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**FORTHWIND LTD, OFFSHORE WIND DEMONSTRATION PROJECT, FIRTH OF
FORTH, OFFSHORE FROM METHIL, FIFE.**

**MARINE SCOTLAND - LICENSING OPERATIONS TEAM
SCOPING OPINION**

**THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT)
(SCOTLAND) REGULATIONS 2017 (AS AMENDED)**

**THE MARINE WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS
2017 (AS AMENDED)**

**SCOPING OPINION FOR THE PROPOSED SECTION 36 CONSENT AND
ASSOCIATED MARINE LICENCE APPLICATION(S) FOR INSTALLATION OF AN
OFFSHORE WIND DEMONSTRATION PROJECT**

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1 Executive Summary

1.1 Background to this scoping opinion

- 1.1.1 This is the scoping opinion adopted by the Scottish Ministers regarding the scope and level of detail of information to be provided in the Environment Impact Assessment Report (“EIA Report”) for the proposed Forthwind Ltd (“Forthwind”) Offshore Wind Demonstration Project (“the Development”) located offshore from Methil, Fife.
- 1.1.2 This scoping opinion relates to a new proposal by Forthwind (“the Developer”). The Development is situated in the same geographical area of the Firth of Forth as the previously consented Forthwind Offshore Wind Demonstration Project. (“Original Development”). Consents (section 36 and marine licence) were granted in 2016 for the construction and operation of the Original Development and associated export cable
- 1.1.3 The Development will demonstrate a new model offshore wind turbine technology, not currently available for commercial sale, to validate the technical and operational abilities of the new technology. The commitment to demonstrating new technology at the Development site, as opposed to commercially available technology, is reinforced by the restrictions within the Developer’s seabed Agreement for Lease granted by The Crown Estate Scotland specifically for technology demonstration.
- 1.1.4 This document sets out the Scottish Ministers’ opinion on the basis of the information provided in the Development’s Environmental Scoping Report (“[Scoping Report](#)”) dated 30 April 2019. This opinion can only reflect the proposal as currently described by the Developer and if any changes are made it is recommended to be re-scoped. The matters addressed by the Developer in the Scoping Report have been carefully considered and use has been made of professional judgement and experience in order to adopt this opinion. It should be noted that when it comes to consider the EIA Report, the Scottish Ministers will take account of relevant legislation and guidelines (as appropriate). The Scottish Ministers will not be precluded from requiring additional information if it is considered necessary in connection with the EIA Report submitted with that application when considering the application for section 36 consent and associated marine licence
- 1.1.5 The Scottish Ministers have consulted on the Scoping Report and the responses received have been taken into account in adopting this opinion. The Scottish Ministers are satisfied that the topics identified in the Scoping Report encompass those matters identified in The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (“the EW EIA Regulations”) (as amended) and The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended) (“the MW EIA Regulations”) (collectively referred to as the “2017 EIA Regulations”).
- 1.1.6 Matters are not scoped out unless specifically addressed and justified by the Developer and confirmed as being scoped out by the Scottish Ministers. The tables in section 2 - “Summary of scoping opinion” details which effects should

be scoped in and out and the reasons for that decision. The shaded boxes indicate those potential effects where Scottish Ministers disagree with the Developer on the scope of the assessment. The Scottish Ministers strongly advise ongoing communication with stakeholders when undertaking the assessment for the EIA Report to ensure that every opportunity is taken to identify and, if possible, resolve issues. The Developer should be aware that it may not be possible to resolve some issues and they should be aware that this means there is a risk the proposal may not be consented.

- 1.1.7 This scoping opinion is only valid for a period of 12 months from the date of issue. If an application is not received within 12 months then the Developer must contact the Scottish Ministers to determine whether this scoping opinion requires updating.

2 Introduction

2.1 The requirements for a scoping opinion

- 2.1.1 Referring to your email of 30 April 2019 requesting a scoping opinion from the Scottish Ministers under the regulation 14 of the MW EIA Regulations and regulation 12 of the EW EIA Regulations. The request was accompanied by a Scoping Report containing a description of the location of the works including a plan sufficient to identify the site which is the subject of the Development and a brief description of the nature and purpose of the Development and of its likely significant effects on the environment. The Scoping Report was accepted on 17 May 2019. It is noted that Forthwind plan to use information which supported the application for the Original Development to assist with the new application and EIA Report.
- 2.1.2 Under the 2017 EIA Regulations, Scottish Ministers are required to consider whether any proposal is likely to have a significant effect on the environment. Any proposal to construct or operate an offshore generating station with a capacity in excess of 1 megawatt (“MW”) and within 12 nautical miles (“NM”) requires Scottish Ministers’ consent under section 36 of The Electricity Act 1989 (“the Act”).
- 2.1.3 Schedule 9 of the Act places on the Developer a duty to “have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest” and to “do what he reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects”.
- 2.1.4 The Development falls under Schedule 2 of the EW EIA Regulations.
- 2.1.5 The Developer is required to give consideration to the UK Marine Policy Statement, Scotland’s National Marine Plan (“NMP”), Scottish Planning Policy, other relevant Policy and National Policy Planning Guidance, Planning Advice Notes, the relevant planning authority’s Development Plans and any relevant supplementary guidance.
- 2.1.6 With regard to your request for a scoping opinion on the proposed content of the required EIA Report, the Scottish Ministers have, in accordance with the 2017 EIA Regulations, considered the documentation provided to date and consulted with the appropriate consultation bodies and advisors in reaching their scoping opinion.
- 2.1.7 Please note that the EIA process is vital in generating an understanding of the biological, chemical and physical processes operating in and around the Development site and those that may be impacted by the proposed activities. We would however state that references made within the Scoping Report with regard to the significance of impacts should not prejudice the outcome of the EIA process. It is therefore expected that these processes will be fully assessed in the EIA Report unless scoped out.

2.1.8 The Scottish Ministers recommend that Forthwind engage with relevant stakeholders, prior to submission of any application, to help resolve any issues. Time could be saved post consent if agreements can be reached and agreed by both parties. Where disagreements remain it is suggested that Marine Scotland-Licensing Operations Team (“MS-LOT”) are included in discussions.

3 The Development

3.1 Description of the Development

3.1.1 The Development is located in the Firth of Forth at Methil, Scotland, with the nearest turbine located approximately 1.5km from the mean high water springs (“MHWS”) mark and the furthest turbine located approximately 3.5km from MHWS (Figure 1).

3.1.2 The Original Development received consent in 2016 with a generating capacity of up to 18MW, the Wind Turbines Generators (“WTG”) were to be as follows:

- two, two bladed WTG on a lattice tower extending to the seabed
- maximum hub height of 121 metres (above Lowest Astronomical Tide (“LAT”))
- maximum rotor tip height of 198.5 metres (above LAT)
- maximum rotor diameter of 155 metres
- minimum blade clearance to HAT 25 metres
- maximum blade swept area (per turbine) 18,86 meter²
- three pin piles/suction bucket
- steel/iron (per turbine) 292 tonnes
- two cables to shore 1800 metres (each)

3.1.3 In 2019 a variation was applied for, to increase the consented maximum generating capacity of the Original Development from 18MW to 29.9MW. A varied consent was issued on 30 May 2019 (“Varied Development”).

3.1.4 The WTG proposed for the Development are of a larger design than the Original Development, rated at 12 – 15MW with the following dimensions:

- two, three bladed WTG
- maximum hub height of 137.5 metres (above Highest Astronomical Tide (“HAT”)),
- maximum rotor tip height of 250 metres (above HAT)
- maximum rotor diameter of 225 metres
- minimum blade clearance to HAT 25 metres
- maximum blade swept area (per turbine) 39,804 m²
- pin piles/suction bucket or gravity base foundations
- steel/iron per turbine 172 tonnes
- two cables to shore, one 1800 metre, one 3300 metres
- concrete, armour stone and concrete bags/mattresses

3.1.5 Forthwind have proposed two locations for the WTG. “Option A” is siting the two

WTGs in the same locations as consented in the Original Development. See figure 1 below.

3.1.6 “Option B” is locating one WTG in location ‘turbine 1’ as shown in figure 1 and locating the second WTG further offshore approximately 3.5km from Methil (Turbine 2 (b) as shown in Figure 1).

3.1.7 The final decision on which location will be chosen (either Option A or Option B but not both) for the second WTG is dependent upon stakeholder feedback on the Scoping Report.

3.1.8 Forthwind propose deployment of these WTG for no more than 25 years from final commissioning. The cable and the cable landfall point will be within the red line detailed in Figure 1.

3.1.9 Forthwind have stated that this remains a demonstration and test project and as such will demonstrate a new model of offshore WTG technology requiring validation in an offshore environment prior to being offered commercially. The aspects of offshore wind turbine technology to be demonstrated include:

- Turbine performance, and turbine load simulation models
- Turbine assembly processes
- Offshore installation processes
- Validation of tooling and equipment specifically designed for the turbine
- Development of the turbine supply chain (local and international)
- Maintenance and servicing arrangements

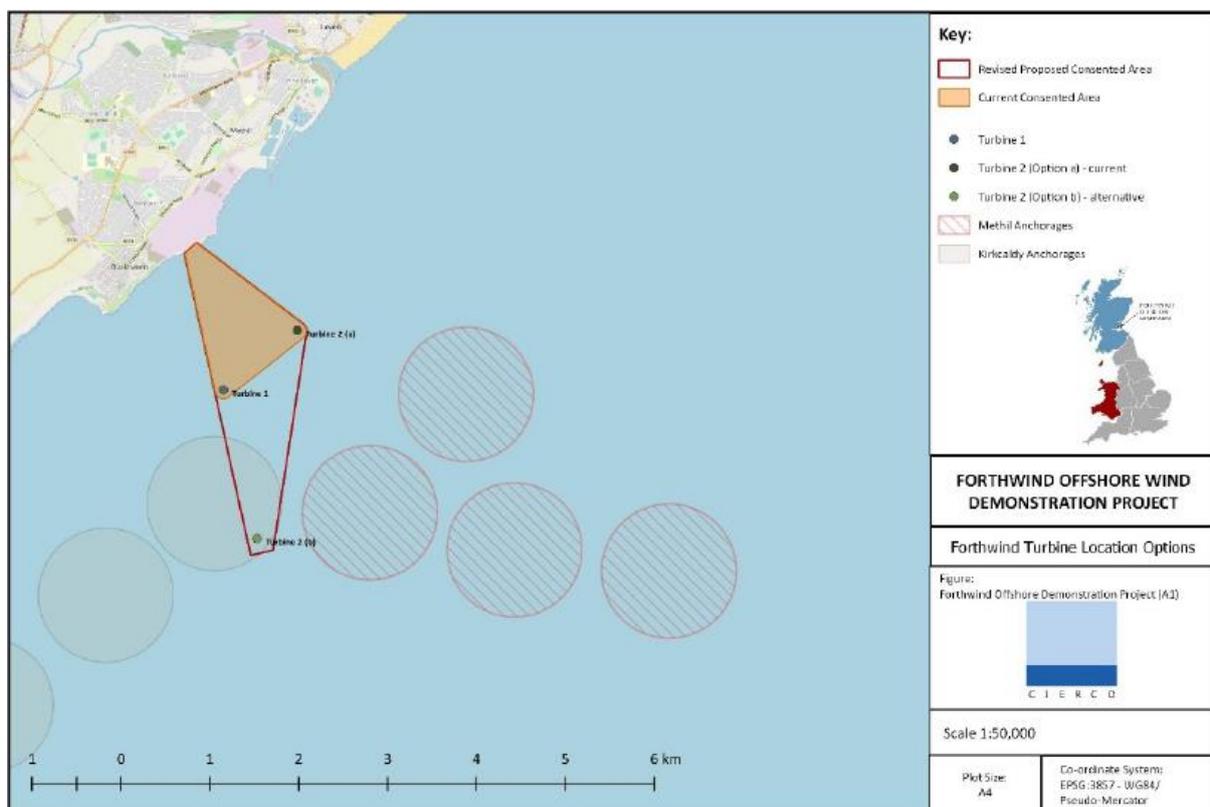


Figure 1: Location of the Development

4 Scoping

4.1 Aim of Scoping

- 4.1.1 Scoping is a key phase, providing an opportunity to identify those potentially significant environmental effects that should be considered for further assessment in the EIA Report.
- 4.1.2 This includes the scope of impacts to be addressed and may identify the method of assessment to be used. The scoping process also allows consultees to have early input into the EIA process, to specify their concerns and to supply information that could be pertinent to the EIA process. In association with any comments herein, full regard has been given to the information contained within the Scoping Report submitted.
- 4.1.3 The Scottish Ministers have also used this opportunity to provide advice in relation to the licensing requirements in addition to the EIA requirements, see Appendix II.

5 Consultation

5.1 Consultation Process

5.1.1 On receipt of the Scoping Report, the Scottish Ministers, initiated a consultation, which commenced on 17 May 2019. The following bodies were consulted, those marked in bold provided a response, those marked in italics sent nil returns or stated that they had no comments:

- *Association of salmon fishers board (“ASFB”)*
- *Anstruther harbour Marina (“AHM”)*
- **British Telecom (“BT”)**
- **Chamber of Shipping (“COS”)**
- *Civil Aviation authority (“CAA”)*
- *Cockenzie & Port Seton Fishermen’s Association (“CPSFA”)*
- **Defence Infrastructure Organisation (“DIO”)**
- *Dysart Sailing Club (“DSC”)*
- **East Lothian council (“ELC”)**
- *Edinburgh City Council (“ECC”)*
- **Edinburgh Airport (“EA”)**
- *East Lothian Yacht Club (“ELYC”)*
- *Elie & Earlsferry Sailing Club (“EESC”)*
- **Fife Council (“FC”)**
- *Fife Fishermen’s Mutual Association (Pittenweem) Ltd (“FFMAL”)*
- **Forth Ports (“FP”)**
- *Forth Salmon Fishery Board (“FSFB”)*
- **Historic Environment Scotland (“HES”)**
- *Inshore Fishermen’s Alliance (“IFA”)*
- *Inshore fishery’s Group (“IFG”)*
- **Joint Radio Company (“JRC”)**
- *Largo Bay Sailing Club (“LBSC”)*
- *Levenmouth Demonstration Turbine (“LDT”)*
- *Marine Safety Forum (“MSF”)*
- **Maritime & Coastguard Agency (“MCA”)**
- *Marine Scotland Compliance (“MSC”)*
- *Marine Scotland Planning & Policy (“MSP”)*
- **National Air Traffic Services (“NATS”)**
- *Methil Creel Fishermen (“MCF”)*
- **Northern Lighthouse Board (“NLB”)**
- **Offshore Renewable Energy Catapult (“OREC”)**
- *Ports and Harbours (“PH”)*
- **Royal Yachting Association (“RYA”)**
- **Royal Society for the Protection of Birds Scotland (“RSPB”)**
- *Salmon Net Fishing Association of Scotland (“SNFAS”)*
- *Scottish Environment Protection Agency (“SEPA”)*
- **Scottish Fishermen’s Federation (“SFF”)**
- **Scottish Natural Heritage (“SNH”)**
- *Scottish Government Planning (“SGP”)*

- *Scottish canoeing Association (“SCA”)*
- *Scottish fisherman’s organisation (“SFO”)*
- *Scottish Surfing Federation (“SSF”)*
- *Scottish Wildlife Trust (“SWT”)*
- *Scottish Wild Salmon Company (“SWSC”)*
- *Scottish Pelagic Fishermen’s Association (“SPFA”)*
- *Scottish Creel Fishermen’s Federation (“SCFF”)*
- *Sport Scotland (SS)*
- *Surfers Against Sewage (“SAF”)*
- *Scallop Association (“SA”)*
- *The Crown Estate (“TCE”)*
- **Transport Scotland (“TS”)**
- *Visit Scotland (“VS”)*
- *Whale and Dolphin Conservation (“WDC”)*
- *10 metre and under Association (“10M&UA”)*

5.1.2 From the list above a total of 18 responses were received. Advice was also sought from Marine Scotland Science (“MSS”) and the Marine Analytic Unit (“MAU”). The purpose of the consultation was to obtain advice and guidance from each consultee or advisor in respect of the information which each of them believe should be scoped in or out of the EIA Report.

5.1.3 The Scottish Ministers are satisfied that the requirements for consultation have been met in accordance with the 2017 EIA Regulations. The sections below highlight issues which are of particular importance with regards to the EIA Report and any marine licence application(s). Full consultation responses are attached in Appendix I and each should be read in full for detailed requirements from individual consultees.

5.1.4 The Scottish Ministers expect all consultee concerns to be addressed in the EIA Report unless otherwise stated.

6 Contents of the Environmental Impact Assessment Report

6.1 Requirements from the EIA Regulations

6.1.1 The 2017 EIA Regulations require that the EIA Report is prepared by competent experts and must be accompanied by a statement from the applicant outlining the relevant expertise or qualification of those experts.

6.1.2 The EIA Report must be based on the scoping opinion and must include the information that may be reasonably required for reaching a reasoned conclusion, which is up to date, on the significant effects of the development on the environment, taking into account current knowledge and methods of assessment.

6.2 EU Guidance

6.2.1 [EU guidance on the preparation of an EIA Report](#) identifies the following qualities of a good EIA Report:

- Includes a clear structure with a logical sequence, for example describing existing baseline conditions, predicted impacts (nature, extent and magnitude), scope for mitigation, agreed mitigation measures, significance of unavoidable/residual impacts for each environmental topic.
- Includes a table of contents at the beginning of the document.
- Includes a clear description of the development consent procedure and how EIA fits within it.
- Reads as a single document with appropriate cross-referencing.
- Is concise, comprehensive and objective.
- Is written in an impartial manner without bias.
- Includes a full description of the development proposals.
- Makes effective use of diagrams, illustrations, photographs and other graphics to support the text.
- Uses consistent terminology with a glossary.
- References all information sources used.
- Has a clear explanation of complex issues.
- Contains a good description of the methods used for the studies of each environmental topic.
- Covers each environmental topic in a way which is proportionate to its importance.
- Provides evidence of good consultations.
- Includes a clear discussion of alternatives.
- Makes a commitment to mitigation (with a programme) and to monitoring.
- Has a Non-Technical Summary (“NTS”) which does not contain technical jargon
- Further guidance can be found at <http://ec.europa.eu/environment/eia/eia-support.htm>

6.3 Non-Technical Summary (“NTS”)

6.3.1 This should be a concise stand-alone document written in a manner that is appealing to read and easily understood. The NTS should highlight key points set out in the EIA Report. The non-technical summary should include:

- a description of the project including a map and figures as appropriate;
- a description of the likely significant effects and main environmental impacts the project is likely to have;
- a description of the measures envisaged to prevent, reduce and offset any significant adverse effects; and
- an outline of the main alternatives studied, including an indication of the main reasons for the primary choice of the project, taking into account the environmental effects of those alternatives and the project as proposed.

