey techniques and construction/installation will impact on habitats and fish</li> <li>Onus is on applicant to research fishing activities and consult with stakeholders before making application.</li> </ul>  |                                      |                               |
| <p>Submission 11 (name redacted):</p> <ul style="list-style-type: none"> <li>No consultation with inshore fishing sector</li> <li>Level of inshore fishing grossly underestimated because it was mostly complied using AIS data</li> <li>SI works will negatively affect financial viability of fishing enterprise</li> <li>Observer fishing in area bounded by 51°50'N to Irish coast and 7°30'W to 6°40'W for crustacean shellfish/bivalve mollusc/pelagic fish, other species during months of January to December by means of static nets/demersal trawl/mid-water trawl; reliant for safe navigational passage to and from fishing grounds to safe harbours Helvick Head, Dunmore East and Duncannon</li> </ul> | Similar to response to submission 1. | See response to submission 1. |
| <p>Submission 12 (name redacted):</p> <ul style="list-style-type: none"> <li>Object because this is the fishing ground used by observer and his/her livelihood</li> <li>It will upset spawning.</li> </ul>   | Similar to response to submission 2. | See response to submission 1. |
| <p>Submission 13 (name redacted):</p>  | Similar to response to submission 2. | See response to submission 1. |

| Submission from the Public   | Applicant's Response  | Arup Comment   |
|--|---|--|
| <ul style="list-style-type: none"> <li>• Observer's husband and family fish this ground.</li> </ul>  |   |  |
| <p>Submission 14 (name redacted):</p> <ul style="list-style-type: none"> <li>• Observer's Dad fishes this ground.</li> </ul>   | <p>Similar to response to submission 2.</p>   | <p>See response to submission 1.</p>   |
| <p>Submission 15 (name redacted):</p> <ul style="list-style-type: none"> <li>• Observer is a sustainable fisherman, fishes this ground</li> <li>• The surveys will disrupt environment and fish and shellfish coming to area on natural migration</li> <li>• Major spawning ground for fish/shellfish</li> <li>• If fishing grounds lost, observer has no income</li> </ul>  | <p>Similar to response to submission 2.</p>   | <p>See response to submission 1.</p>   |
| <p>Submission 16 Cliona Mhic Giolla Chuda:</p> <ul style="list-style-type: none"> <li>• Represents a group of oyster growers who market and sell oysters through Meitheal Tra na Rinne Teo</li> <li>• Meitheal Tra na Rinne Teo produces 2000 tonnes of oysters per annum and employs 32, total employment in oyster farming in area in excess of 100</li> <li>• One cable route, which extends out from Ballinacourty, is too close to the oyster framing areas, risk of adverse effects by disturbance of sediment and consequent release of heavy metals, danger of shock to oysters from borehole blasting when tide is in and oysters covered by water</li> </ul> | <p>It is not yet determined if the route of concern will be the subject of any intrusive works. If it is, the applicant is committed to discussing the possibility of contaminated sediment in the area with Department of Agriculture, Fisheries and Food (DAFM) and to investigate this issue prior to carrying out any relevant survey works. This will involve initial communication with the Marine Chemistry section of the Marine Institute to obtain any existing data for the area and seek their advice to determine if further investigation is required.</p> <p>No borehole blasting will be undertaken during the works.</p> | <p>In its submission, the Marine Institute noted that there were no licensed aquaculture sites within the proposed site investigation area, therefore, impacts on aquaculture were not considered likely.</p> <p>The applicant undertook to comply with the DAFM requirements in relation to potentially contaminated sediments.</p> |
| <p>Submission 18 (name redacted):</p> <ul style="list-style-type: none"> <li>• Survey and possible development area are on a massive scale 810km<sup>2</sup> and 5km from the coast</li> <li>• Survey will impact on endangered species that the Habitats Directive applies to, and cod, haddock and whiting spawning grounds and cod, whiting, hake, horse mackerel and mackerel nursery grounds. Herring nursery and spawning areas overlap parts of the cable</li> </ul>  | <p>Similar to response to submission 2.</p> <p>A Natura Impact Statement will be produced on completion of the surveys. The Natura Impact Statement will be subject to public consultation as part of the planning process and when the application is submitted.</p>   | <p>The MI, in its submission, stated that considering the nature, scale and location of the proposed works it was satisfied that the works will not have a significant impact on the marine environment in the survey area and will not have a significant impact on</p>   |

| Submission from the Public  | Applicant's Response | Arup Comment  |
|---|----------------------|---|
| <p>corridors. Along with all the species in the area not mentioned but all connected. The survey will have far reaching consequences which will not be reversible.</p> <ul style="list-style-type: none"> <li>• The courts and EU will have to address fisherman's rights and rights of fishermen from other countries who have fishing rights in the area.</li> <li>• Surveys will only identify a fraction of the habitat and environmental connections that are in the sea and there is very little understanding of species in the sea that connect into Ireland's rivers and estuaries.</li> <li>• Can the survey ever identify the harm that would be caused to all species that live in the sea, where species are all connected, including endangered species connected to Ireland's rivers, salmon, eels, lamprey, shad that pass through the survey areas during their lifecycle or stay in the sea.</li> <li>• Sole, black Dover sole and bass also migrate into the estuary and Waterford City each year.</li> <li>• Structures in the water and floating structures cause alterations to currents and the seabed.</li> <li>• If the Habitats Directive is applied can development of any scale proceed as a result of this survey.</li> <li>• The cumulative effect of the survey, the proposed wind farm that would follow the survey and other proposals, salmon farms, wind turbine areas on habitat and species will cause devastation far outside the survey area.</li> <li>• The survey area combined with the SSE survey area will be about the size of Co Waterford.</li> <li>• The Marine Spatial plan will be worded to allow this type of massive development and a lot more. Ireland is at a crossroads to abuse and destroy the sea to maintain the lifestyle on land.</li> <li>• Lack of proper planning – Norovirus in oysters. What hope for the seas and overall environment 5km – 25km of the coast with out of sight out of mind planning.</li> </ul> |                      | <p>other legitimate users/users of the area.</p> <p>The Water and Marine Advisor of the Department of Housing, Planning and Local Government stated that if the works were conducted in accordance with the AA screening report, which included detailed method statements and assessment of impacts, the works as proposed will have no significant impact on the environment, navigation, fishing or the public use of the foreshore.</p> |

| Submission from the Public   | Applicant's Response  | Arup Comment                         |
|--|---|--------------------------------------|
| <ul style="list-style-type: none"> <li>Ireland's record and understanding of water and species that live in the rivers, estuaries and bays (mussels, cockles, salmon, eels) disastrous. Pollution now dangerous to human health in these waters.</li> <li>Application should be refused until Ireland first respects, understands and looks after the water and species that live in it on land.</li> <li>Cable going through sand in beaches does not work example Duncannon, other examples in England.</li> </ul> |   |                                      |
| <p>Submission 19 Copper Coast UNESCO Global GeoPark:</p> <p>Submission relates to the proposed wind farm, not the proposed site investigations.</p>  | <p>The area labelled 'proposed development area' shown on drawings 1516-002 to 1516-006 is the overall study area and does not represent the site boundary at this stage. A foreshore licence would allow the applicant to carry out detailed geophysical, geotechnical and metocean surveys within the specified area up to 15km from the coast. The area is being assessed for suitability for turbines and cables, the locations of which are not known yet. No structures will be erected on the foreshore as part of the surveys and there will be no negative impacts on the marine or coastal environment.</p> <p>The studies will allow the applicant to progress visual and landscape studies, which will be carried out as part of the EIAR. The EIAR will be subject to public consultation as part of the planning process and when the application is submitted.</p> <p>Selection of the preferred cable landing will take account of the conservation and accessibility of the Copper Coast UNESCO Global GeoPark and the impacts on this feature will be assessed in the EIAR.</p> | <p>No comment</p>                    |
| <p>Submission 20 (name redacted):</p> <ul style="list-style-type: none"> <li>The surveys would impact on observer's livelihood</li> </ul>  | <p>Similar to response to submission 2.</p>   | <p>See response to submission 1.</p> |