6.4 Mitigation

6.4.1 Within the EIA Report, it is important that all mitigating measures are:

- clearly stated;
- accurate;
- assessed for their environmental effects;
- assessed for their effectiveness;
- fully described with regards to their implementation and monitoring, and
- described in relation to any consents or conditions.

6.4.2 The EIA Report should contain a mitigation table providing details of all proposed mitigation discussed in the various chapters. Refer to Appendix I for consultee comments on specific baseline assessment and mitigation.

6.4.3 Where potential environmental impacts have been fully investigated but found to be of little or no significance, it is sufficient to validate that part of the assessment by stating in the EIA Report:

- the work has been undertaken;
- what this has shown i.e. what impact if any has been identified, and
- why it is not significant?

6.5 Design Envelope

6.5.1 Where flexibility in the design envelope is required, this must be defined within the EIA Report and the reasons for requiring such flexibility clearly stated. The Developer must also describe the criteria for selecting the worst case, and the most likely, scenario, and the impacts arising from these. The Scottish Ministers will determine the application based on the worst case scenario.

6.5.2 The EIA Report will reduce the degree of design flexibility required and that the detail will be further refined in a Construction Method Statement (“CMS”) to be submitted to the Scottish Ministers, for their approval, before works commence. Please note however the information provided in section 12 regarding multi-

stage regulatory consent. The CMS will freeze the design of the project and will be reviewed by the Scottish Minister to ensure that the worst case scenario described in the EIA Report is not exceeded.

6.6 Consideration of Alternatives

6.6.1 The EIA Regulations require that the Applicant provide an outline of the main alternatives studied by the applicant and an indication of the main reasons for the applicant's choice, taking into account the environmental effects. This should be included in the EIA Report.

7 Habitats & Birds Directives & Habitats Regulations

7.1 Background

7.1.1 The two most influential pieces of European legislation relating to nature conservation are the Habitats and Birds Directives. The Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora was adopted in 1992 and is commonly known as the Habitats Directive. It complements and amends (for classified SPAs) Directive 2009/147/EC of the European Parliament and of the Council on the conservation of wild birds (this is the codified version of Directive 79/409/EEC as amended), commonly known as the Birds Directive.

7.1.2 The Birds Directive protects all wild birds, their nests, eggs and habitats within the European Community. It gives EU member states the power and responsibility to classify Special Protection Areas ("SPAs") to protect birds which are rare or vulnerable in Europe as well as all migratory birds which are regular visitors.

7.1.3 The Habitats Directive builds on the Birds Directive by protecting natural habitats and other species of wild plants and animals. Together with the Birds Directive, it underpins a European network of protected areas known as Natura 2000 comprising SPAs classified under the Birds Directive and Special Areas of Conservation ("SACs") designated under the Habitats Directive.

7.1.4 The Habitats and the Birds Directive are transposed into domestic law in Scotland by the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended). Certain provisions of The Conservation of Habitats and Species Regulations 2017, (as amended) apply to Natura sites in Scotland where they may be affected by activities consented under section 36 or section 37 of the Electricity Act 1989. These regulations are collectively referred to as (the Habitats Regulations").

7.2 Habitats Regulations Appraisal

7.2.1 Where a plan or project could affect a Natura site, the Habitats Regulations require the competent authority (in this case Scottish Ministers) to:

- determine whether the proposal is directly connected with or necessary to site management for conservation; and, if not,
- determine whether the proposal is likely to have a significant effect on the site either individually or in combination with other plans or projects; and, if so,
- then make an appropriate assessment of the implications (of the proposal) for the site in view of that site's conservation objectives.

7.2.2 This process is now commonly referred to as Habitats Regulations Appraisal (“HRA”). HRA applies to any plan or project which has the potential to affect the qualifying features of a Natura site, even when those features may be at some distance from that site.

7.2.3 The Scottish Ministers, with advice from SNH, decides whether an appropriate assessment is necessary and carries it out if so. It is the applicant who is usually required to provide the information to inform the assessment. Appropriate assessment focuses exclusively on the qualifying features of the Natura site affected and their conservation objectives. A plan or project can only be consented if it can be ascertained that it will not adversely affect the integrity of a Natura site (subject to derogation considerations).

7.3 Further information and advice on HRA

7.3.1 Further information on the qualifying features and the conservation objectives for each relevant Natura site is available from the [SNH Sitelink](#) database.

7.3.2 For further advice on the HRA process we direct Forthwind Ltd to the SNH website, including the leaflet on “[natura sites and habitats regulations](#)” which provides a helpful summary. Some of the key concepts are explained in the [European Commission's guidance on Article 6 of the Habitats Directive](#).

7.4 Proposed Special Protection Area

7.4.1 Information regarding HRA requirements is also included in the ornithology and marine mammal sections of this scoping opinion. In addition to sites already designated, it has been highlighted in this scoping opinion that it will be necessary for Forthwind to consider the Outer Firth of Forth and St. Andrews Bay Complex proposed Special Protection Area (“pSPA”). In Scotland pSPAs receive policy protection, which effectively puts such sites in the same position as designated sites, from the point of consultation until a decision on classification of the site is made. This policy protection for pSPAs is provided by Scottish Planning Policy (paragraph 210), the UK Marine Policy Statement (paragraph 3.1.3) and the National Marine Plan for Scotland (paragraph 4.45).

7.4.2 The conservation objectives and information for the Outer Firth of Forth and St Andrews Bay Complex pSPA are currently in draft, further details can be found [here](#).

7.5 HRA Report – information to inform the appropriate assessment

7.5.1 Scottish Ministers advise that the HRA Report (information to inform the AA) must be submitted along with the EIA Report. It is appropriate for the HRA Report to form a chapter within the EIA Report.

8 Impacts and Receptors

8.1 Receptors to be Considered Within the Environmental Impact Assessment

- 8.1.1 This section contains a summary of the main points raised by consultees and the Scottish Ministers' opinion on whether potential effects should be scoped in or out of the EIA Report.
- 8.1.2 The consultation responses are contained in Appendix I and Forthwind is strongly advised to carefully consider these responses and use the advice and guidance contained within them and the Scottish Ministers' decisions regarding the advice to inform the EIA Report.
- 8.1.3 The Developer has used an Environmental Statement ("ES") undertaken for the Original Development for much of the baseline information in their Scoping Report and this is referred to as the 2015 ES in this document. Although some of the information from the 2015 ES will help to inform the EIA Report to be submitted for the current project, the EIA Report should be a standalone document without any requirement to refer to the 2015 ES.
- 8.1.4 All potential significant impacts must be reported within the EIA Report for the Development application regardless of whether additional assessment is required from that previously undertaken in the 2015 ES for the Original Development. Relevant conditions attached to the Original Development consents should also be detailed in the EIA Report.

8.2 Airborne Noise and Shadow Flicker

- 8.2.1 Table 1 summarises the potential effects relating to airborne noise and shadow flicker, with those that the developer has suggested to be scoped in marked as "✓" and those that the developer has suggested to be scoped out marked as "x". Where the boxes are shaded grey, the scoping opinion differs to the view presented by the Developer in the Scoping Report.

Table 1: Summary of the potential effects of airborne noise and shadow flicker to be scoped in or out.

Potential effects	construction	Operation	Decommissioning	Rationale
Airborne Noise	x	✓	x	The Scottish Ministers agree with the consultees comments however, do require new data to be collected to update the 2015 base line data.

Cumulative Noise	x	✓	x	The Scottish Ministers require that a new Cumulative Noise assessment is carried out with ORE Catapult.
Shadow Flicker	x	✓	x	The Scottish Ministers require that a cumulative assessment is carried out which includes any effects from Levenmouth Demonstration Turbine.

8.2.2 ORE Catapult (“OREC”) submitted comments at consultation. OREC stated that baseline data collected in 2015 would be too old to reflect the current situation and advised that new baseline data should be collected. OREC also stated that a cumulative assessment for shadow flicker should be carried out which includes any effects arising from the Levenmouth Demonstration Turbine (“LDT”) and other windfarm developments within the potential shadow flicker zone.

8.2.3 The Scottish Ministers require that the Developer collect new baseline data to update the 2015 baseline data and require that a cumulative assessment for shadow flicker is carried out which includes any effects arising from the LDT and other windfarm developments within the potential shadow flicker zone.

8.3 Shipping and Navigation

8.3.1 Table 2 summarises the potential effects relating to shipping and navigation, with those that the developer has suggested to be scoped in marked as “✓” and those that the developer has suggested to be scoped out marked as “x”. Where the boxes are shaded grey, the scoping opinion differs to the view presented by the Developer in the Scoping Report.

Table 2: Summary of the potential effects on shipping and navigation to be scoped in or out.

Potential Effects	Construction	Operation	Decommissioning	Rationale
Collision risk to commercial, fishing and recreational fishing vessels.	✓	✓	✓	The Scottish Ministers agree
Shipping and Navigation assessment	x	x	x	Based on consultation responses received, the Scottish Ministers require this to be scoped in and a new Navigational Risk Assessment to be undertaken.
Risk of grounding on a subsea cable protection	x	✓	x	The Scottish Ministers agree
EMF Interference	x	x	x	The Scottish Ministers agree
Effects on Communication, Radar and Positioning Systems	x	x	x	The Scottish Ministers agree
Disruption to SAR Operations (including risk management and emergency response)	x	x	x	Based on consultation responses received, the Scottish Ministers require this to be scoped in.

8.3.2 The Defence Infrastructure Organisation (“DIO”) and NATS Safeguarding (“NATS”) state that they have no objection to the Development and suggest that due to the scale of the project it should not have an adverse effect on its operations so agree that the receptors as detailed in Table 2 can be scoped out. The DIO further confirms that the Met Office is a statutory consultee for planning applications relating to their technical infrastructure and therefore should the Development fall within the Met Office safeguarded zones the Developer will

need to contact the Met Office directly.

- 8.3.3 The Maritime and Coastguard Agency (“MCA”) notes a Navigational Risk Assessment (“NRA”) will be required. It also notes that an NRA was undertaken in 2015 and as a result the Developer wishes to scope out certain aspects for further assessment. The MCA is unclear which aspects are to be scoped out and would be content to discuss this with the Developer. The Scottish Ministers require that the Developer engages with the MCA.
- 8.3.4 The MCA advises that the shipping and navigation study should provide updated data on the 2015 NRA and notes that the Developer has provided information regarding how this will be achieved. The Scottish Ministers agree with the consultee comments.
- 8.3.5 The MCA advises that considerations will need to be given for SAR resources and Emergency Response Co-operation Plans.
- 8.3.6 The MCA states that if shipping and navigation aspects are undertaken in accordance with Marine Guidance Note 543, it is likely to be content.
- 8.3.7 Forth Ports state that they have not agreed to provide AIS data for review as stated in the Scoping Report, but have agreed to check what could be made available. The Scottish Ministers request that the Developer engages with Forth Ports and agrees on the information which can be made available for future use.
- 8.3.8 The NLB state that a Navigational Safety Plan and a Lighting and Marking Plan are required. The Scottish Ministers agree.
- 8.3.9 The Scottish Ministers require an NRA to be undertaken and that Disruption to SAR Operations (including risk management and emergency response) is scoped in. If any aspects are to be scoped out of this assessment, this must be agreed with the MCA and evidence provided to the Scottish Ministers.

8.4 Commercial Fisheries

8.4.1 Table 3 was provided by the Developer to summarise the potential effects relating to commercial fisheries, with those that the developer has suggested to be scoped in marked as “✓” and those that the developer has suggested to be scoped out marked as “x”. Where the boxes are shaded grey, the scoping opinion differs to the view presented by the Developer in the Scoping Report.

Table 3 The Developers summary of the potential effects on commercial fisheries to be scoped in or out.

Potential Effects	Construction	Operation	Decommissioning	Rationale
Commercial Fisheries Assessment.	x	x	x	The Scottish Ministers have taken account of consultation responses received, and require this to be scoped in during all phases and that a Commercial Fisheries Assessment is undertaken.
Displacement or complete loss from traditional fishing grounds	✓	✓	✓	The Scottish Ministers agree.
Snagging and collision risk to commercial and recreational fishing vessels.	x	x	x	The Scottish Ministers agree with approach to cover this receptor in the shipping and navigation section.
Effect on the fish and shellfish population	✓	✓	✓	The Scottish Ministers agree.

8.4.2 The Scottish Fishermen’s Federation (“SFF”) expressed concern that previous applications had been followed by applications for expanded projects and stated that commercial fisheries must be scoped in to the EIA Report.

8.4.3 Marine Scotland Science (“MSS”) is broadly content with the content of the scoping Report with regard to commercial fisheries. Previous advice submitted by MSS on this interest found that given the small scale and the location and the work involved, the Development is unlikely to have significant unmitigated

effects on commercial fisheries and this remains the case with the inclusion of turbine 2(b).

- 8.4.4 MSS highlights section 8.2 which indicates that information will be gathered from the salmon and sea trout catch statistics published by Marine Scotland in 2012 which are for 2011. MSS notes that data for up to 2018 are now online <https://www2.gov.scot/Topics/marine/Publications/stats/SalmonSeaTroutCatches> along with, in the case of salmon, the latest assessments of the state of the salmon populations in each river, which determine whether any salmon can be retained by anglers.
- 8.4.5 MSS further advises that section 8.2 also indicates that the Association of Salmon Fishery Boards will be contacted. This body no longer exists. There is now Fisheries Management Scotland (FMS) which represents many Salmon Fishery Boards and Fisheries Trusts. The local bodies are the Forth District Salmon Fishery Board and the Forth Rivers Trust.
- 8.4.6 The East Lothian Council (“ELC”) states that for transparency it would be preferable if the impacts as shown in the original ES are included or referred to, to allow members of the public to take a view on the effectiveness of mitigation. ELC also are content that no further studies will need to be done if the turbines are located in the same position as already consented.
- 8.4.7 The Scottish Ministers require that the Developer includes the impacts as shown in the original ES to provide evidence on the effectiveness of mitigation.
- 8.4.8 The Scottish Ministers require the assessments undertaken for the Original Development are updated and require that commercial fisheries are scoped in for all sites.

8.5 Seascape, Landscape and Visual Resources

8.5.1 Table 4 was provided by the Developer to summarise the potential effects relating to landscape and visual receptors, with those that the developer has suggested to be are scoped in marked as “✓” and those that the developer has suggested to be scoped out marked as “x”. Where the boxes are shaded grey, the scoping opinion differs to the view presented by the Developer in the Scoping Report.

Table 4 The Developers summary of the potential effects on seascape, landscape and visual resources to be scoped in or out.

Potential Effects	Construction	Operation	Decommissioning	Rationale
Seascape, landscape and visual, and cumulative effects, of the proposed development on seascape, landscape and visual receptors beyond 45 km radius study area.	x	x	x	Based on consultation responses received, the Scottish Ministers do not agree that seascape and visual and cumulative effects of the Development on seascape, landscape and visual receptors beyond 45km radius study area can be scoped out. The Scottish Ministers require the study area to be increased to 50km.
Effects of the proposed development (including cumulative) on seascape and landscape character of Fife and its Firth of Forth coastline, within 45 km radius study area.	✓	✓	✓	Based on consultation responses received, the Scottish Ministers require the study area to be increased to 50km.

Potential Effects	Construction	Operation	Decommissioning	Rationale
Visual effects of the proposed development (including cumulative) on visual receptors and views within the (“Zones of Theoretical Visibility”) ZTV in 45 km radius study area.	✓	✓	✓	Based on consultation responses received, the Scottish Ministers require the study area to be increased to 50km.
Effects of the proposed development (including cumulative) on seascape and landscape character of East Lothian and Edinburgh and their Firth of Forth coastlines, within 45 km radius study area.	x	x	x	The Scottish Ministers support the responses received at consultation and do not agree that the visual effects of the Development can be scoped out. The Scottish Ministers require that these are scoped in during construction, operation and decommissioning and highlight that the ELC requires additional discussion.
Visual effects of the proposed development (including cumulative) on visual receptors and views outwith the ZTV.	x	x	x	The Scottish Ministers agree

8.5.2 Scottish Natural Heritage (“SNH”), ELC and Historic Environment Scotland (“HES”) provided comments on the seascape, landscape and visual resources. SNH notes that the worst case scenario is considered to be Option B (due to the location of the second turbine). SNH recommends that a 50km study area is used, rather than the 45km study area identified in the scoping Report. SNH

also recommends the views of all consultees are taken into account to determine the extent of local character assessment including the Zone of Theoretical Visibility (“ZTV”).

- 8.5.3 SNH suggest that the increase in turbine size could be modelled and outputs presented as composite or individual ZTVs.
- 8.5.4 ELC agrees that significant effects are most likely to be found within 25km. ELC comments that Paragraph 9.2 of the scoping Report states that the worst case for SLVIA is turbine locations 1 and 2(b). ELC note that no justification has been provided for this statement and request that both potential locations for the second turbine are included in the visual assessment. ELC also have listed sites which should be included as they may have visibility.(see response).
- 8.5.5 ELC stated that the assessment of Inch Cape and Neart Na Gaoite would be the worst case and agreed that Seagreen does not need to be assessed however should be noted. HES stated that all consented and proposed wind farm developments within the surrounding area should be included into the assessment.
- 8.5.6 ELC, also state that temporary oil rig berths in the Firth of Forth are included in the cumulative SLVIA assessment. It also considers night time views should be included in the SLVIA and mitigation explored. ELC requests to be consulted along with SNH and Fife Council on the SLVIA methodology.
- 8.5.7 ELC notes that the Development has the potential to affect coastal character when viewed from North Berwick and requests further discussion in regard to this.
- 8.5.8 ELC also have listed sites which should be included as they may have visibility (see response).
- 8.5.9 Fife council request that one of the viewpoints included for the visual assessment is the public car park off Pettycur Road in Kinghorn (general grid ref. 326960 686657).
- 8.5.10 The Scottish Ministers do not agree that the seascape, landscape and visual and cumulative effects of the Development on seascape, landscape and visual receptors beyond 45km radius study area can be scoped out. The Scottish Ministers require the study area to be increased to 50km and also that the cumulative effects of the Forth and Tay developments are assessed.

8.6 Archaeology and Cultural Heritage

8.6.1 Table 5 was provided by the Developer to summarise the potential effects relating to archaeology and cultural heritage, with those that the developer has suggested to be are scoped in marked as “√” and those that the developer has suggested to be scoped out marked as “x”. Where the boxes are shaded grey, the scoping opinion differs to the view presented by the Developer in the Scoping Report.

Table 5 The Developers summary of the potential effects on archaeology and cultural heritage to be scoped in or out.

Potential Effects	Construction	Operation	Decommissioning	Rationale
Direct physical effects	x	x	x	Scottish Ministers agree
Indirect Visual effects	x	√	x	In line with the consultation responses, the Scottish ministers agree that the boundary of the assessment will not reflect the potential indirect impacts and require this receptor is scoped in and also that a 35km boundary must be scoped in.
Marine Archaeology	x	x	x	The Scottish Ministers agree with the consultee comments that that there is insufficient information to scope out marine archaeology and therefore request that this is scoped in.

8.6.2 HES advise that any assessment should pay particular attention to the

following terrestrial heritage assets:

- MacDuff's Castle and the Caves at East Wemyss (Scheduled Monument, Index no. 817);
- Wemyss Castle (Inventory Designed Landscape, GDL384); and
- Wemyss Castle (Category A listed building, LB16709).

8.6.3 HES recommends the use to ZTV analysis to identify additional terrestrial assets which may be affected by the proposal and consideration should also be given to turbines which may be in view behind heritage assets not included in within the ZTV. It also recommends the use of appropriate visualisations to support the assessment and notes a visualisation from the following locations would be helpful;

- Fife Coastal path in the vicinity of Jonathan's Cave towards the Development;
- MacDuff's Castle; and
- Wemyss Castle (Inventory Designed Landscape).

8.6.4 HES does not consider that enough information has been presented to scope out Marine Archaeology for the EIA Report. Further information about previously undertaken surveys including, dates and areas is required. The information should also include an explicit consideration of where sandbanks or large mobile bedforms may affect the marine archaeological potential for the site.

8.6.5 HES notes that neither the timing of the magnetometer survey nor how results will be analysed is stated in the Scoping Report. It is also unclear why a magnetometer survey is proposed in favour of other survey types. HES expects that any additional survey work is undertaken early in the EIA process to ensure that if archaeological features are encountered they are not only identified and recorded, but actively avoided by windfarm infrastructure if necessary.

8.6.6 ELC comments that the 15km boundary for the assessment will not reflect the potential indirect impacts on key receptors. ELC recommend that a 35km radius and key receptors are included in the assessment.

8.6.7 ELC also advise that the assessment should consider assets recorded on the respective council Historic Environment Record rather than just those recommended by HES.

8.6.8 The Scottish Ministers do not agree that marine archaeology and cultural heritage can be scoped out, this must be scoped in. In addition the assessment should consider assets recorded on the respective council Historic Environment Record. The Scottish Ministers require a 35km radius and key receptors are scoped in. and require that the study area includes the cumulative effects of the Forth and Tay developments.

8.7 Offshore Ecology (Ornithology, Marine Mammals and Fish / Shellfish)

8.7.1 Table 6 was provided by the Developer to summarise the potential effects relating to offshore ecology (ornithology, marine mammals and fish/shellfish), with those that the developer has suggested to be are scoped in marked as “P” and those that the developer has suggested to be scoped out marked as “x”. Where the boxes are shaded grey, the scoping opinion differs to the view presented by the Developer in the Scoping Report.

Table 6 The Developers summary of the potential effects on offshore ecology (ornithology, marine mammals and fish/shellfish) to be scoped in or out.

Potential Effects	Construction	Operation	Decommissioning	Rationale
Birds				
Collision	x	✓	x	Scottish Ministers Based on the consultation responses received, the Scottish Ministers require that collision impacts are scoped in for the operational phase. It is essential that assessment methodology is agreed with RSPB, SNH and MSS.
Displacement	✓	✓	✓	The Scottish Ministers agree
Barrier Effects	x	x	x	The Scottish Ministers agree with consultee comments and require this to be scope din and that further assessment is required.
Indirect Effects	x	x	x	The Scottish ministers agree

Potential Effects	Construction	Operation	Decommissioning	Rationale
Cumulative Effects	✓	✓	✓	The Scottish Ministers agree
Marine Mammals				
Increased underwater noise	✓	x	x	Based on consultation responses received, the Scottish Ministers require the impacts of underwater noise on marine mammals during decommissioning to be scoped in.
Increased vessels	x	x	x	The Scottish Ministers agree
Changes in electromagnetic fields	x	x	x	The Scottish Ministers agree
Entanglement	x	x	x	The Scottish Ministers agree
Indirect effects	x	x	x	The Scottish Ministers agree
Cumulative effects	✓	✓	✓	The Scottish Ministers agree
Fish / Shellfish				
Direct effect	x	x	x	The Scottish Ministers agree
EMF effect	x	x	x	The Scottish Ministers agree
Accidental Spillage	x	x	x	The Scottish Ministers agree

Birds

- 8.7.2 The Royal Society for the Protection of Birds, Scotland (“RSPB Scotland”), suggest that the cumulative impact of this proposal with other offshore developments is required. The large commercial scale offshore wind farm projects in the Firths of Forth and Tay region will be particularly relevant with seabird population scale impacts needing to be a focus in the assessment.
- 8.7.3 RSPB Scotland highlights the use of data collected pre-2015 to inform assessment of Option 1 turbine layout and data from pre-2017 used for Option 2 layout. RSPB Scotland has confirmed that the older the data supporting the environmental assessment the more uncertainty there is in the conclusions. Therefore RSPB Scotland requests full and detailed justification in the assessment to demonstrate that the underlying survey data is adequate and suitably robust for the purposes of defining the potential impacts. Additionally, expression of uncertainty in assessment outputs is necessary. RSPB Scotland also comments that collision risk modelling will require appropriate survey data. This is important when considering the suitability of using data collected from different survey methods.
- 8.7.4 RSPB Scotland also states, with regard to Table 23 of the Scoping Report that it does not support the percentages presented in the guides to assessing magnitude of effect. Magnitude of effect is dependent on the species and population being assessed and using a generic percentage value of impact will not account for the specifics of the species and population being assessed. Therefore the guide could be very misleading and misrepresent significance.
- 8.7.5 RSPB Scotland advises that in addition to its specific comments provided in relation to this scoping request, its previous submissions to related applications and variations remain pertinent to the Development and should be taken in to account.
- 8.7.6 SNH have stated regarding birds, that the Scoping Report does not provide a clear account of how impacts to ornithological interests will be addressed for this new application. SNH provided initial thinking on how the Developer can make best use of their existing data however they strongly advise the need for further pre-application discussion to agree in writing a draft method statement for ornithological impact assessment prior to the submission of any application.
- 8.7.7 In addition, SNH have stated that Appendix D of the Scoping Report summarises their scoping advice for the 9 turbine proposal, where SNH raised some concerns about the use of boat-based surveys to collect bird data in an area where species sensitive to disturbance from boats are present. SNH also expressed concern regarding the nearshore boat transects extensions, which overlap with locations of turbines 1 and 2a, for which data was collected for one year rather than the recommended two. SNH advise that their concerns outlined in Appendix D, and those highlighted in meetings with Forthwind relating to the 9 turbine proposal, should be considered and addressed in the forthcoming application.
- 8.7.8 SNH supports the use of a design envelope, but advises that this should be

refined as much as possible prior to submission of the EIA Report to ensure a realistic worst case scenario is assessed. SNH also advises that all phases of development including decommissioning are considered. SNH advises HRA scoping should be undertaken at the earliest opportunity in advance of the application.

- 8.7.9 SNH also advise that other plans and projects are included in the in-combination and cumulative assessments, which should be agreed in consultation with Marine Scotland and other regulators.
- 8.7.10 SNH states that they do not consider the Scoping Report sufficiently clarifies how impacts to ornithological interests will be addressed for this new application. It provides advice relating to how existing data can be best used, but strongly advises that further pre application dialogue is required with the Developer to agree a written draft method statement for ornithological impact assessment before application submission.
- 8.7.11 SNH states that the previously collected land based Vantage Point data should not be used in this new assessment; data should instead come from the previously undertaken boat-based surveys due to the increased turbine heights proposed for the Development. SNH also advise that the boat based survey data is used to estimate impacts for both potential design scenarios.
- 8.7.12 SNH reiterate concerns it raised in response to the Developer's previous 9 turbine array Scoping Report, specifically the use of boat based surveys for certain bird species and the data collection period which was shorter than the recommended timeframe. It notes that its previous advice is included as an appendix to the current Scoping Report and advises that these concerns are addressed in the application for the current proposal.
- 8.7.13 SNH has supplied a table within its response specifying the Special Protected Areas ("SPAs") that should be assessed for potential connectivity with the development, the potential for impacts from collision, displacement, barrier effects and impacts on supporting habitats. The Scottish Ministers agree that these effects should be scoped in to the EIA Report.
- 8.7.14 SNH has provided a list of species and designated sites that should be considered in a collision risk assessment, but note that the list is based on the data provided and that other species may need to be considered.
- 8.7.15 SNH note that some recalculation of the 9 turbine proposal data collected may be required and recommend that survey data is split according to the GPS tracks from the survey data.
- 8.7.16 SNH also provides advice in relation to the offshore band model they recommend should be used to estimate collision risk.
- 8.7.17 SNH has provided a list of species and designated sites that it recommends should be assessed for displacement / barrier effects, as well as suggested displacement rates.

8.7.18 SNH refers to guidance on apportioning impacts but highlights the requirements for further discussion and agreement on non-breeding season qualifiers.

8.7.19 SNH provides advice on Population Viability Assessment models and state that impacts should be assessed over 25 years with no recovery period.

8.7.20 SNH also provides advice relating to impacts on supporting habitats and states that assessment should focus on those species of the Outer Firth of Forth and St Andrews Bay proposed Special Protected Area ("pSPA") occurring in the nearshore environment that were observed in the site in notable numbers.

8.7.21 ELC states that although they do not have expertise regarding whether the proposal would have a significant effect on these interests, they would support the view of SNH in this matter.

8.7.22 MSS states that it is standard practice for data collection and survey methodologies to be based on the proposed project parameters. In the current situation the data have been gathered and consideration is being given to if/ how they may be applied to new proposed project.

8.7.23 MSS confirms that there is very limited survey effort within the 2km buffer of the turbine locations with two transects of approximately 6km total length. This limited effort will reduce confidence in the conclusions reached in relation to collision estimates and seabird use of the area in the immediate vicinity of the turbines.

8.7.24 The size of the proposed wind turbines is considerably greater than those considered previously, and the anticipated displacement effect footprint may be expected to be greater than the 2km assumed. As highlighted in correspondence in relation to a previous iteration of the project, for some of the species present in the area (divers and scoter) displacement effects may be anticipated at considerably greater distances than 2km. MSS highlight that in light of this, there are questions over the appropriateness of the 2km buffer.

8.7.25 Similarly, survey transect spacing of 1km may not be sufficient to prevent evasive movement of sensitive species either along the transect being surveyed or adjacent surveys. There are therefore questions over the representativeness of the density and distribution estimates produced.

8.7.26 MSS requests clarification on whether the flight height data gathered during the boat based surveys are in a format that allows them to be used in collision risk modelling for the revised turbine specifications, which will have different rotor swept height minima and maxima.

8.7.27 The Scottish Ministers require that the assessments and assessment methodology for ornithological impacts is agreed with SNH, MSS and RSPB Scotland prior to undertaking any assessments.

Marine mammals

8.7.28 SNH advise that underwater noise is the key impact that may raise significant

effects including cumulative effects for cetaceans and seals during wind farm construction and cable installation. It further advises that consideration of this impact should be achieved through noise modelling which would then inform the assessment process for Habitats Regulations Appraisal (“HRA”) and European Protected Species (“EPS”).

8.7.29 SNH advise that the Isle of May Special Area of Conservation (“SAC”) (grey seal), Moray Firth SAC (bottlenose dolphin) and the Firth of Tay and Eden Estuary SAC (harbour seal) are considered under HRA.

8.7.30 SNH comments on section 11 of the scoping Report with respect to cetacean species and is content that the main species to be scoped in are bottlenose dolphin and harbour porpoise noting that the likelihood of other cetacean species being in the vicinity of the development is low but occasional visits cannot be ruled out. SNH does not agree with the conservation value set out in Table 22 on page 90 of the scoping Report with respect to EPS. In SNH’s view this should be classed in the very High category, as with SAC features.

8.7.31 SNH state that the appropriate reference populations for cetaceans are the IAMMWG management units 13.

8.7.32 Although SNH do not agree with the conservation value with respect to seals at haul out sites designated under the Marine (Scotland) Act 2010, it confirms that impacts to seals at haul outs can be scoped out.

8.7.33 The Scottish Ministers agree with the consultee comments.

8.7.34 MSS acknowledges that the worst case scenario for marine mammals is pile driving of 8 pin piles, which will be done by drilling, rather than impact piling. Therefore, underwater noise during the construction (and potentially the decommissioning) phase of the project is considered to be the only potentially significant impact on marine mammal populations.

8.7.35 MSS agrees with SNH, in that to assess this, noise modelling should be used, which would provide information on the potential for disturbance and physiological injury (Permanent Threshold Shift in hearing) for each species included in the assessment. From the modelling outputs, MSS expects that a mitigation plan can be devised to reduce the impacts on marine mammals to negligible.

8.7.36 MSS agrees with SNH that the Isle of May SAC (grey seals), Moray Firth SAC (bottlenose dolphins) and the Firth of Tay and Eden Estuary SAC (harbour seal), should be considered in the HRA.

8.7.37 MSS agrees with SNH that bottlenose dolphin, harbour porpoise, harbour seal and grey seal should be scoped in to the assessment. MSS acknowledges that other cetacean species may occasionally occur within the Firth of Forth, but, as noted by SNH, any mitigation measures put in place for bottlenose dolphin and harbour porpoise will be effective in reducing potential impacts on other cetacean species.

8.7.38 MSS notes that boat based surveys in Beaufort sea states higher than two will under-represent the occurrence of harbour porpoises. To provide a more informative interpretation of the sightings data, MSS recommend that these data are considered alongside environmental data known to influence detectability (e.g. sea state). MSS recommends that the seal usage maps (<http://marine.gov.scot/information/seal-usage-maps>) are used in the assessment, as line transects are not effective for estimating seal occurrence. MSS is aware that sightings of bottlenose dolphins in the Firth of Forth have been increasing over recent years. Consequently, MSS would recommend that the applicant update their information, which may require using other relevant data sources.

8.7.39 MSS agrees that, given the scale of the development, increased vessel movements and Electromagnetic Fields (“EMF”) from the export cable can be scoped out of the marine mammal assessment.

8.7.40 MSS recommends that the Aberdeen Harbour expansion project at Nigg Bay is included in the cumulative assessment. Other developments may also need to be included, MSS recommends that this is agreed in consultation with the Scottish Ministers.

8.7.41 MSS does not agree that impacts of increased underwater noise on marine mammals during decommissioning should be scoped out.

8.7.42 ELC states that although it does not have expertise regarding whether the proposal would have a significant effect on these interests, they would support the view of SNH in this matter.

8.7.43 The Scottish Ministers agree with the comments submitted from the consultees regarding impacts to be scoped in and out and further assessment requirements.

Marine Fish

8.7.44 MSS is broadly content with the information provided and is in agreement that marine fish / shellfish species can be scoped out on the basis of the outcomes of the 2015 ES, provided any mitigation in the current consent is carried forward should an application be received and consent granted.

Diadromous fish

8.7.45 MSS is content with what the Scoping Report advises in relation to diadromous fish provided that the application is only for two turbines, that no impact piling will be undertaken, and that as far as possible cables will be buried.

8.7.46 MSS state that the site may provide opportunities for useful studies to be carried out and MSS would point the developer to the Diadromous Fish evidence map <https://www2.gov.scot/Topics/marine/marineenergy/mre/research/maps> produced under ScotMER, which has now replaced NRMSD, for up to date information on knowledge gaps.

8.7.47 MSS notes that section 11.12.1 of the Scoping Report correctly lists migratory fish species, such as Atlantic salmon, sea lamprey, river lamprey and the European eel as present in the firth. MSS would note that sea trout and sparring (smelt) are also present and there may also be a population of shad (allis shad) associated with the River Forth.

8.7.48 MSS states that Appendix D notes that impact piling will not be undertaken and that bases will either be drilled pin piles, or suction buckets, however, proposed mitigation includes a soft start. MSS consider this mitigation may not be relevant if nonimpact piling is to take place and provides a reference that indicates soft starts are ineffective mitigation for the impacts of piling on diadromous fish.

Cumulative effects

8.7.49 The Scottish Ministers agree with the list of development projects to undertake cumulative assessments with which was provided by the Developer. These are:

- European Offshore Wind Deployment Centre;
- Hywind Scotland Pilot Park;
- Inchcape Offshore Ltd;
- Kincardine Offshore Windfarm;
- Levenmouth Demonstration Turbine (ornithology only);
- Moray East Offshore Windfarm (marine mammals only);
- Moray West offshore Windfarm (marine mammals only);
- Neart na Gaoithe Offshore Windfarm Ltd
- Seagreen Alpha Wind Energy Ltd
- Seagreen Bravo Wind Energy Ltd

In addition the Scottish Ministers require that the following project is also included in the cumulative assessment:

- Aberdeen Harbour Expansion project

8.8 Benthic Ecology

8.8.1 Table 7 was provided by the Developer to summarise the potential effects relating to Benthic Ecology, with those that the developer has suggested to be scoped out marked as “√” and those that the developer has suggested to be scoped out marked as “x”. Where the boxes are shaded grey, the scoping opinion differs to the view presented by the Developer in the Scoping Report.

Table 7 The Developers summary of the potential effects on benthic ecology to be scoped in or out.

Potential Effects	Construction	Operation	Decommissioning	Rationale
Habitat disturbance / Loss	x	x	x	If gravity bases are used, the Scottish Ministers require that impacts on habitat disturbance / loss are scoped in.
Temporary increase in suspended sediment concentrations	x	x	x	If gravity bases are used, the Scottish Ministers require that temporary increase in suspended sediment concentrations are scoped in.
Temporary increase in sediment deposition and smothering	x	x	x	If gravity bases are used, the Scottish Ministers require that temporary increase in sediment deposition and smothering scoped in.
Release of sediment contaminants from seabed disturbance	x	x	x	The Scottish Ministers agree.