| Submission from the Public   | Applicant's Response   | Arup Comment                         |
|--|--|--------------------------------------|
| <ul style="list-style-type: none"> <li>• Would damage fishing grounds for shellfish, for which the observer fishes</li> <li>• Damage the spawning grounds for shellfish like lobster, crab and shrimp.</li> <li>• The cables would be in the middle of the fishing grounds</li> <li>• It would impact the observer's crew.</li> <li>• The noise will frighten all fish and wildlife from the area and will not recover.</li> </ul>   |  |                                      |
| <p>Submission 21 (name redacted):</p> <ul style="list-style-type: none"> <li>• Observer fishing for lobster, crab, whelks and white fish</li> <li>• Observer has fished those grounds all his/her life and does not want to be closed out.</li> </ul>  | <p>Similar to response to submission 2.</p>  | <p>See response to submission 1.</p> |
| <p>Submission 22 National Inshore Fisherman's Association and National Inshore Fisherman's Organisation (NIFA/NIFO):</p> <ul style="list-style-type: none"> <li>• No consultation between the applicant and inshore commercial fishing sector, neither with NIFA/NIFO nor NIFF.</li> <li>• The application form has a lot of detail on Natura 2000, Birds and Habitats Directive and on page 10 recognises that the area is a spawning ground for some important fish species but fails to note that it is an important spawning ground for Celtic Sea herring. This is an important commercial fish stock which supports a very important inshore fishery the Celtic Sea sentinel fishery, which traditionally has been very important to a number of NIFA/NIFO members.</li> <li>• From the absence in the documentation, the applicant failed to consider the socioeconomic impact the development may have on other sectors of the maritime economy particularly the commercial inshore fishing sector.</li> </ul> | <p>Similar to response to submissions 1 and 2.</p> <p>The herring spawning charts, referred to during the foreshore application process, were the most recent Marine Institute data (Lordan and Gerritsen, 2009) which details the herring spawning area north east of the proposed survey area. The applicant intends to validate this work during its engagement with inshore fishermen.</p> | <p>See response to submission 1.</p> |

| Submission from the Public  | Applicant's Response  | Arup Comment                         |
|---|---|--------------------------------------|
| <ul style="list-style-type: none"> <li>NIFA/NIFO members carry out a wide range of fishing activity in the specific area: demersal and pelagic trawling for whitefish, prawns and pelagic fish; static netting for whitefish and shellfish and potting for a wide range of shellfish species. NIFA/NIFO members have fished the area for years and it accounts for a significant part of their economic returns. Proximity to shore allows them to operate with a degree of safety. Their displacement out of the area would not be economically viable. They operate vessels 6 – 14m overall length which limits the operational range. In many cases their traditional landing sites would not be suitable for larger vessels. NIFA/NIFO notes from the application form page 13 that the applicant is not seeking spatial or temporal restrictions on fishing activity. However, NIFA/NIFO is concerned that the works will disrupt the fishing operations of its members which would have an negative economic impact on them.</li> <li>NIFA/NIFO has other members who have not traditionally fished in the area of the works. NIFA/NIFO is concerned that the members, who have traditionally fished in the area of the works, would be displaced into adjoining areas. This could lead to conflict between static gear and static gear/mobile gear operators over the wider area and potential increased competition for both biological resources and space, which will have a negative impact on economics operations of the members.</li> </ul> |   |                                      |
| <p>Submission 23 (name redacted):</p> <ul style="list-style-type: none"> <li>5km is too close to the coast.</li> <li>This is a rich prawn/shrimp ground that local fishermen rely on 12 months of the year and is the only prawn/shrimp ground along this coastline.</li> <li>Site investigation works would cause major disruption to the seabed and all living species.</li> <li>The number of windmills proposed for this scenic area will deface the incredible scenery of the Waterford coastline.</li> </ul>  | <p>The area labelled 'proposed development area' shown on drawings 1516-002 to 1516-006 is the overall study area and does not represent the site boundary at this stage. A foreshore licence would allow the applicant to carry out detailed geophysical, geotechnical and metocean surveys within the specified area up to 15km from the coast. The area is being assessed for suitability for turbines and cables, the locations of which are not known yet. No structures will be erected on the foreshore as part of the surveys and there will be no negative impacts on the marine or coastal environment.</p> | <p>See response to submission 1.</p> |

| Submission from the Public  | Applicant's Response   | Arup Comment                         |
|---|--|--------------------------------------|
|   | <p>The studies will allow the applicant to progress visual and landscape studies, which will be carried out as part of the EIAR. The EIAR will be subject to public consultation as part of the planning process and when the application is submitted. Following a review of the proposed works set out in the application, the Marine Institute found given the nature, scale and location of the proposed works, they will not have a significant impact on the marine environment and will not have a significant impact on legitimate uses/users of the area.</p> |                                      |
| <p>Submission 24 (name redacted):</p> <ul style="list-style-type: none"> <li>• It is the observer's fishing area – commercial fisherman.</li> </ul>   | <p>Similar to response to submission 2.</p>  | <p>See response to submission 1.</p> |
| <p>Submission 26 (name redacted):</p> <ul style="list-style-type: none"> <li>• The proposed area is designated a geopark/copper coast.</li> <li>• The project would affect local shell fishing industry.</li> <li>• The low frequency emissions and harmonics, electromagnetic pulses will affect the sonar communications of dolphins and fin whales which are (illegible word) during the winter.</li> <li>• Will affect the natural beautify of the area.</li> </ul> | <p>Similar to response to submission 2.</p>  | <p>See response to submission 1.</p> |
| <p>Submission 35 national Inshore Fisheries Forum (NIFF)</p> <p>This submission is the same as submission number 10.</p>  | <p>Similar to response to submission 10.</p>   | <p>See response to submission 1.</p> |
| <p>Submission 37 Councillor Conor D McGuinness:</p> <ul style="list-style-type: none"> <li>• Cé Helbic is a fishing harbour of local and regional importance, which supports local jobs and economy. Any grant of a licence should set as a condition non-disturbance or displacement of the local fishing fleet from either harbour or local fishing grounds.</li> </ul>   | <p>The considerations listed in this submission are a matter for the Department.</p>   | <p>No comment</p>                    |

| Submission from the Public   | Applicant's Response | Arup Comment |
|--|----------------------|--------------|
| <ul style="list-style-type: none"> <li>• Cé Helbhc hosts the RNLI station that serves Dungarvan Bay and adjacent coastline. Grant of licence should be conditional on the safe passage/egress of the lifeboat not being curtailed, or otherwise disturbed, by the presence of survey boats, machinery, equipment etc in the harbour or nearby waters.</li> <li>• Public consultation and ongoing consultation with the local fishing industry representatives on the conduct, scope and progress of the work at hand should be a licence condition.</li> <li>• Cé Helbhc is located in the Gaeltacht. A condition that all signage and public material be available and displayed in the Irish language should be attached to any grant of a licence.</li> </ul> |                      |              |

**Table 4: Summary of Observations made by Prescribed Bodies and Applicant's Response**

| Statutory Body   | Applicant's Response   |
|--|--|
| Waterford County Council is not concerned with the site investigation process. Waterford County Council listed matters/impacts which would arise at the next stage and requested it be kept informed of the investigation results.   | The applicant welcomes the fact that Waterford County Council has no concerns about the proposed works and notes the matters which would arise at the next stage.  |
| <p>July 2019: The Marine Survey Office (MSO) advised that a detailed navigation risk assessment will be required to be presented to it prior to the commencement of the site investigation due to the area of interest being in very close proximity to port approaches. The MSO noted that the applicant has only considered shipping approaching the port of Waterford from an easterly direction. Attention should also be given to traffic approaching from the west. The assessment should include all correspondence with local harbour authorities, the Commissioners for Irish Lights (CIL) and the Irish Coast Guard.</p> <p>February 2020: MSO received the navigation risk assessment and, provided that all the referenced mitigation measures are maintained, the MSO raised no objection to the site investigation works commencing.</p> | <p>The applicant engaged Anatec Ltd to carry out a shipping and navigational assessment (Preliminary Hazard Analysis) of the proposed site and engagement with CIL, the Irish Coast Guard, local harbour authorities and the MSO will form part of that assessment. The MSO's requirements in relation to navigational risk will be discussed and addressed in Anatec's assessment prior to the commencement of the site investigation works.</p> <p>The applicant commits to carry out the following, as requested by the MSO:</p> <ul style="list-style-type: none"> <li>• Undertake full consultation with local harbour authorities to assess any adverse impact on navigational safety and to determine mitigation measures where possible.</li> <li>• To arrange with the MSO Dublin Office the production of a Marine Notice providing information on proposed works along with commencement and completion dates.</li> <li>• Co-operate fully with the Irish Coast Guard with respect to Navigational Safety radio broadcasts and with CIL regarding IALA compliance.</li> </ul> |
| <p>Marine Institute (MI) comments:</p> <p>No licensed aquaculture sites within the proposed site investigation area, therefore, impacts on aquaculture not considered likely.</p> <p>There is commercial fishing activity in the proposed site investigation area and some interaction with fishing activity may occur.</p>  | <p>The applicant noted the MI's finding that the works will not have a significant impact on the marine environment in the survey area and will not have a significant impact on other legitimate users/users of the area. The applicant confirmed that a Fisheries Liaison Officer would be appointed.</p>  |

| Statutory Body  | Applicant's Response  |
|---|---|
| <p>Considering scale, timing and duration of the proposed works, MI considered that such interaction will be limited and overall will not be significant. MI recommended that a Fisheries Liaison Officer should be a condition of the licence.</p> <p>Based on the above, and considering the nature, scale and location of the proposed works, the MI is satisfied that the works will not have a significant impact on the marine environment in the survey area and will not have a significant impact on other legitimate users/users of the area. MI recommended 3 specific conditions be attached to the licence:</p> <ul style="list-style-type: none"> <li>• The Licensee shall use that part of the Foreshore the subject matter of this licence for the purposes as outlined in the application and for no other purposes whatsoever.</li> <li>• All works to be carried out and completed in accordance with the plans and particulars attached to the licence</li> <li>• Fisheries Liaison Officer should be appointed by licensee to consult with SFPA, relevant fishermen's groups and charter boat skippers.</li> </ul> |   |
| <p>Department of Agriculture, Food and the Marine (DAFM) considered that the proposed cable landfall corridor at Clonea Strand could have an impact on oyster farming in Dungarvan Harbour, and suggested the following mitigation:</p> <ul style="list-style-type: none"> <li>• Initial testing of surface sediments close to shore in the cable corridor to Clonea Strand for heavy metals (lead, chromium, cadmium) due to the historic presence of a tannery and a cadmium factory in the vicinity. This should take place prior to any scheduled works and BIM should be copied with the results.</li> <li>• Any explosive type acoustic surveys should be undertaken at low tide, when oysters in the production area are fully out of the water, at Dungarvan this might have to be on a low spring tide.</li> <li>• Any potentially polluting liquids used during the works should have measures to minimise a spill and if a spill occurs, it should be reported to BIM asap.</li> </ul>   | <p>The applicant noted the DAFM concern in relation to the possibility of contaminated sediment in the area. In advance of intrusive works, the applicant is committed to discussing the possibility of contaminated sediment in the area with DAFM and to investigate this issue prior to carrying out any relevant survey works. This will involve initial communication with the Marine Chemistry section of the Marine Institute to obtain any existing data for the area and seek their advice to determine if further investigation is required. If pre-existing heavy metal contamination is present in the sediments, the Applicant will take necessary measures to prevent dispersal towards the aquaculture operations.</p> <p>The applicant will ensure that all parties involved in the survey works will comply with the relevant maritime and environmental legislation as well as best practise principles for works of this nature.</p> |

| Statutory Body   | Applicant's Response  |
|--|---|
| <p>The proposed works includes a potential cable corridor into Dunmore East south of oyster farms in Waterford Estuary. The following mitigation measures should be applied:</p> <ul style="list-style-type: none"> <li>• Any explosive type acoustic surveys should be undertaken at low tide, when oysters in the production area are fully out of the water, at Waterford this might have to be on a low spring tide.</li> <li>• Any sediment should be dispersed during ebbing tide.</li> <li>• Any potentially polluting liquids used during the works should have measures to minimise a spill and if a spill occurs, it should be reported to BIM asap.</li> </ul>  | <p>A full risk assessment regarding accidental events will be undertaken by the contractor as part of the survey design. Procedural controls, stemming from industry-standard guidelines and best practice procedures will limit the possibility of accidental events. In the unlikely event of a spill occurring, BIM, as well as all other relevant statutory bodies, will be notified as soon as possible.</p> <p>A pre-survey navigation assessment will be carried out and a Fisheries Liaison Officer will be appointed. The purpose of both is to minimise any impact on local fishing boats and subsequent business operations.</p>   |
| <p>Inland Fisheries Ireland (IFI) commented that there was a major potential issue here for cumulative effects on the environment and biota arising from the survey methods proposed. The extent of data generation as well as the extent of impact via successive sound generation and propagation surveys in the aquatic environment may be such as to be economically and ecologically unsatisfactory. IFI queried if the very large subsea survey work completed in recent years by MI and Geological Survey of Ireland (GSI) could actually be used in place of some or all the proposed survey work. These are issues that the Foreshore Division and MLVCC should be considering.</p> <p>IFI R&amp;D: The documentation is comprehensive in identifying issues related to sound generation and transmission in water and the potential for adverse impact on marine biota.</p> <p>The survey area encompasses the coastline to which a series of important sea trout and salmon rivers discharge in addition to Waterford Harbour SAC area, containing the discharge for the Suir, Nore and Barrow catchments. A number of migratory fish are associated with these rivers, including salmon, sea trout European eel, sea and river lamprey and shads. Live stages of these species may be transiting the survey area. Sound generation and transmission during the proposed surveys would disperse widely in the water and propagate into the migration paths of these fish life stages. The Colligan (Dungarvan Harbour), Mahon and Tay are all significant sea trout angling rivers and sea trout spend part of its life cycle at sea.</p> | <p>The applicant confirmed that the existing INFOMAR data gathered by GSI and the MI for the site had been accessed and reviewed and that where possible this data will be used in place of some of the proposed survey work.</p> <p>The applicant further noted that boreholes will not be drilled at each of the positions shown in Figure 3.2 of Appendix 3 "and expects that maximum of the positions will be realised."</p> <p>The applicant also noted that the mitigation measure of 'soft-start', as proposed by IFI, is also contained within the relevant NPWS guidance for marine mammals. The applicant confirmed these guidelines will be complied with. The applicant confirmed that the duration of the noise-generating surveys will be reduced to the minimum necessary to collect results of sufficient quality and the applicant will reduce the number of sound-requiring test types to be employed to only those that are absolutely necessary.</p> <p>The applicant was aware of a separate foreshore licence application that was submitted by SSE on 19th March 2019 to the Department of Housing, Planning and Local Government (FS0006983).</p> |