Potential Effects	Construction	Operation	Decommissioning	Rationale
Underwater noise and vibration	x	x	x	The Scottish Ministers agree.
Introduction of a new hard substrate for colonisation including non-native species	x	x	x	The Scottish Ministers agree.
Changes to the Hydrodynamic regime	x	x	x	The Scottish Ministers agree.
EMF and heat effects	x	x	x	The Scottish Ministers agree.
Cumulative effects	x	x	x	The Scottish Ministers require that cumulative effects are scoped in.

8.8.2 MSS welcomes the opportunity to provide comments and agrees that benthic ecology should be scoped in to the new EIA Report, the Scottish Ministers agree.

8.8.3 MSS prefer the use of gravity bases is avoided due to the greater loss of habitat and sediment resuspension than other methods. In regard to loss of original habitat the Scottish Ministers agree that if gravity bases are utilised then sediment resuspension must be scoped in.

8.8.4 MSS recommend all priority marine features and habitats listed under the OSPAR Convention be scoped into the assessment. Therefore seapens and burrowing megafauna should be scoped in. If the worst case scenario is realised it will result in considerable habitat loss. The significance of this from a population perspective must be discussed in the EIA Report. The Scottish Ministers agree and require that impacts on priority marine features and habitats listed under the OSPAR convention are scoped in.

8.8.5 MSS also notes the finding of a stony reef, although it is described as being of low reefiness. MSS recommends considering the position of this reef in relation to the new infrastructure and attempting to microsite away from the reef.

8.8.6 MSS is in agreement that the issue of introduction of a new hard substrate for colonisation by a non-native species has already been considered in the July 2015 EIA Report (10.7.3.2) and that it can be scoped out of the new EIA Report.

8.8.7 MSS agrees that EMF and heat effects have already been considered and would not be any different in the case of the revised turbine proposal. These issues can therefore be scoped out of the new EIA Report.

8.8.8 MSS recommends that cumulative effects are scoped into the new EIA Report. Plans for the other windfarms mentioned in this section have also changed and these changes should be factored into the assessment.

8.8.9 MSS states it is content that decommissioning has been adequately covered and can be scoped out.

8.8.10 The Scottish Ministers highlight the requirements that impacts on priority marine features and habitats listed under the OSPAR convention are scoped in, cumulative effects must also be scoped in and if gravity bases are used sediment resuspension must be scoped in.

8.9 Physical Process and Water Quality

8.9.1 Table 8 was provided by the Developer to summarise the potential effects relating to physical process and water quality, with those that the developer has suggested to be are scoped in marked as “✓” and those that the developer has suggested to be scoped out marked as “x”. Where the boxes are shaded grey, the scoping opinion differs to the view presented by the Developer in the Scoping Report.

Table 8 The Developers summary of the potential effects on physical process and water quality to be scoped in or out.

Potential Effects	Construction	Operation	Decommissioning	Rationale
Effect on sandbanks or large mobile bedforms	x	x	X	The Scottish Ministers agree
Increased suspended sediments	x	x	x	The Scottish ministers agree
Sediment Deposition	x	x	x	The Scottish Ministers agree
Release of contaminants from sediment	x	x	x	The Scottish Ministers agree

Potential Effects	Construction	Operation	Decommissioning	Rationale
Damage and obstruction to intertidal rock outcrops classified as a SSSI	x	x	x	The Scottish Ministers agree.
Accidental Spills	x	x	x	The Scottish Ministers agree.
Changes to hydrodynamics	x	x	x	The Scottish Ministers agree.
Changes to Sediment transport	x	x	x	The Scottish Ministers agree.
Changes to the adjacent coastline	x	x	x	The Scottish Ministers agree.
Cumulative effects	x	x	x	The Scottish Ministers consider that cumulative impacts must be scoped in

8.9.2 SNH stated in their response regarding Sites of Special Scientific Interest (“SSSI’s”) that with regard to Figure 13 on page 40, this figure does not contain sufficient detail to confirm the location of the cable corridor route in relation to East Wemyss to Buckhaven Coast GCR site.

8.9.3 Accurate mapping of the landfall location with scale provided is therefore required to confirm that SNH’s advice, as issued on 12 May 2016 in response to the July 2015 application, remains valid.

8.9.4 The Scottish Ministers agree with the consultee comments and require that accurate mapping is provided.

8.9.5 The Scottish Ministers also require that the cumulative impacts on physical process and water quality must be scoped in.

8.10 Socio-economics

8.10.1 Table 9 was provided by the Developer to summarise the potential effects relating to socio-economics, with those that the developer has suggested to be scoped in marked as “✓” and those that the developer has suggested to be scoped out marked as “x”. Where the boxes are shaded grey, the scoping opinion differs to the view presented by the Developer in the Scoping Report.

Table 9 The Developers summary of the potential effects on socio-economics to be scoped in or out.

Potential Effects	Construction	Operation	Decommissioning	Rationale
Direct job opportunities	✓	✓	✓	The Scottish Ministers agree
Supply chain opportunities	✓	✓	✓	The Scottish Ministers agree
Local infrastructure improvements	x	✓	x	The Scottish Ministers note that there has not been enough information provided to scope this out of the EIA Report and therefore this must be scoped in.
Cost reduction in the offshore wind industry	x	✓	x	The Scottish Ministers note that there has not been enough information provided to scope this out of the EIA Report and it must therefore this must be scoped in.

8.10.2 The Marine Analytical Unit (“MAU”), recommends that the scoping for socio-economic effects consider a wider range of impacts and provide much clearer rationale for why some potential impacts are scoped in and scoped out.

8.10.3 The Scottish Ministers agree with the MAU and requires that a wider range of impacts socio-economic effects is considered and that local infrastructure improvements and cost reduction in the offshore wind industry are scoped in the EIA Report.

8.11 receptors to be Scoped Out:

Table 10 summarises the topics the Developer suggest are scoped out of the EIA Report and on which the Scottish Ministers agree.

Potential Effects	Construction	Operation	Decommissioning	Developers Rationale
Access and Transport	x	x	x	There will be very limited traffic generated by the Development. A traffic management plan will be agreed prior to construction.
Air Quality	x	x	x	The potential effects of exhaust emissions during construction are likely to be very low.
Marine Aggregate Extraction	x	x	x	There is one licensed marine aggregate extraction site located within the inner Firth of Forth South West of Methil; however, this is not in active operation.
Marine Waste Disposal	x	x	x	The closest open disposal site to the Development area is 'Methil' at 0.9 km to the east. However, it is not anticipated that the Development will interfere with its operation.
Terrestrial Ecology	x	x	x	The potential effect of the installation of onshore infrastructure was assessed as not significant in the 2015 ES. This application will not seek to extend the project envelope already considered as acceptable.
Terrestrial Hydrology, Hydrogeology and Soils	x	x	x	The potential effect of the installation of onshore infrastructure was assessed as not significant in the 2015 ES. This application

Potential Effects	Construction	Operation	Decommissioning	Developers Rationale
				will not seek to extend the project envelope already considered as acceptable.
Waste Management	x	x	x	The onshore footprint of the Development is relatively small and significant waste arising are not anticipated.
Oil and Gas Infrastructure	x	x	x	No fixed oil and gas infrastructure has been identified near the Development area.
Recreation and Tourism	x	x	x	The scale and nature of the development is not significantly different to the previous assessment submitted for the 2015 ES, which concluded that no significant effect.
Cables and Pipelines	x	x	x	There are no subsea telecommunication or power cables in the vicinity of the Development.
Climate and Carbon Balance	x	x	x	The scale of the effect of the development is relatively minor on a regional/national scale

8.12 EIA regulation requirements

8.12.1 The developer must take note of regulation 4 of the EW EIA regulations and regulation 5 of the MW EIA regulations which states the factors that are require to be addressed in the EIA Report.

9 Planning

9.1 Marine Planning

9.1.1 Offshore Renewable Energy development should be in accordance with the UK Marine Policy Statement and Scotland's National Marine Plan ("NMP").

9.1.2 **The UK Marine Policy Statement 2011** – The UK Administrations share a common vision of having clean, healthy, safe, productive and biologically

diverse oceans and seas. Joint adoption of a UK-wide Marine Policy Statement provides a consistent high-level policy context for the development of marine plans across the UK to achieve this vision. It also sets out the interrelationship between marine and terrestrial planning regimes. It requires that when the Scottish Ministers make decisions that affect, or might affect, the marine area they must do so in accordance with the Statement.

9.1.3 **Scotland's NMP 2015** – Developed in accordance with the Marine (Scotland) Act 2010 and the Marine and Coastal Access Act 2009 (as amended), the NMP provides a comprehensive statutory planning framework for all activities out to 200 nautical miles. This includes policies for the sustainable management of a wide range of marine industries. The Scottish Ministers must make authorisation and enforcement decisions, or any other decision that affects the marine environment, in accordance with the NMP. The NMP sets out a presumption in favour of sustainable development and use of the marine environment when consistent with the policies and objectives of the Plan.

10 Land Use Planning

10.1.1 The Scottish Government's planning policies are set out in the National Planning Framework, Scottish Planning Policy, Designing Places and Circulars.

10.1.2 The National Planning Framework is the Scottish Government's Strategy for Scotland's long term spatial development.

10.1.3 Scottish Planning Policy ("SPP") is a statement of Scottish Government policy on land use planning and contains:

- The Scottish Government's view of the purpose of planning,
- the core principles for the operation of the system and the objectives for key parts of the system,
- statutory guidance on sustainable development and planning under Section 3E of the Planning etc. (Scotland) Act 2006,
- concise subject planning policies, including the implications for development planning and development management, and
- The Scottish Government's expectations of the intended outcomes of the planning system.

10.1.4 Other land use planning documents which may be relevant to this proposal include:

- Angus Council Renewable Energy Implementation Guide
- Angus Council Strategic Landscape Capacity Assessment for Wind Energy in Angus
- Angus Local Development Plan
- Angus wind farms – landscape capacity and cumulative impact study
- East Lothian Local Development Plan
- Fife Local Development Plan (FIFEplan)
- Fife Planning Guidance – Renewable Energy
- Fife Planning Guidance – Wind Energy

- Marine Guidance Note (“MGN”) 543 (M+F) Safety of Navigation: Offshore Renewable Energy Installations (OREIs) – UK Navigational Practice, Safety and Emergency Response
- MCA Methodology for Assessing the Marine Navigational Safety & Emergency Response Risks of Offshore Renewable Energy Installations
- National Planning Framework 3
- PAN 1/2011: Planning and Noise
- PAN 1/2013: Environmental Impact Assessment (as amended)
- PAN 51: Planning, Environmental Protection and Regulation (Revised 2006)
- PAN 60: Planning for Natural Heritage
- PAN 62: Radio Telecommunications
- PAN 68: Design Statements
- PAN 75: Planning for Transport
- PAN 79: Water and Drainage
- Planning Advice Note (“PAN”) 2/2011: Archaeology – Planning Process and Scheduled Monument Procedures
- Scottish Borders Local Development Plan
- Scottish Borders Planning Guidance – Visibility Mapping for Wind Farm Development
- Scottish Borders Planning Guidance – Wind Energy
- Scottish Borders Renewable Energy Supplementary Guidance (Still in draft state)
- SNH Guidance – Visual Representation of wind farms 2017

11 General EIA Report Issues

11.1 Gaelic Language

11.1.1 Where developments are located in areas where Gaelic is spoken, developers are encouraged to adopt best practice by publicising the project details in both English and Gaelic.

11.2 Application and EIA Report

11.2.1 A gap analysis template is attached at Appendix II to record the environmental concerns identified during the scoping process. This template should be completed and used to inform the preparation of the EIA Report. Please note that the EIA Report must contain all of the information specified in the scoping opinion. On submission of the application and supporting EIA Report, the Scottish Ministers, via a gatecheck process, will review the completed gap analysis template in conjunction with the EIA Report to ensure this is the case before the application is officially accepted. The gatecheck will also include an EIA audit. If information requested at scoping stage has not been provided in the EIA Report then the applicant will be asked to provide that information before the application can be accepted.

11.2.2 Please note all aspects of this scoping opinion should be considered when preparing a formal application to reduce the need to submit further information in support of the application. The consultee comments presented in this opinion

are designed to offer an opportunity to consider all material issues relating to the development proposals.

11.2.3 The exact nature of the work that is needed to inform the EIA Report may vary depending on the design choices. The EIA Report must address this uncertainty so that there is a clear explanation of the potential impact of each of the different scenarios. It should be noted that any changes produced after the EIA Report is submitted may require further environmental assessment and public consultation.

11.2.4 In assessing the quality and suitability of applications, the Scottish Ministers will use the gap analysis and this scoping opinion in assessment of the application. In addition to scoping, applications are required to go through a gate check process. See Appendix III for further information on this. In the event of a submitted application not containing essential information, the Scottish Ministers reserve the right not to accept the application. Developers are advised not to publicise applications in the local or national press, until their application has been accepted by the Scottish Ministers.

11.3 Multi-Stage Regulatory Consent

11.3.1 The Marine Works 2017 (as amended) and The Electricity Works 2017 (as amended) both contain provisions regulating the assessment of environmental impacts. A multi-stage consent process arises where a consent procedure comprises more than one stage, one stage involving a principal decision and one or more other stages involving an implementing decision(s) within the parameters set by the principal decision. While the effects which a project may have on the environment must be identified and assessed at the time of the procedure relating to the principal decision if those effects are not identified or identifiable at the time of the principal decision, assessment must be undertaken at the subsequent stage.

11.3.2 The definition in The Electricity Works 2017 (as amended) is as follows (the definition in The Marine Works 2017 (as amended) provides for the same but in relation to “regulatory approvals”): “application for multi-stage consent” means an application for approval, consent or agreement required by a condition included in an Electricity Act consent where (in terms of the condition) that approval, consent or agreement must be obtained from the Scottish Ministers before all or part of the development permitted by the Electricity Act consent may be begun.”

11.3.3 A section 36 consent or marine licence if granted by the Scottish Ministers for your Revised Development is likely to have several conditions attached requiring approvals etc. which fall under this definition, for example the approval of a CMS.

11.3.4 When making an application for multi-stage consent Forthwind will require to satisfy the Scottish Ministers that no significant effects have been identified in addition to those already assessed in the EIA Report. In doing so, Forthwind will require to account for current (meaning at the time of application for multi-stage consent) knowledge and methods of assessment which address the likely

significant effects of the development on the environment so to enable the Scottish Ministers to reach a reasoned conclusion which is up to date.

11.3.5 If during the consideration of the information provided in support of an application for multi-stage consent the Scottish Ministers consider that the development may have significant environmental effects which have not previously been identified in the EIA Report (perhaps due to revised construction methods or updated survey information), then information on such effects will be required. This information will fall to be dealt with as additional information under the 2017 EIA Regulations and procedures for consultation, public participation, public notice and decision notice of additional information will apply.

11.4 Judicial review

All decisions may be subject to judicial review. A judicial review statement should be made available to the public.

Signed

Jessica Wilson
Authorised by the Scottish Ministers to sign in their behalf.
26 November 2019

Appendix I: Consultee Responses

Consultee Comments

Marine Scotland Advisors

Marine Scotland Science (MSS)
Marine Analytical Unit (MAU)

Statutory Consultees

Local Authority – East Lothian council (ELC)
Local Authority – Fife council (FC)
Scottish Natural Heritage (SNH)
Maritime & Coastguard Agency (MCA)
Historic Environment Scotland (HES)

Non Statutory Consultees

- British Telecom (BT)
- Chamber of Shipping (COS)
- Defence Infrastructure Organisation (DIO)
- Edinburgh Airport (EA)
- Forth Ports (FP)
- Joint Radio Company (JRC)
- National Air Traffic Services (NATS)
- Northern Lighthouse Board (NLB)
- Offshore Renewable Energy Catapult (OREC)
- Ports and Harbours (PH)
- Royal Yachting Association (RYA)
- Royal Society for the Protection of Birds Scotland (RSPB)
- Scottish Fishermen's Federation (SFF)
- Sport Scotland (SS)
- Transport Scotland

Marine Scotland Science

Marine Scotland Science has reviewed the submitted pro forma and has provided the following comments.

Marine Ornithology

It is standard practice for data collection and survey methodologies to be based on the proposed project parameters. In the current situation the data have been gathered and consideration is being given to if/ how they may be applied to new proposed project. This latter approach can result in difficulties.

There is very limited survey effort within the 2km buffer of the turbine locations with two transects of approximately 6km total length. This limited effort will reduce confidence in the conclusions reached in relation to collision estimates and seabird use of the area in the immediate vicinity of the turbines.

The size of the proposed wind turbines is considerably greater than those considered previously, and the anticipated displacement effect footprint may be expected to be greater than the 2km assumed. As highlighted in correspondence in relation to a previous iteration of the project, for some of the species present in the area (divers and scoter) displacement effects may be anticipated at considerably greater distances than 2km. there are therefore questions over the appropriateness of the 2km buffer.

Similarly, survey transect spacing of 1km may not be sufficient to prevent evasive movement of sensitive species either along the transect being surveyed or adjacement surveys. There are therefore questions over the representativeness of the density and distribution estimates produced.

Clarification should be provided on whether the flight height data gathered during the boat based surveys are in a format that allows them to be used in collision risk modelling for the revised turbine specifications, which will have different rotor swept height minima and maxima.

Marine Mammals

MSS have reviewed the Forthwind Demonstration Environment Scoping Report, and acknowledge that the worst case scenario for marine mammals is pile driving of 8 pin piles, which will be done by drilling, rather than impact piling. Therefore, underwater noise during the construction (and potentially the decommissioning) phase of the project is considered to be the only potentially significant impact on marine mammal populations. MSS agree with SNH, in that to assess this, noise modelling should be used, which would provide information on the potential for disturbance and physiological injury (Permanent Threshold Shift in hearing) for each species included in the assessment. From the modelling outputs, MSS expected that a mitigation plan can be devised to reduce the impacts on marine mammals to negligible.

MSS agree with SNH that the Isle of May SAC (grey seals), Moray Firth SAC (bottlenose dolphins) and the Firth of Tay and Eden Estuary SAC (harbour seal), should be considered in the HRA.