| Statutory Body   | Applicant's Response   |
|--|--|
| <p>Studies by IFI show that sea trout feed extensively and widely while at sea and significant distances can be travelled away from the immediate coastline.</p> <p>The overall area has a high value as a marine sport fish zone, both for shore angling and boat fishing. The beaches at the mouth of the Colligan at Dungarvan are particularly prized for a range of sport fish species. The wrecks in the area create an oasis type feature on the seabed and are a magnet for a range of fish species. Wrecks are marks of angling significance for deep-water anglers and charter boat skippers. All the target fish species, as well as the angling facility, are likely to be impacted adversely by sound-generating and - propagating marine surveys.</p> <p>The IFI points out that the NPWS's mitigation measures guidance for marine mammals are of limited value for fish species. Mitigation measures should aim to reduce sound generated in intensity and duration. The screening document refers to the hearing capacities of fish species. However, though salmon and other 'hearing generalist' species may not hear sound they may not be immune to any adverse physical or physiological impact from transmitted sound.</p> <p>The mitigations should include:</p> <ul style="list-style-type: none"> <li>• Reduction in the number of sound-requiring test types to be employed</li> <li>• Use of soft-start and ramp-up procedures for any sound-generating surveys undertaken both on a day-to-day and on re-start after any stoppages within a day.</li> <li>• Agreed timing of works so as not to interfere with migration times of Annex II fish life stages or spawning of commercial fish species in the proposed survey area.</li> </ul> <p>The advice of the SFPA should be sought in relation to commercial marine fish in regard to eggs/larvae and adult life stages.</p> <p>IFI notes that another application has been made for a similar suite of investigations, deploying the same or similar sound-generating and -emitting technology, immediately south of the present application.</p> | <p>The application, known as the Celtic Sea Array, is distinct from the applicant's proposed survey area being located c.15km south of the applicant's survey area boundary.</p> <p>With the exception two potential cable corridors, which are minimal in terms of the overall area, the two applications do not overlap. Should the survey areas change, the applicant commits to engaging in relation to any potential overlap.</p> <p>With regards to the timings of the works, the impacts arising during sensitive periods will be avoided or minimised where possible. IFI's reference to Section 4.5 of the report refers to the above-mentioned SSE application (FS0006983) and not the applicant's (FS0006982) application and, therefore, the applicant was not in a position to comment on the findings.</p> |

| Statutory Body   | Applicant's Response   |
|--|--|
| <p>IFI considers that there is the potential for cumulative impacts to biota (plankton, fish, marine mammals etc). The potential for data sharing must be considered in the context of reducing adverse environmental impacts.</p> <p>IFI recommends that the timing of the works requires serious consideration and there may be no optimal time for the geophysical surveys that would suit the commercial fish species and Habitats Directive fish species.</p> <p>Twaite shad move into Waterford Harbour and upstream in the Barrow, Suir and Nore to spawn, which takes place in mid-May to early June, then the adult fish descend back to the open sea. Sound emissions from survey instruments can deter or impede movement/migration of adult shad. Hence sound emission works during the April to end of May period is likely to have adverse impact on adult shad moving into Waterford Harbour or moving through the test area to the Munster Blackwater or further afield. Adult fish will be in the overall survey area much of the year.</p> <p>IFI is of the view that the foreshore licence should contain fish-specific mitigation in regard to reducing level of sound emission and in regard to timing of sound emitting surveys.</p> |  |
| <p>Department of Culture, Heritage and the Gaeltacht (DCHG)</p> <p>Underwater Archaeology</p> <p>The area is rich in coastal, intertidal and underwater cultural heritage (UCH), particularly shipwreck sites and associated artifacts.</p> <p>An underwater archaeological impact assessment (UAIA) should be carried out in advance of intrusive works.</p> <p>The geophysical surveys should be undertaken to the specification for the detection of underwater cultural heritage and the archaeologist can advise on this.</p> <p>The UAIA should be carried out as follows:</p> <ul style="list-style-type: none"> <li>• The applicants should engage the services of a suitably qualified experienced underwater archaeologist (with experience in dealing with large scale marine operations and developments, including geophysical surveys)</li> </ul>  | <p>Underwater Archaeology</p> <p>The applicant committed to undertaking an Underwater Archaeological Impact Assessment (UAIA) in advance of the intrusive geotechnical surveys (grab sampling, borehole operations). The UAIA will be carried out as per the Department's recommendations.</p> <p>Nature Conservation</p> <p>The applicant noted the fact that the Department concurred with the conclusions of the Natura Impact Statement (sic) and Marine Mammal Risk Assessment that there will be no likely significant impacts in relation to marine Annex I habitats or marine mammals.</p> |

| Statutory Body  | Applicant's Response   |
|---|--|
| <ul style="list-style-type: none"> <li>• The UAIA shall be carried out in advance of any physical investigations, such as grab sampling or borehole operations.</li> <li>• The UAIA shall include a detailed intertidal/foreshore and coastal archaeological assessment.</li> <li>• The UAIA shall comprise detailed desktop study, walkover study, metal detection survey, interpretation of all geophysical surveys and compilation of dedicated report.</li> <li>• The results of the geophysical surveys should be assessed and interpreted by a suitably qualified and experienced archaeo-geophysicist.</li> <li>• Recommendations in the resultant UAIA report shall include for further archaeological mitigation by way of avoidance of any identified known or potential UCH, archaeological diver inspection of identified anomalies (if they cannot be avoided), advisory on results of all grab samples, borehole locations, etc that may contain cultural material (e.g. organics, paleo-evidence etc), and shall advise the client accordingly on all known and potential UCH.</li> <li>• The UAIA report should be forwarded to the Underwater Archaeology Unit for consideration and comment.</li> </ul> <p>Nature Conservation</p> <p>The conclusion of the Natura Impact Statement screening document was that there is no likely significant effect on the conservation objectives of Natura sites as a result of the proposed surveys. The DCHG concurs with this conclusion in relation to Annex I habitats.</p> <p>A marine mammal risk assessment has concluded that once the full range of mitigation measures outlined is applied there would be no likely significant effect. The DCHG concurs with this conclusion.</p> |  |
| <p>Department of Housing, Planning and Local Government Water and Marine Advisor (WMA)</p> <p>The WMA stated that if the works were conducted in accordance with the AA screening report, which included detailed method statements and assessment of impacts, the works as proposed will have no significant impact on the environment, navigation, fishing or the</p>   | <p>The Applicant welcomes the Department's opinion that if the works are conducted in accordance with the AA Screening report, the works as proposed will have no significant effect on the environment, navigation, fishing or the public use of the foreshore.</p> |

| Statutory Body  | Applicant's Response  |
|---|---|
| <p>public use of the foreshore. The WMA recommended the following conditions:</p> <ul style="list-style-type: none"> <li>• Drawing 1516-001 dated 1 May 2019 should be attached and referenced in the licence document.</li> <li>• The works should be conducted in accordance with the documents and drawings submitted by the applicant.</li> <li>• The Department shall be notified 2 weeks prior to any works proceeding.</li> <li>• The shore based or intertidal trial pits can only be completed with due regard to public safety and public use of the foreshore. No shore based or intertidal trial pits on the foreshore shall be excavated during the months of June, July or August. Extreme caution must be exercised when traversing the foreshore to the trial pit locations, and priority shall be given to the public users of the foreshore at all times. Public access to the foreshore shall only be restricted in the direct vicinity of the trial pit and only while the trial pit is being excavated and backfilled. Appropriate signage and barriers shall be deployed. Trial pits shall only be back filled with the native excavated material. All works shall be completed in one tidal cycle and the site restored to its natural condition in advance of the flooding tide.</li> <li>• Fishing gear and fishing operations shall not be interfered with or disturbed during the completion of the site investigation works.</li> </ul> | <p>The Applicant notes the recommendations outlined in the Department's response and will liaise in advance of works commencing as requested.</p> |

## 6 EIA Screening

### 6.1 General

Article 4 of Environmental Impact Assessment (EIA) Directive (Council Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment, as amended by Directive 2014/52/EU), imposes the requirement for an EIA for the projects, to which the Article applies. These projects are listed in Annexes I and II of the Directive. For Annex I projects, an EIA is mandatory. Member States must determine if an EIA is mandatory for Annex II projects. Member States must make the determination through (a) a case-by-case assessment or (b) thresholds or criteria set by the member State.