MSS agree with SNH that bottlenose dolphin, harbour porpoise, harbour seal and grey seal should be scoped in to the assessment. MSS acknowledge that other cetacean species may occasionally occur within the Firth of Forth, but, as noted by SNH, any mitigation measures put in place for bottlenose dolphin and harbour porpoise will be effective in reducing potential impacts on other cetacean species.

MSS note that boat based surveys in Beaufort seas states higher than two will under-represent the occurrence of harbour porpoises. To provide a more informative interpretation of the sightings data, MSS recommend that these data are considered alongside environmental data known to influence detectability (e.g. sea state). MSS recommend that the seal usage maps (<http://marine.gov.scot/information/seal-usage-maps>) are used in the assessment, as line transects are not effective for estimating seal occurrence. MSS are aware that sightings of bottlenose dolphins in the Firth of Forth have been increasing over recent years. Consequently, MSS would recommend that the applicant update their information, which may require using other relevant data sources.

MSS agree that, given the scale of the development, increased vessel movements and EMF from the export cable can be scoped out of the marine mammal assessment.

Section 11.13 outlines the projects that should be scoped in to the cumulative assessment of effects; MSS recommend that the Aberdeen harbour expansion project at Nigg bay is included in this assessment. Other developments may also need to be included, MSS recommend that this is agreed in consultation with the Scottish Ministers.

Table 25 in Section 11.14, for increased underwater noise, there should also be a tick in the decommissioning box for marine mammals, as per the information provided in the rationale box.

Appendix C of Section 11, there are no marine mammal (or fish/shellfish) data sheets; there are only data pertinent to birds.

Commercial fisheries

Marine Scotland is broadly content with the content of the scoping Report with regards commercial fisheries. Previous advice on this interest found that given the small scale, the location and the work involved, MSS considers that the development is unlikely to have significant unmitigated effects on commercial fisheries and this remains the case with the inclusion of turbine 2(b).

Section 7.4 proposes that local fishing organisations are engaged to establish the extent and nature of fishing activity within the location. This is key to understanding potential local level effects and is welcomed, as is the appointment of a fisheries liaison officer should consent be granted. It would be useful for the stakeholder section outlined in 17.5 to include any potential concerns of the fishing community raised during pre-application consultation and how these have been addressed.

Marine Fish

MSS is broadly content with the information provided and is in agreement that marine fish / shellfish species can be scoped out on the basis of the outcomes of the 2015 ES, provided any mitigation in the current consent is carried forward.

Diadromous fish

The Firth of Forth, which is the estuary of the River Forth, is important for several diadromous fish species which migrate through the firth or feed in it. The main rivers these are associated with are the River Forth and its tributary the River Teith at the head of the firth. MSS is content with what the scoping Report advises in relation to diadromous fish provided that the application is only for two turbines which would be in place of two previously consented turbines which have not been installed, that the larger development which at one time was being proposed is no longer under consideration, that no impact piling will be undertaken, and that as far as possible cables will be buried.

Other main comments

To date there has been no survey work within the firth targeted at diadromous fish, so there is no information on migration routes within the firth and very limited information on the spatial distribution. In view of the small scale of the proposed development and the good mitigation arrangements proposed, MSS is not challenging the statement that “Given the reduced size of the site, this is no longer considered proportionate, given the reduced footprint/reduced effect on diadromous fish.” where the “this” is the need to participate in the monitoring requirements laid down in what was the National Research and Monitoring Strategy for Diadromous Fish (NRMSD), which involves carrying out or commissioning projects to address knowledge gaps.

Nonetheless, the site may provide opportunities for useful studies to be carried out and MSS would point the developer to the Diadromous Fish evidence map <https://www2.gov.scot/Topics/marine/marineenergy/mre/research/maps> produced under ScotMER, which has now replaced NRMSD, for up to date information on knowledge gaps.

Other comments

Chapter 8 Commercial Fisheries

8.2 indicates that information will be gathered from the salmon and sea trout catch statistics published by Marine Scotland in 2012 which are for 2011. MSS would note that data for up to 2018 are now online <https://www2.gov.scot/Topics/marine/Publications/stats/SalmonSeaTroutCatches> along with, in the case of salmon, the latest assessments of the state of the salmon populations in each river, which determine whether any salmon can be retained by anglers.

8.2 also indicates that the Association of Salmon Fishery Boards will be contacted. This body no longer exists. There is now Fisheries Management Scotland (FMS) which represents many Salmon Fishery Boards and Fisheries Trusts. The local bodies are the Forth District Salmon Fishery Board and the Forth Rivers Trust.

Chapter 11. Offshore Ecology.

11.12.1. correctly lists migratory fish species, such as Atlantic salmon, sea lamprey, river lamprey and the European eel as present in the firth. MSS would note that sea trout and sparring (smelt) are also present and there may also be a population of shad (allis shad) associated with the River Forth.

Chapter 17. Stakeholder Consultation.

See comments on Chapter about the relevant bodies.

Appendix D. How Responses / Comments in Original 2017 scoping opinion are addressed in this Scoping Report.

This section notes that impact piling will not be undertaken and that bases will either be drilled pin piles, or suction bucket. However, this section also states that “Mitigation will include a ‘Soft Start’ to allow diadromous fish to disperse away from a works area.”. With no impact piling, this may no longer be relevant and, in any case, it now appears likely from the work of Harding et al (2016) <https://www.gov.scot/publications/measurement-hearing-atlantic-salmon-salmo-salar/>, for example, that soft starts will not be effective in displacing diadromous fish away from impact piling.

This section also advises that the material to assist in the HRA of the salmon, river lamprey and sea lamprey interests of the River Teith SAC will be included in the marine mammal assessment. If so, the title of this assessment should make clear that it includes assessment material for other than marine mammals.

Benthic Ecology

MSS welcomes the opportunity to comment on this scoping request and is in agreement that benthic ecology should be scoped into the new ES according to the following recommendations.

Section 12.4 Worst case scenarios: From a benthic perspective, MSS has a preference for avoidance of gravity bases due to the greater loss of habitat and sediment resuspension than other methods.

Section 12.4.3.1 Loss of original habitat: MSS would recommend all priority marine features and habitats listed under OSPAR to be scoped into the assessment. Therefore seapens and burrowing megafauna should be scoped in. If the worst case scenario is realised it will result in considerable habitat loss. The significance of this from a population perspective should be discussed in the ES.

MSS also notes the finding of a stony reef, although it is described as being of low reefiness. MSS recommends considering the position of this reef in relation to the new infrastructure and attempting to microsite away from the reef.

Section 12.4.3.2 Introduction of new hard substrate for colonisation by non-native species: MSS is in agreement that this issue has already been considered in the July 2015 ES (10.7.3.2) and that it can be scoped out of the new ES.

Section 12.4.3.4 EMF and heat effects: MSS agrees that EMF and heat effects have already been considered and would not be any different in the case of the revised turbine proposal. These issues can therefore be scoped out of the new ES.

Section 12.4.4. Decommissioning: Having reviewed the 2015 ES (10.7.3.2) MSS is content that decommissioning has been adequately covered and can be scoped out of the assessment.

Section 12.4.5. Potential cumulative effects: MSS recommends that cumulative effects are scoped into the new ES. Plans for the other windfarms mentioned in this section have also changed and these changes should be factored into the assessment.

Aquaculture

MSS has reviewed the application submitted and offer the following comment:

There are currently no aquaculture sites registered with Marine Scotland Science located in the immediate vicinity of the Forthwind Offshore Wind Demonstration Project proposed by Forthwind Ltd. (see annexe 1).

The nearest aquaculture site is situated ~20km south east of wind turbine 2b. It is a marine land based tank site which uses pumped seawater and produces and holds European lobsters. It is currently active and operated by The Firth of Forth Lobster Hatchery.

There is also a marine land based tank site which uses pumped seawater situated at Dalgety Bay ~24km south east of the nearest wind turbine in the development, 2b. This site is authorised to hold a variety of marine fish and shellfish species. It is currently active and operated by Todd Fish Technology.

Hopefully these comments are helpful to you. If you wish to discuss any matters further contact the REEA Advice in-box at MSS_Advice@gov.scot.

Marine Analytical Unit

Thanks for sharing the Forthwind Scoping Report, which I have reviewed. Below are my comments.

The socioeconomic chapter scopes in a set of potential effects for further assessment including (a) direct job opportunities; (b) supply chain opportunities; (c) local infrastructure improvements and (d) cost reduction in the offshore wind industry. It is not clear however how these have been identified/prioritised from a wide range of socioeconomic impacts that may arise from marine development.

For example, marine developments through employment impacts may affect the demography of local communities, with potential impacts on demand for public services (health, education, etc), incomes, poverty, etc. If these other wider socioeconomic impacts are being scoped out, scoping Report must set out clearly the the reasons for doing so. For instance, is it because of the scale of the project that these wider socioeconomic impacts are scoped out?

I would recommend that scoping for socioeconomic effects consider a wider range of impacts and provides much clearer rationale for why some potential impacts are scoped in and other scoped out.

East Lothian Council

As an initial comment, I note that in your consultation you have referenced the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000 (As Amended) and question why not the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (EIA 2017), which I would have thought apply. These are the regulations referred to in the Scoping Report.

The application seeks consent for a revised proposal for two wind turbines in the Firth of Forth off Methil. The proposal is in a similar position to an already consented proposal. The main differences between the proposals are set out in a table in the Scoping Report, and are an increased generating capacity, increase of number of blades from 2 to 3, and an increase in maximum hub height to 137.5m, rotor tip height to 250m, and rotor diameter to 225m. There is a second option for the location of one of the turbines. The amount of building material used will also increase, as with the time of consented operation (20 years to 25 years). There are no onshore elements within East Lothian.

It seems clear that the intention is to build either the consented or revised scheme, but not both. One of the turbines is physically in the same position, so it would not be possible to build both, however, the other isn't. The Environment Statement should make it clear that only one scheme will be built.

The Council has the following particular comments on information for inclusion.
Description of the project

Decommissioning is considered in the Scoping Report, and the Council supports a description of the process being included in the Environment Statement. Although this should follow best practice at the time, impacts of this should be examined prior to consent. If there are any consequential alterations to the national grid network required as a result of the proposal (the Scoping Report says not) then this should be included also.

Noise

Maintenance of the project is proposed to be by boat not air, therefore the Council has no comment on the noise assessment as this is not expected to affect interests in East Lothian.

Commercial fisheries

Commercial fisheries are proposed to be scoped out if the same locations are used for the turbines, based on the information in the Environment Report. As mitigation for fisheries is part of the proposal, for transparency it is my view that it would be preferable if the impacts as shown in the original Environment Statement are included or referred to, to allow members of the public to take a view on the effectiveness of mitigation. The Scoping Report notes that the increased piling will not have an effect due to the low presence of relevant species in the area. If there are no other different

effects from turbine alterations (e.g. different vibration) the Council is content that no further studies be done if the turbines are located in the same position as the consented proposal.

Landscape

The Council supports the undertaking of a Seascape, Landscape and Visual Assessment. Use of a 45 km study area is supported. It is agreed that significant effects are most likely to be found within 25km. The Council has recently undertaken a Landscape Review, which has revised the Landscape Character Areas of the area. This has led to the production of Supplementary Planning Guidance on Special Landscape Areas. These have now been designated through the East Lothian Local Development Plan 2018 and are no longer 'proposed' as noted in the Scoping Report. East Lothian Landscape Character in Figure 9.2b refers to the Landscape Character Areas defined in the Landscape Capacity for Wind Turbine Development in East Lothian, which is now around 15 years old. It would be preferable to refer to the Landscape Character Areas as set out in the Supplementary Planning Guidance on Special Landscape areas (available online by following the links from https://www.eastlothian.gov.uk/downloads/download/13103/supplementary_planning_guidance_spg). Information on our Special Landscape Areas is also available in that document.

Paragraph 9.2 states that the worst case for SLVIA is turbine locations 1 and 2(b). It is not clear that this is the case, and the Scoping Report does not appear to give a reason for that. One of the main landscape impacts is likely to be that the turbine breaks the skyline from important viewpoints, or is seen in relation to other landmarks such as the Lomond Hills. It is not clear which of the locations for the second turbine would have more potential to do this (and it may vary depending on the viewpoint). It is therefore our preference that both locations for the second turbine are included in visual assessment.

For Special Landscape Areas within East Lothian, in addition to those mentioned in the Report there could also be effects on the Fisherrow Sands SLA and Prestonpans Coast SLA. These are populated areas, and views of the proposal from there may therefore be more frequent. Newhailes house GDL has views across the Forth, and although the effect is not likely to be significant this should be considered.

On the Significance matrix (Table 13) it seems possible that a low magnitude of change could potentially have a significant impact on a High sensitivity receptor on the basis that some receptors are sensitive to any change.

The Scoping Report states that local level coastal characterisation for the East Lothian coastline will not be undertaken as it is very unlikely that effects on coastal character will occur here, and only visual/perceptual effects will occur from here. From areas where the turbines are only seen in the open sea, this is agreed. However, from the North Berwick area the turbines may be perceived as smaller, closer turbines if they are seen over the skyline above the land or behind the islands rather than as elements of the view in the sea, as they would from more open views. This could have the potential to affect coastal character here. East Lothian Council would welcome further discussion on this; it may be that this can be scoped out.

For roads, the overall visual assessment could consider the A6137 which is an elevated route with some views towards the area, and the A198/B1348 coastal tourist route in East Lothian. Golf courses, including Muirfield and the Renaissance course at Archerfield, may also have visibility and should be considered.

Viewpoints are identified in the Scoping Report as:

17 Gullane, Marine Terrace
18 A198 Aberlady Bay
19 North Berwick

For 17 - Gullane, although this viewpoint is panoramic, it may not represent the worst case scenario, which would probably be from Gullane Beach, where the proposal is more likely to be seen above the skyline. There are benches with views across the bay both to the north (to the west of the car park) and the east. The benches by the car park are probably better used than the suggested viewpoint.

At 18 - Aberlady, although the viewpoint chosen is within the settlement, it would be worth considering a point on the footbridge into Aberlady Local Nature Reserve at Luffness, if there is visibility from there. The view north from here is a peaceful scene appreciated for its natural qualities. Another potentially significant view is from the A6137 at West Garleton where there is a panoramic view over Aberlady Bay with the Methil turbine directly in the line of sight.

At 19 – North Berwick, the viewpoint is on the John Muir Way, and near a popular beach, as well as the settlement of North Berwick. It is important to select a view that shows how the turbines will sit with coastal foreground and the islands of the Forth. Other spots that could be considered for this are the slipway at Victoria Road, North Berwick, or to the north of North Berwick Harbour. These may give a more open view towards the proposal. Yellowcraig Beach is another well visited area with good views – a view from Longskelly point, the Yellow Craig itself, or the beach, which would have Fidra island in the foreground, could also be considered. Views of the turbines from this section of coast interact with views of the islands in the Forth, and these views are important.

A viewpoint from North Berwick Law could also be considered, which also has cultural heritage value.

East Lothian Council would appreciate the opportunity to further discuss the choice of viewpoints from East Lothian.

On cumulative assessment, the Council disagrees with scoping out Inchcape Offshore windfarm. This windfarm is expected to be clearly visible from East Lothian from many of the locations where the proposal is also visible. Although it will often be seen looking in a different direction (as will Neart Na Gaoithe), it will be visible from the same point. At night, both the proposal and Inchcape will (under current rules) need to have aviation lighting. This means that as it darkens, other elements in the view will recede, while the lit elements become more prominent. Seagreen is a bit further again, and will be visible on fewer days of the year. It is very unlikely to have a different cumulative impact that Inchcape and Neart Na Gaoithe and on the basis that assessment of Inchcape and Neart Na Gaoithe represent the 'worst case' the Council agrees that Seagreen does not require to be assessed, although its existence should be noted.

The Council also considers that the temporary oil rig berths in the Firth of Forth should be included in the cumulative SLVIA assessment as they have similarities in that they are lit, tall, and located

nearby. In Table 15, the Council broadly agrees with the Scoping in and out however considers there could be significant impacts on the seascape character of parts of East Lothian, in particular through impacts on from the North Berwick area as noted above.

The Council considers that night time views should be included as part of the SLVIA, and mitigation explored, such as reducing the angle of beam of the lighting. The Council would also request that it is consulted along with SNH and Fife Council on the methodology for the SLVIA.

Heritage

The methodology proposed for the assessment of the indirect impacts upon the Historic Environment is inadequate to assess any potential impacts upon Historic assets in East Lothian.

The 15km boundary will not reflect the limit of the potential indirect impacts with key receptors such as North Berwick Law which falls outside this. One of the key considerations (following the Managing Change: Setting guidelines) when looking at identifying indirect impacts is whether the receptor has a function (either in the past or now) of looking out over the proposed development. Due to the height of the proposals this will mean that a number of receptors, that have this function of looking out over the Forth, will be out with the 15km and will likely be impacted upon. The proposed assessment methodology will not assess the level of this impact on any receptors in East Lothian. Our normal recommended level of assessment is for a 35km radius and key receptors to be included in the initial assessment.

Additionally the assessment should also consider the assets recorded on the respective council Historic Environment Record rather than just those recommended by Historic Environment Scotland. Simply including an asset in the SLVIA is not a substitute for undertaking a heritage assessment.

It is difficult at this stage to identify what receptors should be taken forward into more detailed assessment as the baseline for making those decisions will be incomplete by following the methodology proposed in the scoping Report.

Biodiversity

The Council values its birdlife, including that of the Firth of Forth SPA, the Forth Islands SPA and offshore, and Outer Firth of Forth and St Andrews Bay Complex proposed marine SPA. It also values the marine mammals which are visitors to the East Lothian coast, including those from the nearby Isle of May SAC and further afield Moray Firth SAC. There is legislative provision for the protection of such sites and some such species. The Council does not have expertise as to whether the proposal would have a significant effect on these interests, but would support the views of SNH on this matter.

The contribution of the proposal to the climate and carbon balance is in a global sense tiny, however it would be helpful to Report this. Although the impact is low, the sensitivity of the receptor (the global climate) is high. Also, the reduction of greenhouse gas emissions consequent on production of renewable energy is an important factor in the potential to accept significant impacts the proposal may have on other receptors, which might otherwise be unacceptable.

If you would like to discuss the contents of this letter further, please contact J Squires (Monday to Thursday only) on 01620 827370, or email to jsquires@eastlothian.gov.uk

Fife Council

I refer to your consultation dated 17th May 2019 regarding the above, and your request for Fife Council to provide a scoping opinion on the proposal. Fife Council has not provided a formal opinion on the basis that we consider that it is likely only to be matters of visual impact which have the potential to have the highest significance and, in this respect, our only specific comment is that one of the viewpoints should be the public car park off Pettycur Road in Kinghorn, general grid ref. 326960 686657. This is a well-used public viewpoint and used by many people to access the beach, Fife Coastal Path, for whale/dolphin watching, views out of the estuary etc.

Scottish Nature Heritage

Thank you for this scoping consultation received 17 May 2019, requesting our advice on the natural heritage interests to be addressed under Environmental Impact Assessment (EIA) and Habitats Regulations Appraisal (HRA) for the Forthwind Offshore Wind Demonstration Project submitted by Forthwind Ltd.

The applicant is scoping a new application, seeking a change from the consented (2016) 2- turbine, 2-bladed lattice tower 2B Energy turbine proposal with an operational period of 20 years. Instead they seek to develop:

- A 2-turbine demonstration array using 3-bladed turbines, with a consent period of 25 years;
- Each turbine would have rated power of at least 12MW, with a rotor diameter of up to 225m and maximum blade tip height of 250m; Foundation installation methods could include 4 pin piles, suction buckets or gravity bases.
- The total capacity for the new application is 29.9MW which we note remains the same as the 2018 variation which has recently been determined (May 2019). Two (turbine) location options are being considered:
- Option 1 as per the existing 2016 consent described as turbines 1 and 2a; or,
- Option 2 which would see the second turbine described as 2b relocated further to the south, out with the current consented area, as per Figure 4 on page 26. This would see a corresponding increase in export cable length required for this turbine (2b) as per Table 1 on page 18/19.

SNH works in support of the government's vision for an energy sector that delivers secure, affordable and clean energy for Scotland¹. We provide advice in the spirit of Scotland's National Marine Plan² which balances the promotion of sustainable development of offshore wind whilst protecting our biodiversity and taking account of seascapes, landscapes and visual impacts.

Scoping Report

In providing advice to help support the government's vision, we are keen to engage early with developers and welcome this opportunity to provide advice for scoping this new proposal. However, the quality of this scoping Report, particularly in considering the potential environmental effects and assessment methods is disappointing particularly given the extensive previous advice provided by SNH regarding the various proposals from Forthwind. As the design envelope considers various different parameters for the foundations, there should be consistency across the project and moving into the assessment process on the maximum number of pin piles that might be utilised.

Approach to application

We support the use of a design envelope approach to facilitate the demonstration of next generation turbines and advise that the envelope should be refined as much as possible prior to the submission of the application so that the EIA Report (EIAR) presents and assesses a realistic worst-case scenario. All phases of development should be considered including decommissioning.

The move to using more 'conventional' turbines is welcomed from a design perspective which will help to minimise potential effects including consideration of cumulative impacts from existing and planned onshore and offshore turbines within the vicinity of this location.

Due to previous assessment and advice, we provide advice only on those aspects which we consider to be significant and require assessment as part of the EIA and HRA processes going forward. Where we are able at this stage to advise on impact assessment methods, this has been provided within this letter, as detailed below:

- **Seascape, landscape and visual impact – please see Appendix A**
- **Ornithology – please see Appendix B**
- **Marine mammals (underwater noise only) – Please see Appendix C**

We also provide our consideration of other natural heritage interests – please see Appendix D.

Habitats Regulations Appraisal

We strongly advise that HRA scoping should be undertaken for this new application. This Report should be submitted for comment at the earliest opportunity in advance of the application and EIAR in order to fully inform our HRA advice for this project.

Cumulative and in-combination effects

We advise those other projects and plans to be considered in the cumulative and in-

combination assessment should be agreed in consultation with Marine Scotland and other Regulators.

Mitigation and monitoring

The EIAR should contain a schedule of commitments detailing all proposed mitigation as well as a draft Project Environmental Monitoring Plan (PEMP). The proposed PEMP should provide details on mitigation measures and any monitoring studies to be undertaken and at which stage of the development, if consented, including pre-construction, construction, operation / maintenance and decommissioning.

Further information and advice

We would encourage further engagement and the opportunity to provide further advice on key natural heritage interests, at appropriate stages, to help inform the Scoping opinion and subsequent application. We would be grateful if you could copy us into the formal Scoping opinion in due course. We hope these comments are helpful. Please contact me in the first instance:

karen.taylor@nature.scot or via my direct dial on 0131 316 2693

Appendix A - Seascape, landscape and visual impacts to be addressed in the EIAR

Seascape, landscape and visual interests are addressed in chapter 9 of the scoping Report. With the change in design we wish to highlight the following:

- The proposed turbine design change has merit in reducing the issue around complexity of design particularly in terms for the cumulative impact assessment.
- We welcome the intention to consider the worst case scenario which is option 2, i.e.the change in location with the second turbine (2b) located further out into the Firth.We consider the setting of the Firth of Forth to be sensitive. The Firths and estuaries around Scotland are important for their scenic qualities.

INFORMATION REQUIRED FOR REASSESSMENT

We are not intending to make substantive comments on the draft SLVIA methodology, instead we highlight good practice is to follow the Guidelines for Landscape and Visual Impact Assessment (GLVIA para. 1.20) which indicates that it is the primary responsibility of the landscape professional to ensure that the approach and methodology adopted are appropriate to the circumstances. SNH has produced guidance on scoping for offshore renewables and on Visual Representation of Wind Farms (including those offshore). We note that the turbines now being proposed are considerably larger and the second option deploys one turbine in a different location to the current consented footprint. In this regard, we advise that a full landscape and visual impact assessment is required to inform and support the new application. We welcome the applicant's intention to do so.

Study area

SNH recommends the use of a 50km study area, rather than a 45km study area as identified in the scoping Report. We also advise that the local authorities may identify whether there are any sensitive visual receptors located on the border or just beyond of this 50km study area, requiring consideration.

Coastal character – baseline information

We note that Forthwind intend to utilise and update the existing baseline coastal character assessment previously undertaken by the Forth & Tay offshore wind developer's group (FTOWDG) as well as that undertaken for their original application. We would be happy to advise further if this would be helpful on methods and extent of this study area, particularly as we note the statement regarding distance to the southern shores of the Forth. We recommend the views of all consultees are taken into account to determine the extent of local character assessment including the Zone of Theoretical Visibility (ZTV).

Visibility and zones of theoretical visibility

We consider it would be helpful to explore the changes in visibility from use of larger turbines. In this regard, we suggest that the increase in turbine size could be modelled in appropriate increments (determined by the design process) with the outputs presented on a composite ZTV, or perhaps as individual ZTVs. These could then be compared against the ZTV for the consented scheme which may help us understand if there is any 'step change' to the amount or range of visibility.

Viewpoint Selection

We are content with the proposed viewpoint selection as identified in Table 14 page 67/68 (referred to as Table 9.1 in the text). Other consultees, including Local Authorities may require additional viewpoints with the larger turbines / differing location.

Baseline photography

It is unclear if the existing baseline photography for the viewpoints will be utilised, we would have no issues with this unless new photography may be necessary where views have changed substantially.

Lighting

The landscape and visual impacts of wind farm lighting are mentioned in the scoping Report, however, it is unclear how this matter will be included as part of the assessment at application stage. We advise that all applications for wind turbines requiring lighting should be assessed through the normal Landscape and Visual Impact Assessment process. Whilst the effects may be significant, it is also important that the assessment is proportionate in scope.

We have included some initial advice on the likely effects of (aviation) lighting in paragraphs 2.11 – 2.13 of our guidance on Siting and Designing Wind Farms in the Landscape³. Our interim advice on producing visualisations which show lighting can be found in paragraphs 174-177 of our guidance on Visual Representation of Wind Farms⁴. Due to the challenges and costs of taking photography in the low light levels required, we recommend that applicants only provide visualisations showing lighting from a small selection of viewpoints. We suggest in this instance that the developer's consultants identify key viewpoints which could be used to illustrate this aspect of the assessment for consultation and agreement.

It is important to make the distinction between the 'illustration' of lighting as advocated in our guidance in typically twilight conditions (low light levels at dusk/dawn), and the 'assessment' of lighting required through the SLVIA which will be wider and include twilight and night time conditions.

Appendix B – Ornithology impacts to be addressed in the EIAR

In our view, the scoping Report does not provide a clear account of how impacts to ornithological interests will be addressed for this new application. We have therefore sought to provide below our initial thinking on how Forthwind can make best use of their existing data to assess impacts to key natural heritage features using the most appropriate methods. However, we strongly advise the need for further pre-application dialogue with Forthwind in order to agree (in writing) a draft method statement for ornithological impact assessment prior to submission of the application.

SURVEY DATA

We advise that the previously collected land based Vantage Point (VP) data should not be used in this new assessment; data should instead come from the previously undertaken boat-based surveys. This is because the height of the proposed turbines is much greater than the height bands used in the VP surveys. We note the proposal to use the boat-based survey data for use in estimating potential impacts for the 2b turbine option; we advise using the same survey data to estimate impacts for both the 2a and 2b design scenarios. This will enable comparisons of estimated impacts between the two design scenarios. Use of boatbased data also enables use of the offshore Band model which is current practice for offshore wind proposals rather than the onshore Band model which was used previously. As part of the previous 9 turbine array scoping consultation and follow up meetings, we are aware that boat-based surveys were undertaken but are not sure if these were ever completed?

Appendix D of the scoping Report summarises our scoping advice for the 9 turbine proposal, where we raised some concerns about the use of boat-based surveys to collect bird data in an area where species sensitive to disturbance from boats are present. We also expressed concern regarding the nearshore boat transects extensions, which overlap with locations of turbines 1 and 2a, for which data was collected for one year rather than the recommended two. We advise that our concerns outlined in Appendix D, and those highlighted in meetings with Forthwind relating to the 9 turbine proposal, should be considered and addressed in the forthcoming application.

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) HABITATS REGULATIONS APPRAISAL (HRA)

As with our previous advice, we advise that the following SPAs (see Table 1 below) will need to be considered due to the potential for connectivity between the development and the site. This is because of the potential for impacts from collision, displacement / barrier effects and impacts on supporting habitats. Further information on SPAs, including their conservation objectives, is available from

<https://sitelink.nature.scot/home>

Table 1 -SPAs to be considered

SPA name
Firth of Forth SPA
Forth Islands SPA
Loch Leven SPA
Cameron Reservoir SPA
Outer Firth of Forth and St Andrews Bay complex (OFFSAB) pSPA

We suggest that the (non-breeding) wader species from the Firth of Forth SPA can be screened out. These species are unlikely to utilise the development area to any large extent as they use the intertidal zone to forage. There is therefore unlikely to be any impact from collision or displacement effects.

Collision risk

Having reviewed the boat-based survey flight heights provided in Appendix C of the scoping Report, we have identified those species outlined in Table 2 below with flight heights overlapping with the currently proposed rotor swept zone and as such require consideration for potential collision risk assessment. This long-list is based on the data provided. Other species may need to be considered. Both whooper swan and pink-footed goose have been included at this stage as we are unclear whether the flights recorded represent regular or migratory movements. In our view migratory movements can be scoped out however we would expect further clarification from Forthwind on this going forward.

Table 2 – Species/sites for which collision risk assessment should be considered

Species	Designated site	Season ⁵
Common tern	<ul style="list-style-type: none"> • Forth Islands SPA • OFFSAB pSPA 	<ul style="list-style-type: none"> • Breeding • Breeding
Northern gannet	<ul style="list-style-type: none"> • Forth Islands SPA • OFFSAB pSPA 	<ul style="list-style-type: none"> • Breeding • Breeding
Herring gull	<ul style="list-style-type: none"> • Forth Islands SPA • OFFSAB pSPA 	<ul style="list-style-type: none"> • Breeding • Breeding and non-breeding
Black-legged kittiwake	<ul style="list-style-type: none"> • Forth Islands SPA • OFFSAB pSPA 	<ul style="list-style-type: none"> • Breeding • Breeding and non-breeding
Lesser black-backed gull	<ul style="list-style-type: none"> • Forth Islands SPA 	<ul style="list-style-type: none"> • Breeding
Sandwich tern	<ul style="list-style-type: none"> • Firth of Forth SPA • Forth Islands SPA 	<ul style="list-style-type: none"> • Passage • Breeding
Black-headed gull	<ul style="list-style-type: none"> • OFFSAB pSPA 	<ul style="list-style-type: none"> • Non-breeding
Common gull	<ul style="list-style-type: none"> • OFFSAB pSPA 	<ul style="list-style-type: none"> • Non-breeding
Whooper swan	<ul style="list-style-type: none"> • Loch Leven SPA 	<ul style="list-style-type: none"> • Non-breeding
Pink-footed goose	<ul style="list-style-type: none"> • Loch Leven SPA • Cameron Reservoir SPA 	<ul style="list-style-type: none"> • Non-breeding • Non-breeding

We are mindful that bird survey data collected for the 9 turbine proposal covers a larger area than the current proposal being scoped and as such some recalculation of the survey data based on the 2 turbine development area and buffer may be necessary. We recommend that the survey data is revisited and split according to the GPS tracks from the survey vessel. We would be happy to discuss this further if this would be helpful.

We advise the offshore Band model should be used to estimate collision risk and refer Forthwind to the joint SNCB guidance on the use of avoidance rates⁶ in collision risk modelling. We would like to make Forthwind aware of the recent ORJIP Thanet project that collected bird flight behaviour data in an existing wind farm, which was then used to calculate

updated and empirical avoidance rates. This work was recently reviewed in a project commissioned by the JNCC. A position on recommended avoidance rates in light of these two pieces of work is currently ongoing, which could result in changes to SNHs avoidance rate guidance - we will advise MS further on the timescales for this as soon as we are able.

We are aware of differences observed in Forthwind's site-specific flight heights, compared to the generic flight height distributions recommended for use in the offshore Band model (Johnston et al. 2014). Given the proximity to the coastline, which may result in different bird flight behaviour than in the offshore environment, we advise of the need for a comparison of collision risk estimates between outputs using site-specific flight height data and the Johnston et al. 2014 generic flight height distributions to be provided in the application.

Displacement / barrier effects

We refer Forthwind to the joint SNCB displacement advice note⁷ for details and Table 3 below for those species / sites to be assessed for displacement / barrier effects. A displacement rate of 60% should be used for auk species, with a mortality rate of 2% for puffin and 1% for guillemot and razorbill. The same rates should be used for immatures as for adult birds. As per the SNCB advice note, displacement rates should be presented in a matrix ranging from 0-100% in 10% increments.

To date in Scottish casework, there has been no need to establish displacement rates for seaducks, divers and shags. We are discussing this with the other SNCBS and will provide further advice as soon as possible.

SNH are content that a 1km buffer should be suitable given the scale of the development.

Table 3 - Species / sites to be assessed for displacement / barrier effects

Species	Designated site	Season
Common scoter	<ul style="list-style-type: none"> Firth of Forth OFFSAB pSPA 	<ul style="list-style-type: none"> Non-breeding Non-breeding
Long-tailed duck	<ul style="list-style-type: none"> Firth of Forth OFFSAB pSPA 	<ul style="list-style-type: none"> Non-breeding Non-breeding
Red-breasted merganser	<ul style="list-style-type: none"> Firth of Forth OFFSAB pSPA 	<ul style="list-style-type: none"> Non-breeding Non-breeding
Red-throated diver	<ul style="list-style-type: none"> Firth of Forth OFFSAB pSPA 	<ul style="list-style-type: none"> Non-breeding Non-breeding
Velvet scoter	<ul style="list-style-type: none"> Firth of Forth OFFSAB pSPA 	<ul style="list-style-type: none"> Non-breeding Non-breeding
Common eider	<ul style="list-style-type: none"> Firth of Forth OFFSAB pSPA 	<ul style="list-style-type: none"> Non-breeding Non-breeding
Razorbill	<ul style="list-style-type: none"> Forth Islands SPA 	<ul style="list-style-type: none"> Breeding
Common guillemot	<ul style="list-style-type: none"> Forth Islands SPA OFFSAB pSPA 	<ul style="list-style-type: none"> Breeding Breeding & non-breeding
Atlantic puffin	<ul style="list-style-type: none"> Forth Islands SPA OFFSAB pSPA 	<ul style="list-style-type: none"> Breeding Breeding
Slavonian grebe	<ul style="list-style-type: none"> Firth of Forth OFFSAB pSPA 	<ul style="list-style-type: none"> Non-breeding Non-breeding
Goldeneye	<ul style="list-style-type: none"> Firth of Forth Loch Leven SPA 	<ul style="list-style-type: none"> Non-breeding Non-breeding

	<ul style="list-style-type: none"> • OFFSAB pSPA • Forth Islands SPA • OFFSAB pSPA 	<ul style="list-style-type: none"> • Non-breeding • Breeding • Breeding & non-breeding
European shag		

Apportioning

We refer Forthwind to the SNH guidance on apportioning impacts to SPAs⁸ but highlight that further discussion and agreement is required for non-breeding season qualifiers.

Population modelling

We advise use of stochastic, density independent PVA models that include all age classes and sabbaticals. Recommended rates are for large gulls 35%, kittiwake 10%, guillemot/razorbill/puffin 7%, and gannet 10%.

As indicated Scottish casework to date has not had to consider seaducks, shags or divers, we are currently collating evidence and will provide further guidance on this if PVA is required for these species.

Baseline demographic rates should be based on site specific information where available or Horswill and Robinson 2015 (Review of seabird demographic rates and density dependence. JNCC Report No. 552. Joint Nature Conservation Committee, Peterborough). The impacts should be assessed over 25 years with no recovery period.

Impacts on supporting habitats Assessment of potential impacts on supporting habitats should focus particularly on those species of the Outer Firth of Forth and St Andrews Bay pSPA occurring in the nearshore environment that were observed within the site in notable numbers. This will be a new aspect to be considered in the assessment in light of the status of this site which has since changed to receive full policy protection. Assessment methods will require further discussion and agreement. We have recently commissioned a project aiming to map supporting seabed habitats within all of the current pSPAs. The project is not yet completed but outputs may be relevant to support assessment of potential impacts and we will share findings from this work as it becomes available.

In combination assessment

We advise that MS-LOT should in discussion with other regulators which other projects will require to be considered as part of an in-combination assessment.

Appendix C – Marine mammal impacts to be addressed in the EIAR

We advise that underwater noise is the key impact pathway that may raise significant effects including cumulative effects for cetaceans and seals during wind farm construction and cable installation. Consideration of this impact is achieved through noise modelling. We anticipate that this modelling would inform the assessment process for both the Habitats Regulations Appraisal⁹ and future European Protected Species (EPS) licensing requirements^{10,11} (if consented).