The Foreshore Acts nos. 12 of 1933, 17 of 1992, 54 of 1998 and 11 of 2011 (“Foreshore Acts”) transpose this requirement into Irish law. The Foreshore Acts section 13A as inserted by the European Union Foreshore Regulations 2009, S.I. 404 of 2009 is as follows:

- “13A.— (1)(a)** *The appropriate Minister shall, as part of his consideration of a relevant application, in accordance with paragraph (b), ensure that, before a decision on the application is given, projects likely to have significant effects on the environment by virtue, inter alia, of their nature, size or location are made subject to an environmental impact assessment.*
- (b) (i)** *An environmental impact assessment shall be carried out by the appropriate Minister in respect of a relevant application for consent where the proposed development would be of a class specified in—*
- (I) *Part 1 of Schedule 5 of the Planning and Development Regulations 2001,*  
*and either—*
- (A) *such development would exceed any relevant quantity, area or other limit specified in that Part, or*  
(B) *no quantity, area or other limit is specified in that Part in respect of the development concerned,*  
*or*
- (II) *Part 2 of Schedule 5 of the Planning and Development Regulations 2001 and either—*
- (A) *such development would exceed any relevant quantity, area or other limit specified in that Part, or*  
(B) *no quantity, area or other limit is specified in that Part in respect of the development concerned.*

(ii) An environmental impact assessment shall be carried out by the appropriate Minister in respect of a proposed development where such development—

- (I) would be of a class specified in Part 2 of Schedule 5 of the Planning and Development Regulations 2001 but does not exceed the relevant quantity, area or other limit specified in that Part, and
- (II) the appropriate Minister determines that the proposed development would be likely to have significant effects on the environment.”

The projects, for which an EIA is mandatory, are listed in Part 1 of Schedule 5 of the Planning and Development Regulations, S.I. 600 of 2001, as amended. Annex II projects are addressed in Part 2 of Schedule 5. For most project classes, a threshold is specified. There are a number of classes which require a case by case assessment. An EIA is also required for projects, which do not exceed the threshold, but the Minister determines that the proposed development would be likely to have significant effects on the environment.

## 6.1 Screening for Mandatory EIA

### Part 1 of Schedule 5

The proposed development is not a project type or class listed in Part 1 of Schedule 5 on the Regulations.

### Part 2 of Schedule 5

One class listed in Part 2 of Schedule 5 on the Regulations was considered.

“Class 2 Extractive Industry

2 (e) With the exception of drilling for investigating the stability of the soil, deep drilling, consisting of—

(iv) any other deep drilling, except where, in considering whether or not an environmental impact assessment should be carried out—

(IV) it is decided, in accordance with section 13A of the Foreshore Act 1933 (No. 12 of 1933) (in this subparagraph referred to as the “Act of 1933”), by the appropriate Minister (within the meaning of the Act of 1933) that the drilling concerned would not have a significant effect on the environment,”

The proposed development includes a geotechnical investigation, comprising the drilling of a total 139 boreholes up to 70m depth in the area of the wind farm and cable corridors,

In Part 1, Section 1.1 of the Application Form, the purpose of the proposed site investigations is explained as follows:

*“A Foreshore Licence is needed to investigate the site and obtain baseline data in order to determine the optimum wind farm layout design, the offshore foundation locations, the offshore substation location, the cable design and development of cable laying methodologies, the inter-array cabling routes, the cable route to shore and the optimum location for the landfall site.”*

In the Appropriate Assessment Screening Report (Aquafact, 2019), the purpose of the site investigation is described in Section 3 as follows:

*“The proposed activity involves various marine surveys to assist in the selection of the optimum offshore wind farm location and onshore cable route for a proposed 600 – 1000MW offshore wind farm off the Co Waterford coastline.”*

From the above, it can be concluded that the purpose of the site investigation is not “drilling for investigating the stability of the soil”.

The European Commission has published guidance (European Commission 2015) on the interpretation of the projects listed in the annexes to the EIA Directive. In relation to the projects of a class in listed in Annex II (2) (d) of the Directive, which is the equivalent to class 2(e)(iv)(IV) in Part 2 of Schedule 5, the Guidance states on page 43:

*“Member States have different thresholds defining deep drilling. Some Member States have adopted a general threshold beyond which the drilling is considered deep (e.g. 300 m). Other Member States have taken into account the type of drilling to fix the threshold (e.g. geothermal drillings and drillings for water supply are considered deep if exceeding 500 m, while the threshold for drillings for nuclear waste storage is 100 m).*

*The depth of the drilling should not be the sole screening criterion in assessing the likely significance of the environmental impact. The screening should take into account all the relevant criteria listed in Annex III to the EIA Directive. The overall characteristics of the project should be taken into account. Even a small-scale project (e.g. exploration or drilling in the range of only several metres) can have significant effects on the environment if it is in a location where the environmental factors, such as fauna and flora, soil, water, climate or cultural heritage, are sensitive to the slightest alteration.”*

Consequently, the proposed project cannot be excluded from Part 2 of Schedule 5 class 2(e)(iv)(IV). An EIA is required except where the Minister decides “that the drilling concerned would not have a significant effect on the environment.”

## 6.2 Screening of Significance of Effects on Environment

In determining if the project will have significant environmental effects, the screening exercise should have regard to the relevant criteria listed in Annex III to the EIA Directive, which is as follows:

***“Annex III Selection Criteria Referred To In Article 4(3) (criteria to determine whether the projects listed in annex ii should be subject to an environmental impact assessment)***

### ***Characteristics of projects***

*The characteristics of projects must be considered, with particular regard to:*

- (a) *the size and design of the whole project;*
- (b) *cumulation with other existing and/or approved projects;*
- (c) *the use of natural resources, in particular land, soil, water and biodiversity;*
- (d) *the production of waste;*
- (e) *pollution and nuisances;*
- (f) *the risk of major accidents and/or disasters which are relevant to the project concerned, including those caused by climate change, in accordance with scientific knowledge;*
- (g) *the risks to human health (for example due to water contamination or air pollution).*

### ***2. Location of projects***

*The environmental sensitivity of geographical areas likely to be affected by projects must be considered, with particular regard to:*

- (a) *the existing and approved land use;*
- (b) *the relative abundance, availability, quality and regenerative capacity of natural resources (including soil, land, water and biodiversity) in the area and its underground;*
- (c) *the absorption capacity of the natural environment, paying particular attention to the following areas:*
  - (i) *wetlands, riparian areas, river mouths;*
  - (ii) *coastal zones and the marine environment;*
  - (iii) *mountain and forest areas;*
  - (iv) *nature reserves and parks;*

- (v) areas classified or protected under national legislation; Natura 2000 areas designated by Member States pursuant to Directive 92/43/EEC and Directive 2009/147/EC;
- (vi) areas in which there has already been a failure to meet the environmental quality standards, laid down in Union legislation and relevant to the project, or in which it is considered that there is such a failure;
- (vii) densely populated areas;
- (viii) landscapes and sites of historical, cultural or archaeological significance.

### **3. Type and characteristics of the potential impact**

*The likely significant effects of projects on the environment must be considered in relation to criteria set out in points 1 and 2 of this Annex, with regard to the impact of the project on the factors specified in Article 3(1), taking into account:*

- (a) the magnitude and spatial extent of the impact (for example geographical area and size of the population likely to be affected);
- (b) the nature of the impact;
- (c) the transboundary nature of the impact;
- (d) the intensity and complexity of the impact;
- (e) the probability of the impact; (f) the expected onset, duration, frequency and reversibility of the impact;
- (g) the cumulation of the impact with the impact of other existing and/or approved projects;
- (h) the possibility of effectively reducing the impact.”