HABITATS REGULATIONS APPRAISAL (HRA)

We anticipate, having reviewed our previous advice that the those SACs outline below in Table 4 will need to be considered under HRA due to potential for connectivity between the development and the site with respect to impacts from underwater noise including cumulative effects.

Table 4 - SACs to be considered

SAC name	Qualifying feature
Firth of Tay and Eden Estuary SAC	harbour seal
Isle of May SAC	grey seal
Moray Firth SAC	bottlenose dolphin

We do not consider that other qualifying features from these SACs or other SACs in close proximity to the development site require further consideration and as such can be scoped out.

Further information on SACs, including their conservation objectives, is available from <https://sitelink.nature.scot/home>

Estimates for seal populations by Management Areas are provided in the latest SCOS Report.

EUROPEAN PROTECTED SPECIES

We have reviewed section 11 with respect to cetacean species and are content that the main species to be scoped in are bottlenose dolphin and harbour porpoise noting that the likelihood of other cetacean species being in the vicinity of the development is low. However, the occasional visit from rarer species cannot be ruled out.

Any mitigation that is put in place to protect bottlenose dolphin and harbour porpoise will also reduce any impacts on other cetacean species that may be in the area.

We do not agree with the conservation value set out in Table 22 on page 90 with respect to EPS. In our view, this should be classed in the 'Very High' category, as with SAC features.

As requested in section 11.7.1 on page 84, the appropriate reference populations for cetaceans are the IAMMWG management units¹³.

SEALS AT HAUL OUTS DESIGNATED UNDER THE MARINE (SCOTLAND) ACT 2010 We do not agree with the conservation values set out in Table 22 on page 90 with respect to seals at haul outs. In our view seal species protected under the Marine (Scotland) Act 2010 should be 'High' rather than 'Medium' as those seal species at a haul-out site are given legal protection under the Marine (Scotland) Act 2010. Notwithstanding this, disturbance of grey and harbour seals at these specific sites is unlikely given the distance to the nearest haulouts. Impacts to seals at haul outs designated under the Marine (Scotland) Act 2010 can therefore be scoped out.

Appendix D – Consideration of other natural heritage interests

We anticipate that all other natural heritage interests will not require detailed

assessment within the EIAR as any residual impacts can be dealt with through consideration in post consent plans (if consented) particularly the Construction Method Statement and Cable Plan for aspects such as the export cable installation. We also highlight a few aspects for which further clarification is needed.

MARINE NON-NATIVE SPECIES

Invasive non-native species in our seas can have significant impacts on both biodiversity and the economy. Construction and operating renewable devices provide clean surfaces for settlement of native and non-native species¹⁴, potentially providing 'stepping-stones' around our coast. The movement of vessels, barges, equipment and renewable devices themselves, both around the UK coast and internationally, could also allow the accidental transfer of invasive non-native organisms. Marine biosecurity planning is therefore a critical step in creating a framework to reduce the risk of introduction.

Since the previous assessment (July 2015 ES), a non-native seaweed, *Undaria pinnatifida* has been found in the Firth of Forth. This is a large, invasive species which could establish on the turbine bases. Consideration of this and other species should therefore be given through:

- A biosecurity plan detailing best-practice steps to be taken to manage these risks and to minimise the transfer and spread of marine invasive non-native species. This should form part of the project PEMP and should include the Check Clean Dry principles.
- Biofouling management practices should be implemented, including the use of antifouling and/or foul-release systems and other operational management practices to reduce the development of biofouling.
- Although guidance specific to the renewables industry is yet to be produced, guidance for other related industries will be useful in identifying ways to minimise risks. For example:
- The Code of Practice published by the Scottish Government on non-native species to provide guidance on the recently amended legislation in Scotland. This CoP came into effect on 2 July 2012 and applies in Scotland only¹⁶.
- Guidelines produced by The International Maritime Organisation (IMO) provide useful recommendations on general measures to minimise the risks associated with biofouling for all types of ships¹⁷.
- Guidance produced for the prevention and management of invasive species in the oil and gas industry¹⁸.

HYDRODYNAMIC PROCESSES & COASTAL GEOMORPHOLOGY

We note from the scoping Report that all potential impacts on hydrodynamic processes and coastal geomorphology have been scoped out, based on previous assessment for the 2016 consented project (July 2015 ES). We advise that depending on the location of the landfall, that future proofing for coastal change impacts due to Climate Change are considered as part of the design process and through post consent plans (if consented).

East Wemyss to Buckhaven Coast GCR / Firth of Forth SSSI (geological features)

Figure 13 on page 40 provides an indicative layout of the onshore works including the cable land fall. However, this figure does not contain sufficient detail to confirm the location of the cable corridor route in relation to East Wemyss to Buckhaven Coast GCR site. Accurate mapping of the landfall location with scale provided is therefore required to confirm that our advice, as issued on 12 May 2016 in response to the July 2015 application, remains valid. This relates to the location of the landfall corridor which we understood at that time to be some 300m north east of the eastern end of this GCR site. Providing the landfall is similarly located some distance away from the GCR site, this advice will remain the same.

Coastal change impacts

As part of the design, we advise of the need to consider coastal change impacts due to climate change. We note from section 4.4.5 page 37 that a pull through trench will be used for landfall and that the option of HDD which was considered in the previous July 2015 ES has been removed. Those options taken forward in the application must future-proof against impacts through coastal change brought about by climate change, including consideration of cable protection in the inshore environment and the potential for further disturbance due to remedial works if it becomes exposed. Further information including guidance can be found on our website¹⁹ and via the Dynamic Coast²⁰ project. This provides a mapping tool that uses recent coastal erosion to project landwards to suggest where the shoreline may be in 2050.

FISH OF CONSERVATION CONCERN

We have no significant issues to raise in relation to fish (including diadromous fish) and agree that impacts on diadromous fish and marine fish Priority Marine Features (PMFs) can be scoped out. We also advise there will not be any likely significant effect on Atlantic salmon, river lamprey and sea lamprey as features of the River Teith SAC. We refer Forthwind to Marine Scotland Science for advice for commercial **marine fish species**.

We note with respect to cable burial and electromagnetic field impacts that a maximum of two cables will be installed in a single trench to a target burial depth of 1m. UK Government recommends that cables are buried to at least 1.5 m, depending on the suitability of the substrates (Department of Energy and Climate Change (DECC), 201121. We therefore advise that the target burial depth should be 1.5 m deep, where possible, especially in shallow waters (defined as below 20m by Gill and Bartlett 2010). Whilst cable burial would not be expected to reduce the extent of the emission field, it would increase the distance between the cable and the water column.

Maritime and Coastguard Agency

SCOPING OPINION REQUEST FOR PROPOSED SECTION 36 APPLICATION AND MARINE LICENCE APPLICATION FOR FORTHWIND OFFSHORE WIND DEMONSTRATION ARRAY, METHIL, FIFE.

Thank you very much for the opportunity to comment on the Scoping opinion for the Forthwind Offshore Wind Demonstration Array. The MCA has reviewed the Report provided by Cierco Ltd, as detailed in your email dated 17th May 2019. The MCA's remit for offshore renewable energy development is to ensure that safety of navigation is preserved whilst progress is made towards government targets for renewable

energy.

We note the Variation of the 36 consent proposed in the applications made on 20 December 2018 on behalf of Forthwind Ltd has been granted by the Scottish Ministers. In addition, the Scottish Ministers consider that the proposed changes are not likely to have a significant effect on the environment and in accordance with the 2017 EW Regulations the Company is not required to submit a new Environmental Impact Assessment Report in support of the Variation Application.

A Navigational Risk Assessment (NRA) will need to be submitted in accordance with MGN 543 (and MGN 372) and the MCA Methodology for Assessing the Marine Navigation Safety & Emergency Response Risks of Offshore Renewable Energy Installations (OREI). This NRA should be accompanied by a detailed MGN 543 Checklist which can be downloaded from the MCA website at <https://www.gov.uk/guidance/offshore-renewable-energy-installations-impact-on-shipping>

It is recognised that a Navigation Risk Assessment (NRA) was assessed in 2015 and whilst the applicant wishes to scope out certain aspects from further assessment, it is not clear to which aspects this refers. The MCA would be content to discuss this further with the applicant. The shipping and navigation study should usually include both radar and manual observations in addition to AIS data to ensure vessels of less than 300gt are captured.

The shipping and navigation study should provide updated data on the 2015 NRA and it is noted in Section 7.2 that a desk-top assessment will be carried out to identify updated information and guidance. It is also noted that the marine traffic data will be updated in consultation with Forth Ports Ltd.

The turbine layout, marking and numbering design will require MCA approval prior to construction to minimise the risks to surface vessels, including rescue boats, and Search and Rescue aircraft operating within the site. This should be carried out in accordance with MGN 543 and its annexes (in particular Annex 5).

The possible cumulative and in combination effects on shipping routes should also be considered, taking into proximity to other potential windfarm developments and the impact on navigable sea room

Particular attention should be paid to cabling routes and where appropriate burial depth for which a Burial Protection Index study should be completed and, subject to the traffic volumes, an anchor penetration study may be necessary. If cable protection measures are required e.g. rock bags, concrete mattresses, the MCA would be willing to accept a 5% reduction in surrounding depths referenced to Chart Datum. This will be particularly relevant where depths are decreasing towards shore and potential impacts on navigable water increase.

Consideration will need to be given to the implications of the site size and location on SAR resources and Emergency Response Co-operation Plans (ERCoP). Attention should be paid to the level of radar surveillance, AIS and shore-based VHF radio coverage and give due consideration for appropriate mitigation such as radar, AIS receivers and in-field, Marine Band VHF radio communications aerial(s) (VHF voice

with Digital Selective Calling (DSC)) that can cover the entire wind farm sites and their surrounding areas.

Any application for Safety Zones will need to be carefully assessed and additionally supported by experience from the development and construction stages.

MGN 543 Annex 2 requires that hydrographic surveys should fulfil the requirements of the International Hydrographic Organisation (IHO) Order 1a standard, with the final data supplied as a digital full density data set, and survey Report to the MCA Hydrography Manager. Failure to Report the survey or conduct it to Order 1a might invalidate the Navigational Risk Assessment if it was deemed not fit for purpose.

It should be noted that if floating wind turbines are being considered then information on potential mooring arrangements should be included in the Environmental Statement. This includes possible anchor and line spread, monitoring during construction and operation, recovery of turbines and Third Party Verification. Reference should be made to recent guidance on regulatory expectations developed by MCA and HSE.

On the understanding that the Shipping and Navigation aspects are undertaken in accordance with MGN 543 and its annexes, along with a completed MGN checklist, MCA are likely to be content with the approach. As this project progress, we would welcome engagement with the developers, and early discussion on the points raised above.

BT Network Radio Protection

OUR REF; WID10990 T1/T2 & WID10895 & WID10734

Dear Sir/Madam

Thank you for your email dated 17/05/2019.

We have studied this variation to the original Windfarm proposal with respect to EMC and related problems to BT point-to-point microwave radio links.

The conclusion is that, the Project indicated should not cause interference to BT's current and presently planned radio network.

UK Chamber of Shipping

The UK Chamber of Shipping thanks Marine Scotland for the opportunity to respond the Forth wind Consultation. The Chamber does not, at this time, have any comments to make, but looks forward to being involved in the consultation process going forward.

Defence Infrastructure organisation

Please quote in any correspondence: DIO22867

Site Name: Forthwind Offshore Wind Demonstration Project

Site Address: Methil, Fife. Scotland

Thank you for your pro-forma requesting scoping advice from the Ministry of Defence (MOD) regarding your proposed wind energy development variation.

I am writing to tell you that the MOD has no concerns with the proposal. Our assessment has been carried out on the basis that there will be 2 turbines at 250.00 metres to blade tip and located at the grid references below.

Turbine	Easting	Northing
1	336964	696677
2a	337812	697336
2b	337319	694939

Meteorological Office Radar

The Met Office is now a statutory consultee for planning relating to their technical infrastructure, therefore the MoD has not informed the Met Office of this pre-application. If your development falls within any of the Met Office safeguarded zones you will need to contact the Met Office directly. More information is available on the Met Office website at

If the application is altered in any way, we must be consulted again as even the slightest change could unacceptably affect us.

If you apply for planning permission, you must ensure that the relevant planning authority consults this office to ensure that no concerns have arisen since the date of this letter.

If planning permission is granted you must tell us;

- the date construction starts and ends;
- the maximum height of construction equipment;
- the latitude and longitude of every turbine.

This information is vital as it will be plotted on flying charts to make sure that military aircraft avoid this area.

It should be noted that this response is based on current levels of wind farm development in the area and on current technical and operational parameters. If additional wind farms are consented or built, or if our assessment parameters alter prior to this development being submitted for planning consent, our position may change.

Defence Infrastructure Organisation Safeguarding wishes to be consulted and notified of the progression of planning applications and submissions relating to this proposal to verify that it will not adversely affect defence interests.

I hope this adequately explains our position on the matter. If you require further information or would like to discuss this matter further, please do not hesitate to contact me.

Unless directed otherwise, the Ministry of Defence will treat all pre-application information in confidence and the information will only be used or disclosed in accordance with the wishes of the confider.

Further information about the effects of wind turbines on MOD interests can be obtained from the following websites:

MOD: <https://www.gov.uk/government/publications/wind-farms-ministry-of-defence->

[safeguarding](#)

Edinburgh Airport

This development is out with Edinburgh Airports Safeguarding Zone therefore we would have no objections to this application.

Forth Ports

We have considered the papers provided and have the following comments:

1. There is a new proposed site for turbine 2. Location 2.b. poses concerns as it will require the removal of anchorage Kilo 1 from use and may limit the use of Anchorage Mike 3. There were discussions started previously with Forthwind/2bEnergy and these will need to continue and conclude to our satisfaction prior to location site 2.b being considered as acceptable for turbine 2.
2. The scoping document states Forth Ports will provide AIS data for review process - we have not agreed to this, rather we stated we would check if this could be made available and is so what potential cost may be incurred for doing so, which would be for Forthwind account.

Historic Environment Scotland

Thank you for your consultation which we received on 17 May 2019 about the above scoping Report. We have reviewed the details in terms of our historic environment interests. This covers world heritage sites, scheduled monuments and their settings, category A-listed buildings and their settings, inventory gardens and designed landscapes, inventory battlefields and historic marine protected areas (HMPAs). Fife Council's archaeological and cultural heritage advisors will also be able to offer advice on the scope of the cultural heritage assessment. This may include heritage assets not covered by our interests, such as unscheduled archaeology, and category B- and C-listed buildings.

Proposed Development

I understand that the proposals comprise the installation of new wind turbine technology at the Forthwind Offshore Wind Demonstration Array on the northern shore of the Firth of Forth. This will involve the construction of two wind turbines with a maximum rotor tip height of 250m and new foundations.

Scope of Assessment

It is our view that the development proposals have the potential to affect marine and terrestrial historic environment features within our remit. Any Environmental Impact Assessment (EIA) undertaken for the proposals should therefore include an assessment of impacts on the historic environment. This should consider the potential for impacts on the setting of terrestrial heritage assets located in the vicinity of the proposals, as well as the potential for impacts on unscheduled marine archaeology. We recommend that this assessment is undertaken by a suitably qualified professional and meets the requirements of Scottish Planning Policy (SPP, 2014), the Historic Environment Policy for Scotland (HEPS, 2019) and associated Managing Change Guidance Notes.

Terrestrial Heritage Assets

Any assessment should pay particular attention to impacts on the setting of the below terrestrial heritage assets located along the Fife coastline.

- MacDuff's Castle and the Caves at East Wemyss (Scheduled Monument, Index no. 817),
- Wemyss Castle (Inventory Designed Landscape, GDL384)
- Wemyss Castle (Category A listed building, LB16709).

Further to this, we recommend that ZTV analysis is used to identify additional terrestrial heritage assets which may be affected by the proposals. Consideration should also be given to where turbines may appear in views behind heritage assets not located within the ZTV.

We also recommend that this assessment should be supported by appropriate visualisations, including photomontage and wireframe views of the development in relation to the above heritage assets and their settings. A visualisation taken from the Fife Coastal path in the vicinity of Jonathan's Cave toward the proposed turbines would be particularly helpful, alongside visualisations taken from MacDuff's Castle and the Wemyss Castle Inventory Designed Landscape.

Cumulative impacts resulting from this development in combination with other existing and proposed wind farm developments within the surrounding area should also be considered. This should be supported by cumulative visualisations where appropriate.

Marine Archaeology

We note the Scoping Report (April 2019) proposes excluding marine archaeology from the scope of the assessment. We are uncertain about the potential for impacts on unscheduled marine archaeology in this instance and do not consider that sufficient information has been provided within the Scoping Report for us to reach a view on this.

Section 16.4 of the Scoping Report identifies that a substantial proportion of the potential development area has been surveyed and no anomalies of archaeological potential were found. There is, however, no clarification of when these surveys were undertaken, what they comprised, or which areas were and were not surveyed. There is also no consideration of the potential for physical processes to have altered the baseline conditions found during these earlier surveys. We therefore require further information about this survey work to reach a view on the archaeological potential of the site. This should include an explicit consideration of where sandbanks or large mobile bedforms may affect the marine archaeological potential for the site.

Section 16.4 also states that a magnetometer survey will be carried out. It does not describe at what stage in the development process this will happen, nor how the results will be analysed for their archaeological potential. It does not explain fully why magnetometry survey is proposed rather than any other forms of survey. We would expect any additional survey work to be carried out at an early stage in the EIA process so that if any archaeological features are encountered they are not only "identified and

recorded” as stated in the Report, but can be actively avoided by windfarm infrastructure if necessary.

Further information

A new Historic Environment Policy for Scotland (HEPS, 2019) was adopted on the 1st May 2019, which replaces the Historic Environment Scotland Policy Statement (HESPS, 2016). The new Historic Environment Policy for Scotland is a strategic policy document for the whole of the historic environment and is underpinned by detailed policy and guidance. This includes our Managing Change in the Historic Environment Guidance Notes. All of these documents are available online at www.historicenvironment.scot/heps.

Practical guidance and information about the EIA process can also be found in the EIA Handbook (2018). This is available online at <https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=6ed33b65-9df1-4a2f-acbb-a8e800a592c0>

We hope this is helpful. Please contact us if you have any questions about this response. The officer managing this case is Alison Baisden and they can be contacted by phone on 0131 668 8575 or by email on Alison.Baisden@hes.scot.