While only one component of the proposed development, drilling boreholes, is potentially of a class for which an EIA is required, the environmental effects of all components of the proposed development will be screened, in accordance with DHPCLG (2018) Guidance.

## **6.3 Adequacy of Information**

Arup considered that there was sufficient information in the licence application, the supporting documents, the submissions from the public and the observations from the prescribed bodies to decide whether the proposed development would or would not have a significant effect on the environment.

## 6.4 European Commission Guidance Checklist

The European Commission (EC) Guidance on EIA Screening (EC, 2017) provides a checklist to address the Annex III requirements and help users decide whether EIA is required based on the characteristics of the project and its environment. This screening checklist is presented in **Table 5** below.

**Table 5: Screening Checklist to determine if EIA is required based on the characteristics of a project and its environment**

| Brief Project Description   | Yes/No  | Is this likely to result in a significant impact<br>Yes/No - Why  |
|---|---|---|
| 1. Will construction, operation or decommissioning of the project involve actions which will cause physical changes in the locality (topography, land use, changes in waterbodies, etc.)?   | Yes. The geotechnical survey and anchoring the vessels, CPODs and metocean buoys will cause changes to the seabed and potentially release silt into the waterbody. There will be ecological grab sampling in the area of the proposed windfarm and the intertidal area of up to 3 cable route corridors There will be no topographic or land use changes. | <p>No. The survey area is <math>326 + 60 = 386\text{km}^2</math>. There will be 139 boreholes 100mm dia., 160 CPTs 50 – 66mm dia., 70 vibrocores, 100mm dia., 30 trial pits 3m x 1m x 5m depth, circa 550 hand cores and grab samples, 32 CPOD deployments and up to 7 ADCP and wind measuring buoys. The 30 trial pits on the intertidal will be done by boat or excavator on land.</p> <p>The study area is an open coast and the seabed is expected to be regularly disturbed by natural processes. Any sediment disturbed by the works will settle almost immediately.</p> <p>Given the large area, <math>386\text{km}^2</math>, over which the operations will be carried out and given the type of equipment to be deployed, the relative area of the seabed, which will be disturbed, will be very small and the physical changes to the seabed and water column will be negligible.</p> |
| 2. Will construction or operation of the project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?   | Yes. The surveys will be conducted by vessels using fuel, which is a non-renewable resource but is not in short supply. The survey equipment is generally re-useable.   | No. Relative to the consumption of fuel by shipping and transport in Ireland, the quantities will not be significant.   |
| 3. Will the project involve use, storage, transport, handling or production of substances or materials which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health? | Yes. No specific material, associated with the survey, which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health, will be used, stored, transported, handled or produced. Boreholes will use water or biodegradable polymer-based drill muds.   | No. Strict MARPOL maritime regulations, normal vessel operating standards and precautions will ensure the risk of a release is low and that a significant effect is unlikely.   |

| <b>Brief Project Description</b>   | <b>Yes/No</b>  | <b>Is this likely to result in a significant impact</b><br><b>Yes/No - Why</b>  |
|--|--|---|
|  | However, the vessels conducting the surveys will use fuels and carry lubricants etc which have the potential to be harmful to the environment, if released.  |   |
| 4. Will the project produce solid wastes during construction or operation or decommissioning?  | Yes. Drill cuttings, consisting of the seabed material, will be produced by the borehole drilling operations. The other surveys will produce minimal waste. The vessels conducting the surveys will produce solid waste in small quantities as a part of normal vessel operations.   | No. Normal operating procedure is that drill cuttings will be returned to the drill vessel. The survey vessels will comply with the MARPOL Convention on Marine Pollution. All solid wastes will be retained on the vessels, returned to shore and be disposed of in suitable licensed facilities.  |
| 5. Will the project release pollutants or any hazardous, toxic or noxious substances to air or lead to exceeding Ambient Air Quality standards in Directives 2008/50/EC and 2004/107/EC? | No, other than routine vessels and plant exhausts. Air Quality standards will not be exceeded.   | No.   |
| 6. Will the project cause noise and vibration or release of light, heat energy or electromagnetic radiation?   | <p>Yes. The geophysical survey will include multibeam echosounders, side scan sonar, sub-bottom profilers, ultra-high resolution seismic, all of which use acoustic technology and transmit and receive sound energy below the water surface. Drilling the boreholes, vibrocores and CPTs will also cause noise below the water surface. The vessels conducting the surveys will emit engine noise below the water surface. The vessel engines and drilling equipment will also result in noise above the water surface. The vessels conducting the survey and the static equipment will be lit at night, with standard navigation lights.</p> <p>The plant excavating the trial pits in the intertidal will emit noise above the water surface.</p> | No. The noise sensitive receptors include marine mammals, some fish, seabirds and wildfowl. The impacts on the birds and marine mammals, which are the qualifying interests of Natura 2000 sites or European protected species, were assessed in the AA screening report. The AA screening report concluded that there is no potential for significant effects on any Natura 2000 site. The impact of noise generated by the proposed activities on other species of birds and fish was assessed and determined not to be significant. Mitigation measures, as part of standard operating best practice, will be implemented to minimise the impact of the operations on marine mammals, fish and birds. There is minimal potential for the emissions of noise, vibration and light to impact human beings. |

| <b>Brief Project Description</b>  | <b>Yes/No</b>  | <b>Is this likely to result in a significant impact</b><br><b>Yes/No - Why</b>   |
|---|--|--|
| 7. Will the project lead to risks of contamination of land or water from releases of pollutants onto the ground or into surface waters, groundwater, coastal waters or the sea? | <p>Yes. The vessels conducting the surveys will use fuels and carry lubricants etc which have the potential to be harmful to the environment, if accidentally released.</p> <p>Intrusive works in the inshore part of the cable corridor to Clonea Strand have the potential to release heavy metals (lead, chromium, cadmium) due to the historic presence of a tannery and a cadmium factory in the vicinity.</p>  | <p>No. The survey vessels will comply with the MARPOL Convention on Marine Pollution. Strict maritime regulations and normal vessel operating standards and precautions will ensure the risk of a release is low and that a significant effect is unlikely.</p> <p>In advance of intrusive works in this cable corridor, the applicant will communicate with the Marine Chemistry section of the Marine Institute to obtain any existing data for the area and seek their advice to determine if further investigation is required. If pre-existing heavy metal contamination is present in the sediments, the Applicant will take necessary measures to prevent dispersal towards the aquaculture operations.</p> |
| 8. Will there be any risk of accidents during construction or operation of the project which could affect human health or the environment?                                      | <p>Yes. The proposed surveys will involve activities on the survey vessels at sea, which pose the risk of accidents which could affect human health or the environment.</p> <p>There is also an increased risk of collisions between survey vessels and other vessels in the area or between other vessels in the area and the static survey devices.</p> <p>The plant excavating the trial pits in the intertidal, if done from land, could pose a risk to recreational users of the beach.</p> | <p>No. Strict maritime regulations, normal operating standards and safety precautions, employment of Fisheries Liaison Officers, issuance of Notices to Mariners alerting the vessels in the area of the survey activities, and a navigation risk assessment will ensure the risk of an accident will minimal.</p> <p>Trial pit excavations will be undertaken with normal operating standards and safety precautions. The risk to workforce and the public will be minimal.</p>   |
| 9. Will the Project result in social changes, for example, in demography, traditional lifestyles, employment?   | No. The proposed project is relatively small in scale. Social change is very unlikely.   | No.  |

| <b>Brief Project Description</b>  | <b>Yes/No</b>  | <b>Is this likely to result in a significant impact</b><br><b>Yes/No - Why</b>   |
|---|--|--|
| 10. Are there any other factors which should be considered such as consequential development which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality? | Yes. It is proposed that the wind farm of 600 – 1000MW capacity would be developed following the proposed site investigation works. There is an application for another site investigation for an offshore wind farm, the Celtic Array, to 15k south of the study area.  | No. The consequential development of the proposed wind farm and the Celtic array will be subject to environmental impact assessment prior to approval.   |
| 11. Is the project located within or close to any areas which are protected under international, EU, or national or local legislation for their ecological, landscape, cultural or other value, which could be affected by the project?   | <p>Ecological: Yes. The Hook Head SAC borders the proposed wind farm area on its eastern side. The coastline inshore of the survey area has the following Natura 2000 sites: River Barrow and River Nore SAC, Tramore Dunes and Back Strand SAC, Helvick Head SAC, Helvick Head to Ballyquin SPA, Mid Waterford Coast SPA, Tramore Back Strand SPA. Natura 2000 sites located around the proposed wind farm area and within the cable corridors are: Bannow Bay SAC and SPA, Ardmore Head SAC, Saltee Islands SAC and SPA, Blackwater River SAC, Blackwater Estuary SPA, Ballyteige Burrow SAC and SPA.</p> <p>Cultural Heritage: The area is rich in coastal, intertidal and underwater cultural heritage, particularly shipwreck sites and associated artifacts. There are 12 shipwrecks in the offshore survey area and four adjacent to the offshore survey area. Wrecks or seabed obstructions more than 100 years old are protected under the National Monuments Acts.</p> <p>The coastline from Tramore to Dungarvan has been designated the Copper Coast UNESCO Global GeoPark for its cultural heritage features.</p> | <p>Ecological: No. The AA screening report concluded that there is no potential for significant effects on any Natura 2000 site. The NPWS was consulted and, in its observation, agreed with the conclusion of the AA screening report.</p> <p>Cultural Heritage: No. An underwater archaeological impact assessment (UAIA) will be undertaken in advance of the intrusive geotechnical surveys (grab sampling, borehole operations). The UAIA will be carried out as per the DHLGH's recommendations.</p> <p>A 200m buffer will be applied to each shipwreck site and no intrusive works will be undertaken in the area.</p> <p>The intrusive works will not have a direct impact on the GeoPark.</p> |
| 12. Are there any other areas on or around the location which are important or sensitive for reasons of their ecology e.g. wetlands, watercourses or other  | Yes. Parts of the coastal zone lies within the application area but outside a designated Natura 2000 site.   | No. With the implementation of the specified mitigation measures, the proposed development is not likely to cause a significant adverse effect to the ecology of the coastal zone.   |

| <b>Brief Project Description</b>   | <b>Yes/No</b>  | <b>Is this likely to result in a significant impact</b><br><b>Yes/No - Why</b>   |
|--|--|--|
| waterbodies, the coastal zone, mountains, forests or woodlands, which could be affected by the project?  |  |  |
| 13. Are there any areas on or around the location which are used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting, overwintering, migration, which could be affected by the project? | <p>Yes. Natura 2000 sites on or around the area of the proposed development are listed in Q11.</p> <p>The application area is used for migrating/transiting species including marine mammal, fish and birds. The proposed windfarm development area overlaps small parts of the cod, haddock and whiting spawning grounds and cod, whiting, hake, horse mackerel and mackerel nursery grounds. Herring nursery and spawning areas overlap parts of the cable corridors. SERIFF noted that the area is a fishery spawning and recruitment areas for herring and key inshore species such as lobster and crab.</p> | No. With the implementation of the specified mitigation measures, the proposed development is not likely to cause a significant adverse effect on migrating/transiting species or on fish.   |
| 14. Are there any inland, coastal, marine or underground waters (or features of the marine environment) on or around the location that could be affected by the project?   | Yes. The application area comprises coastal and marine waters. Refer to Q3, Q5, Q7 and Q8 above.   | No. Refer to Q3, Q5, Q7 and Q8 above. With the implementation of the specified mitigation measures, the proposed development is not likely to cause a significant adverse effect on coastal and marine waters.   |
| 15. Are there any areas or features of high landscape or scenic value on or around the location which could be affected by the project?  | Yes. Helvick Head and the coastline, inshore of the survey area, from Dungarvan Harbour to Hook Head are of high landscape and scenic value. The coastline from Tramore to Dungarvan has been designated the Copper Coast UNESCO Global GeoPark for features which include its natural landscapes. The road along the coast is part of the South East Coastal Drive.   | No. The vessels carrying out the geotechnical works will be active for the 6 – 7 months, the vessels conducting the geophysical surveys for 3 months and ecological sampling for 3 months. The static survey equipment, which will be inconspicuous from the shore, will be on station for a maximum of 36 months. The inshore area from Helvick Head to Hook Head is used by other marine traffic. The survey vessels and static equipment will not be a noticeable visual intrusion in views to seaward from the coast or coast road. The up-to-30 trial pits (10 per landfall at 3 landfalls) in the intertidal will be intrusive but will be present for a short period of time. |

| <b>Brief Project Description</b>   | <b>Yes/No</b>  | <b>Is this likely to result in a significant impact</b><br><b>Yes/No - Why</b>  |
|--|--|---|
| 16. Are there any routes or facilities on or around the location which are used by the public for access to recreation or other facilities, which could be affected by the project?                              | Yes. The inshore waters are used by recreational craft and sports fishing craft. The potential landfall sites are all beaches used for recreation.           | No. No information is given in the application but it is standard practice that there would be exclusion zones around the survey vessels when they are operating, which may disrupt or displace recreational craft. This disruption would be temporary and there are adequate alternative areas for these craft. The intertidal and subtidal shoreline surveys at the landfalls are expected to be of short duration and are expected to have an insignificant effect on the public recreation. |
| 17. Are there any transport routes on or around the location which are susceptible to congestion or which cause environmental problems, which could be affected by the project?                                  | No. While commercial shipping, fishing and recreational craft use the waters in the survey areas, these areas are not subject to congestion.                 | No.   |
| 18. Is the project in a location where it is likely to be highly visible to many people?   | Yes. There are many vantage points along the coastline from Helvick Head to Hook Head, and many popular beaches, from which the application area is visible. | No. The inshore area from Helvick Head to Hook Head is used by marine traffic. The survey vessels and floating buoys will not be a noticeable visual intrusion.   |
| 19. Are there any areas or features of historic or cultural importance on or around the location which could be affected by the project?   | Yes. Refer to Q11.   | No. Refer to Q11.   |
| 20. Is the project located in a previously undeveloped area where there will be loss of greenfield land?   | No.  | No.   |
| 21. Are there existing land uses on or around the location e.g. homes, gardens, other private property, industry, commerce, recreation, public open space, community facilities, agriculture, forestry, tourism, | Yes. The inshore waters are used by recreational craft. Refer to Q16 and Q17.  | No. Refer to Q16 and Q17.   |