The Joint Radio Company Limited

A Windfarms Team member has replied to your coordination request, reference WF412576 with the following response:

Dear Sir/Madam,

Planning Ref: Section 36

Name/Location: SCOPING OPINION REQUEST FOR PROPOSED SECTION 36 APPLICATION AND MARINE LICENCE APPLICATION FOR FORTHWIND OFFSHORE WIND DEMONSTRATION ARRAY , METHIL, FIFE .

Total 2 turbines (revised 22 May 2019) :-

T1: 336964 696677

T2: 337812 697333

Development Radius: n/a

Hub Height: 138m Rotor Radius: 113m

This proposal cleared with respect to radio link infrastructure operated by:
Scottish Power and Scotia Gas Networks

JRC analyses proposals for wind farms on behalf of the UK Fuel & Power Industry. This is to assess their potential to interfere with radio systems operated by utility companies in support of their regulatory operational requirements.

In the case of this proposed wind energy development, JRC does not foresee any potential problems based on known interference scenarios and the data you have provided. However, if any details of the wind farm change, particularly the disposition or scale of any turbine(s), it will be necessary to re-evaluate the proposal.

In making this judgement, JRC has used its best endeavours with the available data, although we recognise that there may be effects which are as yet unknown or inadequately predicted. JRC cannot therefore be held liable if subsequently problems arise that we have not predicted.

It should be noted that this clearance pertains only to the date of its issue. As the use of the spectrum is dynamic, the use of the band is changing on an ongoing basis and consequently, developers are advised to seek re-coordination prior to considering any design changes.

National Air Traffic Services

Thanks for your reply. The proposed development has been examined from a technical safeguarding aspect and does not conflict with our safeguarding criteria. Accordingly, NATS (En Route) Public Limited Company ("NERL") has no safeguarding objection to the proposal.

However, please be aware that this response applies specifically to the above consultation and only reflects the position of NATS (that is responsible for the management of en route air traffic) based on the information supplied at the time of this application. This letter does not provide any indication of the position of any other party, whether they be an airport, airspace user or otherwise. It remains your responsibility to ensure that all the appropriate consultees are properly consulted.

If any changes are proposed to the information supplied to NATS in regard to this application which become the basis of a revised, amended or further application for approval, then as a statutory consultee NERL requires that it be further consulted on any such changes prior to any planning permission or any consent being granted.

Northern Lighthouse Board

We are in receipt of correspondence dated 21st May 2019 requesting comments regarding the Scoping Report submitted by Forthwind Ltd to construct and operate the Forthwind 2 Turbine Array, located between 1.5km and 3.3km off the Fife coastline at Methil.

Northern Lighthouse Board have provided comment on previous iterations of this application, and note that some of these previous recommendations have been included within the Scoping Report. We have reiterated these requirements below.

We note that the Scoping Report does not provide a confirmed position of Turbine 2. Northern Lighthouse Board's recommendations would remain the same for either position 'A' or 'B'.

Northern Lighthouse Board also note that the adjacent 'Nearth na Gaoithe' Offshore windfarm will be included within a study of the cumulative impacts of the Forthwind development.

We require the developer to establish a Navigational Safety Plan and a Lighting and Marking Plan. The latter should indicate proposed marking and lighting for the three phases of the wind farm life, namely the construction, operational and de-commissioning phases, to give the best possible indication to the mariner of the nature of the works being carried out.

Construction Phase

During the construction phase we would require that the site boundary shall be marked by a series of lit Cardinal Mark or Special Mark buoys, to be agreed with Northern Lighthouse Board and the Harbour Authority. These buoys shall be a minimum of 3 metres in diameter at the waterline, have a focal plane of at least 3 metres above the waterline and be fitted with a topmark and radar reflector. The light range on these buoys shall be 3 Nautical Miles. If the construction phase of the project is to exceed 6 months, these buoys will require the Statutory Sanction of the Northern Lighthouse Board.

Operational Phase

In general terms, during the Operational Phase the windfarm site shall be marked and lit as per IALA Recommendation O-139. It is noted that a number of these recommendations are already addressed within the Scoping Report;

- The tower of every wind generator should be painted yellow all round from the level of Highest Astronomical Tide (HAT) to 15 metres or the height of the Aid to Navigation, if fitted, whichever is greater.
- Both turbines shall be designated as Significant Peripheral Structures (SPS). The SPS structures shall have lights visible from all directions in the horizontal plane. These lights should be synchronised to display a character of one yellow flash every 5 seconds, and should have a nominal range of not less than 5 nautical miles. The nominal range of these lights should be 5 nautical miles. However in the case of a light showing immediately to landward this may be reduced to 2 nautical miles.
- All lights shall be placed not less than 6 metres and not more than 30 metres above Mean High Water Springs (MHWS)
- NLB are content that no fog signal is required on either turbine.
- AIS Aids to Navigation (AtoN) should be fitted to the most Southerly turbine, indicating the name and location of the turbine. A radio licence will be required from OFCOM to establish this AtoN.
- Each tower shall display identification panels with black letters or numbers one metre high on a yellow background visible in all directions. These panels shall be easily visible in daylight as well as at night, by the use of illumination or retro-reflecting material.
- All navigation lights should have an availability of not less than 99.8% (IALA Category 1) over a rolling three year period. AIS AtoN should have an availability of not less than 97% (IALA Category 3) over a rolling three year period.
- Where aviation anti-collision lights are installed, these should be synchronised lights flashing Morse character 'W'. A derogation from the requirement for fixed red lights should be obtained from the Civil Aviation Authority.

- It may also be necessary to mark the landfall site of the export cable routes. We would then require that Cable Marker Boards should be positioned as near as possible to the shoreline so as to mark the points at which the cables come ashore. The Cable Marker Boards shall be diamond shaped, with dimensions 2.5 metres long and 1.5 metres wide, background painted yellow with the inscription 'Cables' painted horizontally in black. The structures shall be mounted at least 4 metres above ground level.

Decommissioning Phase

When the site reaches the end of its designed life and there is a need to enter into dialogue with stakeholders on decommissioning options, we would require that the Northern Lighthouse Board is consulted on the requirement for marking and lighting during this phase.

General

All navigational marking and lighting of the site or its associated marine infrastructure will require the Statutory Sanction of the Northern Lighthouse Board prior to deployment.

We would require that Notice(s) to Mariners, Radio Navigation Warning and publication in appropriate bulletins will be required stating the nature and timescale of any works carried out in the marine environment relating to this project.

We would require that the turbine installation locations, cable routes and cable landing points should be communicated to the United Kingdom Hydrographic Office in order that all relevant charts and publications can be correctly updated.

We note that a comprehensive contingency plan will be required, detailing the emergency response to all possible catastrophic failure and collision scenarios. Northern Lighthouse Board are willing to meet with the developer to assist with the development of a Lighting and Marking Plan, if required.

Please advise if we can be of any further assistance, or if you require clarification any of the above.

ORE Catapult

By way of introduction, I act for Offshore Renewable Energy Catapult ("ORE Catapult") as in-house Legal Counsel.

With respect to the consultation below (in respect of which you ask for response by email), we have the following comments:

Noise

We note that the applicant proposes to use background data collected in 2015. In terms of the novelty and quality of data which would normally be collected in support of an Environmental Impact Assessment, our view is that the 2015 data is very old and would not reflect the current baseline situation.

Our view is therefore that new baseline data should be collected. It is crucial in our

view that, in doing so, such new data should be adjusted to remove the operational noise resulting from the Levenmouth Demonstration Turbine from the calculation.

The applicant states that it will carry out cumulative noise assessment. We have no issue with that but would raise that this should have no impact on the Levenmouth Demonstration Turbine or its operation. Given the significantly increased impact of the now-consented development, our view is that the current requirement on ORE Catapult should be removed.

Shadow Flicker

We would simply raise that, in our opinion, a cumulative assessment should be carried out which includes any effects arising from the Levenmouth Demonstration Turbine and other windfarm developments within the potential shadow flicker zone.

Ornithology (Cumulative Bird Management)

Our view is that, similarly with noise, new data should be collected. Data from 2015 is out of date and the advice we have received suggests that the 2017 data is nearing the end of its useful life as well.

We would suggest that 1 year of data should be collected to update the surveys, although this is something that other consultees will no doubt comment upon.

There is, at present, an understanding that ORE Catapult would be expected to undertake further surveys if the previously consented development was implemented. Given that the Forthwind development is now consented up to 29.9MW, our view is that this requirement on ORE Catapult should be removed.

We would be grateful if you could consider the above comments as part of the consultation and, in the meantime, acknowledge receipt hereof

Royal Society for the Protection of Birds Scotland

Thank you for inviting comments on the below noted scoping Report. In addition to our comments below, our submissions to previous related applications (and variations) and scoping responses remain pertinent to this new scoping Report and proposal.

We welcome the innovation and demonstration potential offered by projects such as this, particularly given the opportunities it may offer to increase our renewable energy capacity and help meet our climate emissions targets. We limit our comments to ornithology and wish to make the following key points which we hope can be considered and included in the forthcoming environmental assessment:

- The proposal is located within or adjacent to internationally designated Special Protection Areas and in addition to the EIA, will require a habitats regulations appraisal.
- Cumulative impacts of this proposal with other offshore development will be required. The large commercial scale offshore wind farm projects in the Firths of Forth and Tay region will be particularly relevant with seabird population scale impacts needing to be a focus in the assessment.
- The scoping Report suggests that survey data from pre-2015 will be used to inform assessment of Option 1 turbine layout and data from pre-2017 used for Option 2 layout. The older the data supporting the environmental assessment

the more uncertainty there is in the conclusions. Full and detailed justification will be required in the assessment to demonstrate that the underlying survey data is adequate and suitably robust for the purposes of defining the potential impacts. Additionally, expression of uncertainty in assessment outputs is necessary.

- Collision risk modelling will require appropriate survey data. This is important when considering the suitability of using data collected from different survey methods (i.e. on and offshore surveys).
- In Table 23 – we do not support the percentages presented in the guides to assessing magnitude of effect. Magnitude of effect is dependent on the species and population being assessed, using a generic percentage value of impact will not account for the specifics of the species and population being assessed. Therefore the guide could be very misleading and misrepresent significance.

I hope these comments prove useful and we would be willing to discuss or consider early drafts of the environmental assessment as it progresses.

Royal Yachting Association

I have read the scoping Report for the revised forthwind proposal and agree with the statements made about recreational boating in particular that the information gathered on recreational boating during the Hazard Review Workshop held on 20 October 2017 is still valid. I note that the data on recreational boating movements will be updated using the current version of the RYA UK Atlas of Recreational Boating, which is also on NMPI. The Boundaries of the general sailing areas were re-drawn for the current version of the atlas and the areas have been reduced in size. Neither the RYA nor RYA Scotland hold additional information. There is no RYA affiliated club at Methil although there is a boating club based there. As far as I am aware, there are no races held in the vicinity of the development and although there are races from the Forth to the Tay, the wind turbines will be no more of a hazard than the oil platforms that are moored nearby.

Scottish Fisherman's Federation

The SFF has concerns that this is no longer an application for a demonstration, but almost a full commercial exercise.

Given that in the past this developer has used small applications to presage expanded versions, we would need to be reassured of the ultimate plan.

Also, the developer is now aware of the commercial fishing it will impact on so that must be scoped in.

Sport Scotland

I see this is an amendment to a consented scheme that we had no issue with when initially consulted.

Accordingly I can advise we have no comment.

Transport Scotland

With reference to your recent correspondence on the above development, we acknowledge receipt of the Environmental Scoping Request (ESR) prepared by Cierco Ltd in support of the above development.

This information has been passed to SYSTRA Limited for review in their capacity as Term Consultants to Transport Scotland – Roads Directorate. Based on the review undertaken, we would provide the following comments.

Proposed Development

We understand that in December 2016, Forthwind Ltd secured a Marine Licence and Section 36 Consent for the installation and operation of two demonstration offshore wind turbines sited approximately 1.5km from the coast of Methil. The closest trunk road to the site is the A92(T), located approximately 6km west of the site.

Forthwind Ltd are now seeking a new consent to reflect recent changes in both the offshore wind industry and wind turbine technology. The revised content comprises two offshore wind turbines with a nominal capacity of between 12MW and 15MW. The ESR states that the revised design is broadly similar in terms of locations and some aspects of its design envelope to the original application for the 2016 consented project. However, the revised turbine design consists of a three-bladed upwind horizontal axis wind turbine with a rotor diameter of up to 225m with a rated power of at least 12MW. It will have a hub height of 137.5m above Highest Astronomical Tide (HAT).

Access and Transport

It is noted that the transportation of the turbine components is described within Chapter 16.1 of the ESR. In this, it is stated that the majority of the turbine components will either be assembled on site or delivered to site by sea, either directly or via a suitable port. There will, therefore, be no abnormal loads generated during the construction phase. The ESR indicates that overall, the traffic generated during construction will be minimal, essentially limited to the transportation of the equipment required for landfall and the delivery of a number of onshore elements to the Fife Energy Park.

With regard to the offshore element of the proposal, it is considered that this will not have any environmental impact on the trunk road network.

In light of the information provided, we can confirm that we have no objection to the proposal in terms of trunk road environmental impacts and do not require any further information.

I trust that the above is satisfactory but should you wish to discuss in greater detail, please do not hesitate to contact Alan DeVenny at SYSTRA's Glasgow Office on 0141 343 9636

Appendix II: Licensing Process

Consent Timescale and Application Quality

In December 2007, Scottish Ministers announced an aspirational target to process new section 36 applications within a 9 month period, provided a Public Local Inquiry (“PLI”) is not held. This Scoping opinion is specifically designed to improve the quality of advice provided to developers and thus reduce the risk of further information being requested and subject to further publicity and consultation cycles.

Application

The application letter must detail how many licences are being sought, what marine licensable activities are proposed and what legislation the application is being made under.

Developers should be aware that the EIA should also be submitted in a user-friendly PDF format which can be placed on the Scottish Government website. Developers are asked to issue the EIA directly to consultees. Consultee address lists can be obtained from Marine Scotland. Marine Scotland also requires 2 hardcopies to be submitted for onward distribution.

Scottish Natural Heritage (“SNH”) has produced a Service Level Statement (“SLS”) for renewable energy consultation. This statement provides information regarding the level of input that can be expected from SNH at various stages of the EIA process. Annex A of the SLS details a list of references, which should be fully considered as part of the EIA process. A copy of the SLS and other vital information can be found on the renewable energy section of their website – www.nature.scot

Requirement for Public Pre-Application Consultation

From 6th April 2014, applications received for certain activities will be subject to a public pre-application consultation requirement. Activities affected will be large projects with the potential for significant impacts on the environment, local communities and other legitimate uses of the sea. The new requirement will allow those local communities, environmental groups and other interested parties to comment on a proposed development in its early stages – before an application for a marine licence is submitted.

Guidance on public pre-application consultation can be found at the following: <http://www.scotland.gov.uk/Resource/0043/00439649.pdf>

Ordinance Survey (“OS”) Mapping Records

Developers are requested at application stage to submit a detailed OS plan showing the site boundary and location of all deposits and onshore supporting infrastructure in a format compatible with The Scottish Government’s Spatial Data Management Environment (“SDME”), along with appropriate metadata. The SDME is based around Oracle RDBMS and ESRI ArcSDE and all incoming data should be supplied in ESRI

shape file format. The SDME also contains a metadata recording system based on the ISO template within ESRI ArcCatalog (agreed standard used by The Scottish Government); all metadata should be provided in this format.

Gatecheck

The Scottish Ministers undertake a gatecheck prior to formal submission of applications and advises you to take full advantage of this service. The gatecheck is not designed as an in depth evaluation of the content of an EIA. However, it will allow the Scottish Ministers the confidence that minimum legislative requirements have been met prior to formal submission of the EIA. This should reduce the risk of the potential requirement for you to submit an addendum to the EIA and therefore be subject to re-advertisement and re-consultation for 42 days. In order to assist the gatecheck process, a thorough gap analysis (Appendix III) of the issues identified in this Scoping opinion should be drawn up for submission with the EIA. It should be noted that gatecheck will only take place if the final and full version of the EIA is submitted. This process can take up to three months to complete.

HRA screening

As issues in relation to HRA have been raised in this scoping Report, HRA screening should be considered prior to gatecheck. This will allow advice to be given in greater detail regarding the protected sites and qualifying interests to be considered within the HRA Report.

Advertisement

Where the applicant has provided the Scottish Ministers with an EIA Report, the applicant must publish their proposals in accordance with regulation 16 of the 2016 marine works Regulations and ensure that a reasonable number of copies of the EIA Report are available for inspection at any place named in the publication. Licensing information and guidance, including the specific details of the adverts to be placed in the press, can be obtained from the Scottish Ministers. If additional information is submitted further public notices will be required.

EPS licence

European Protected Species (“EPS”) are animals and plants (species listed in Annex IV of the [Habitats Directive](#)) that are afforded protection under [The Conservation \(Natural Habitats, &c.\) Regulations 1994](#) (as amended) and [The Conservation of Offshore Marine Habitats and Species Regulations 2017](#) . All cetacean species (whales, dolphins and porpoise) are European Protected Species. If any activity is likely to cause disturbance or injury to a European Protected Species a licence is required to undertake the activity legally.

A licence may be granted to undertake such activities if certain strict criteria are met:

- there is a licensable purpose;
- there are no satisfactory alternatives, and;

- the actions authorised will not be detrimental to the maintenance of the population of the species concerned at favourable conservation status in their natural range.

Applicants must give consideration to the three fundamental tests and should refer to the [guidance on the protection of marine European Protected Species](#) for more detailed information in relation to Scottish Inshore Waters. Applicants may choose to apply for an EPS licence following any grant of consent once construction methods have been finalised, however it is useful to include a shadow EPS assessment within the EIA.

Basking sharks are also afforded protection under the Wildlife & Countryside Act 1981 (as Amended by the Nature Conservation (Scotland) Act 2004).

Appendix III: Gap Analysis



Appendix III - Gap Analysis.xlsx

APPLICANT TO COMPLETE								FOR MS-LOT ONLY					
Consultee					Applicant			Comments	Reviewed				
Consultee	Number/reference	Consultee's response	Chapter/paragraph	Summary of response (Key concern, etc)	Response from applicant	Evidence eg. ES reference	Comments		Comments	by	date	by	date