| <b>Brief Project Description</b>   | <b>Yes/No</b>   | <b>Is this likely to result in a significant impact</b><br><b>Yes/No - Why</b>  |
|--|---|---|
| mining or quarrying which could be affected by the project?  |   |   |
| 22. Are there any plans for future land uses on or around the location which could be affected by the project?   | Yes. While the only known proposed future use of the wind farm area is the proposed wind farm, an area 15km to the south is the subject of a Foreshore licence application by SSE (FS0006983) for a site investigation for another wind farm, the Celtic Array.   | No. With the exception of two potential cable corridors, which are minimal relative to the overall area, the two applications do not overlap.   |
| 23. Are there any areas on or around the location which are densely populated or built-up, which could be affected by the project?   | No. There are small towns and villages in the general vicinity, but no densely populated areas.   | No.   |
| 24. Are there any areas on or around the location which are occupied by sensitive land uses e.g. hospitals, schools, places of worship, community facilities, which could be affected by the project?                                      | No.   | No.   |
| 25. Are there any areas on or around the location which contain important, high quality or scarce resources e.g. groundwater, surface waters, forestry, agriculture, fisheries, tourism, minerals, which could be affected by the project? | <p>Yes. The application area is used for commercial fishing, including demersal and pelagic trawling for whitefish, prawns and pelagic fish; static netting for whitefish and shellfish and potting for a wide range of shellfish species.</p> <p>The area has a high value as a marine sport fish zone, both for shore angling and boat fishing. The beaches at the mouth of the Colligan at Dungarvan are particularly prized for a range of sport fish species. Wrecks are marks of angling significance for deep-water anglers and charter boat skippers.</p> | <p>No. No information is given in the application but it is standard practice that there would be exclusion zones around the survey vessels when they are operating, which may disrupt or displace fishing boats. This disruption would be temporary and there are alternative areas for these craft. Fisheries Liaison Officers will be employed to liaise with the fishing community to minimise disruption.</p> <p>The effects would be temporary, localised and there are alternative fishing grounds available. The survey activities will affect a very limited area of the shore for a very short time period and there are alternative fishing grounds available.</p> |
| 26. Are there any areas on or around the location which are already subject to pollution or environmental  | No known areas.   | No.   |

| <b>Brief Project Description</b>  | <b>Yes/No</b>  | <b>Is this likely to result in a significant impact</b><br><b>Yes/No - Why</b>  |
|---|--|---|
| damage e.g. where existing legal environmental standards are exceeded, which could be affected by the project?  |  |   |
| 27. Is the project location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems? | Yes. The proposed survey area is susceptible to fog and severe weather conditions. | No. The survey vessels and static equipment will be appropriate for the weather and sea conditions likely to be experienced. The mitigation measures proposed, including adherence to strict maritime regulations, and normal vessel operating standards and precautions will ensure the risk from severe weather or fog will not present environmental problems. |

Using the EC Guidance checklist, no feature of the proposed development or its interaction with the surrounding environment, was identified, which is likely to result in a significant environmental effect.

## 6.5 Conclusion of EIA Screening

The conclusion of the EIA Screening is based on the following:

- the information provided in the licence application, including supporting documents,
- implementation of the mitigation measures proposed in the licence application and in the responses by the applicant to the submissions of the public and the observations of the prescribe bodies,
- the submissions from the public,
- the observations of the statutory consultees,
- the imposition of the licence conditions proposed by the Marine Survey Office, Marine Institute, Department of Agriculture, Food and the Marine, Inland Fisheries Ireland, Department of Housing, Planning and Local Government - Water and Marine Advisor, National Parks and Wildlife Service and Underwater Archaeology Unit of the National Monuments Service - in their observations, and
- compliance by the applicant with those licence conditions.

The nature, scale and location of the proposed development is such that significant effects on the environment are unlikely. It is the conclusion of Arup's EIA screening exercise that an EIA is not required.

## 7 Environmental Appraisal

Arup undertook an appraisal of the environmental effects of the proposed development based on the information provided in the licence application, the observations of the statutory consultees and the submissions by the public.

### 7.1 Population and human health

The proposed site investigation and surveys will be undertaken at sea, primarily in the offshore wind farm area, some distance from the coast. The primary interaction with the population will be with commercial and recreational fishing, commercial shipping and recreational boating. The surveys at the landfalls of the potential cable routes corridors may impinge on recreational users of the shoreline.

**Sections 4.5.2 to 4.5.7** above describe the potential impacts of the proposed works on these aspects of population and human health. It is considered that the potential disruption and adverse impact of the surveys and investigations on these activities will be temporary and short term. With the implementation of the mitigation measures described in **Section 4.6.3 to 4.6.8**, it is expected that there will not be a significant adverse impact on population and human health.

### 7.2 Biodiversity

**Section 4.5.1** above describes the potential impacts of the proposed works on Natura 2000 sites in particular and on biodiversity in general.

An Appropriate Assessment screening report was submitted with the application. In relation to the Natura 2000 sites, the conclusion of the report was that all intrusive works will be located outside of Natura 2000 sites and Annex I habitats and, therefore, there will not be a significant impact on these habitats or the conservation objectives of the respective Natura 2000 sites, in the absence of mitigation measures. The National Parks and Wildlife Service, in its observation on the application, concurred with this conclusion.

In relation to other biodiversity, it is considered that the potential disruption and adverse impact of the surveys and investigations on habitats and species will be very small scale, temporary and short term. With the implementation of the mitigation measures described in **Section 4.6.1 to 4.6.3**, there will not be a significant impact on biodiversity.

### 7.3 Water, Air and Climate

**Section 4.5.1** above describes the potential above water and underwater noise impacts of the proposed works. The impacts are expected to be localised and of short duration.

Intrusive works in the inshore part of the cable corridor to Clonea Strand have the potential to release heavy metals (lead, chromium, cadmium) due to the historic presence of a tannery and a cadmium factory in the vicinity.

In advance of intrusive works on this cable corridor, the applicant will communicate with the Marine Chemistry section of the Marine Institute to obtain any existing data for the area and seek their advice to determine if further investigation is required. If pre-existing heavy metal contamination is present in the sediments, the Applicant will take necessary measures to prevent dispersal towards the aquaculture operations.

Any other impacts on water quality would arise from temporary disturbance of sediment or from an accidental spill or leak. With the implementation of the mitigation measures described in **Section 4.6.2**, it is expected that there will not be a significant adverse impact on water quality.

There are not expected to be any significant impacts on climate nor any impacts on air quality.

## 7.4 Material Assets, Cultural Heritage and Landscape and Seascapes

The potential impacts on cultural heritage are described in **Section 4.5.5** above. With the implementation of the mitigation measures described in **Section 4.6.6**, it is expected that there will not be a significant adverse impact on cultural heritage.

The proposed works are expected to consume relatively small quantities of fuel and resources which are not in short supply. It is expected that there will not be a significant adverse impact on material assets.

The proposed works will require the presence of a small number of survey vessels off the coast for up to seven months. As the survey area is used by shipping and commercial fishing, the survey vessels in the area are not expected to be visually intrusive. The significance of the coastal landscape and the seascapes of the survey area is addressed in **Section 4.4.13** above. The near shore and intertidal surveys and geotechnical works will be visually intrusive for the users of the landfall beaches for a few weeks at most. Overall, the site investigation works are not expected to have a significant adverse impact on landscape or seascapes.

## 7.5 Major Accidents and Disaster

The survey area is not susceptible to earthquakes, subsidence, landslides, erosion or flooding. The proposed development location is susceptible to fog and severe weather conditions.

The survey vessels and static equipment will be appropriate for the weather conditions likely to be experienced. The mitigation measures proposed, including adherence to strict maritime regulations, and normal vessel operating standards and precautions will ensure the risk from severe weather or fog will not present environmental problems.

## 8 References

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Department of Arts, Heritage and the Gaeltacht *Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters* (2014)

Department of Communications, Climate Action and Environment *Guidance on EIS and NIS Preparation for Offshore Renewable Energy Projects* (2017)

Department of Housing, Planning, Community and Local Government (2018) *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (August 2018)*

Environmental Protection Agency *Revised Guidelines on the Information to be contained in Environmental Impact Statements* (Draft August 2017)

European Commission *Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment* (2014)

European Commission *Guidance on EIA Screening* (2017)

European Commission *Interpretation of definitions of project categories of annex I and II of the EIA Directive* (2015)

*Planning and Development Regulations SI 600 of 2001, as amended by S.I. 404 of 2018 European Union (Planning and Development) (Environmental Impact Assessment) (no 2) Regulations of 2018*