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Scoping Opinion

Adopted by the Scottish Ministers under

- The Marine Works (Environmental Impact Assessment) (Scotland)
Regulations 2017 (as amended)
And

- The Electricity Works (Environmental Impact Assessment) (Scotland)
Regulations 2017 (as amended)

Forthwind Ltd

Forthwind Offshore Wind Demonstration Project

22 December 2021

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1. Introduction

1.1 Background

- 1.1.1 On 04 August 2021, the Scottish Ministers received a scoping report (“the Scoping Report”) from Cierco Ltd on behalf of Forthwind Limited (“the Developer”) as part of its request for a scoping opinion relating to Forthwind Offshore Wind Demonstration Project (“the Development”). In accordance with regulation 14 of The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017 and The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (collectively referred to as “the EIA Regulations”) the Scottish Ministers considered the content of the Scoping Report to be sufficient.
- 1.1.2 This Scoping Opinion is adopted by the Scottish Ministers under the EIA Regulations (“the Scoping Opinion”) in response to the Developer’s request and should be read in conjunction with the Scoping Report. The matters contained in the Scoping Report have been carefully considered by the Scottish Ministers and use has been made of professional judgment, based on expert advice from stakeholders and Marine Scotland in-house expertise and experience. The Scoping Opinion identifies the scope of impacts to be addressed and the method of assessment to be used in the Environmental Impact Assessment Report (“EIA Report”) for the Development.
- 1.1.3 The Scottish Ministers, in adopting the Scoping Opinion, have, in accordance with the EIA Regulations, taken into account the information provided by the Developer, in particular, information in respect of the specific characteristics of the Development, including its location and technical capacity and its likely impact on the environment. In addition, the Scottish Ministers have taken into account the representations made to them in response to the scoping consultation they have undertaken.
- 1.1.4 In examining the EIA Report, and any other environmental information, the Scottish Ministers will seek to reach an up to date reasoned conclusion on the significant effects on the environment from the Development. This reasoned conclusion will be considered as up to date if the Scottish Ministers are satisfied that current knowledge and methods of assessment have been taken account of. For the avoidance of doubt, this Scoping Opinion does not preclude the Scottish Ministers from requiring the Developer to submit additional information in connection with any EIA Report submitted with application/s for marine licence/s under the Marine (Scotland) Act 2010 (“the 2010 Act”) or Section 36 consent under the Electricity Act 1989. In the event that the Developer does not submit applications for marine licences or s.36 consent for the Development within 12 months of the date of this Scoping

Opinion, the Scottish Ministers strongly recommend that the Developer seeks further advice from them regarding the validity of the Scoping Opinion.

- 1.1.5 The Scottish Ministers advise that, as more than one set of environmental impact assessment regulations apply, the most stringent requirements must be adhered to in terms of, for example, consultation timelines and public notice requirements.

2. The Development

2.1 Introduction

2.1.1 This section provides a summary of the description of the Development provided by the Developer in the Scoping Report together with the Scottish Ministers' general comments in response. The details of the Development in the Scoping Report have not been verified by the Scottish Ministers and are assumed to be accurate.

2.2 Description of the Development

2.2.1 The Development comprises a single turbine, a single meteorological mast, an export cable and a single 'inter array' cable.

2.2.2 The turbine will be located approximately 1.5 km from mean high-water springs (MHWS) level of the northern shore of the Firth of Forth at Methil, Scotland. The export cable will connect the turbine to an onshore sub-station at Fife Energy park. The meteorological mast will be installed 625 metres to the south west of the turbine. The inter-array cable will connect the meteorological mast with the turbine.

2.2.3 The Development will include the construction and operation of a single offshore wind turbine generator and all associated offshore infrastructure.

2.2.4 The Development will have a capacity of 20 Mega Watts ("MW") and therefore requires the Scottish Ministers' consent under section 36 of the Electricity Act 1989 to allow its construction and operation.

2.2.5 The Development will involve the carrying on of a number of 'licensable marine activities' and therefore require marine licences granted by the Scottish Ministers under the 2010 Act.

2.2.6 The key components of the Development include:

A single horizontal axis wind turbine with the following parameters:

Number of blades	3
Orientation	Upwind
Direction of Rotation	Clockwise
Rotor Diameter	255 metres
Length of rotor	122.5 metres
Blade swept area	45,244 m ²
Hub height	156 m HAT

Tip height above HAT	280 m HAT
Blade Clearance to HAT	25 metres
Rated Capacity	up to 20 MW
Voltage	66kV
Converter	Full size
Structure Tubular	Steel Tower
Number of structure legs	4 legs on Steel Jacket / Transition Piece
Foundation	Either 4 pin piles (one per leg) of 2.5 – 3.5m diameter per pin pile Or Monopile of 10m dia.
Maximum depth	50m per pile
Design Life	25 years

A single meteorological mast with the following parameters:

Height	160 m HAT
Structure	Lattice Steel Tower
Number of structure legs	3 legs to transition piece
Foundation	8m diameter monopile or gravity base
Design Life	5 years

A 66 kV electricity export cable to transmit electricity from the turbine to shore.

A communications and power cable approximately of 625 meters in length to connect the meteorological mast to the turbine.

- 2.2.7 The bottom end of the structure will be painted yellow (RAL 1004 Golden Yellow) from the level of Highest Astronomical Tide (HAT) up to 15 metres. Above 15m, the structure, turbine and blades will be painted grey (RAL 7035 Light Submarine Grey) and, subject to agreement with the CAA, the Developer proposes that the turbine is fitted with a single 200 candela red aviation hazard light, with fixed illumination (i.e., not flashing) on the top of the nacelle.
- 2.2.8 The turbine tower will extend from the turbine to a transition piece which will then connect to either a steel frame structure (Jacket) or tubular monopile. The transition piece will be secured to the foundations via bolts or grout. The transition piece will include a boat landing arrangement, ladders, a crane and other ancillary components as well as a flange for connection to the turbine tower.
- 2.2.9 The jacket foundation comprises of a lattice tubular steel members and welded joints, fixed to the seabed using a piled foundation. Corrosion protection will

be required for all substructure elements and for areas of the structure within the splash zone, which is likely to be in the form of cathodic protection and protective coatings. Sacrificial anode cathodic protection and ICCP (Impressed Current Cathodic Protection) are the options being considered for cathodic protection.

- 2.2.10 Alternatively, the monopile foundation would consist of a single steel tubular section made from several sections of rolled steel plate welded together. The selection of the eventual pile foundation type will be dependent on the ground conditions and the design considerations for the turbine.
- 2.2.11 Piles will be installed using a drill pile technique.
- 2.2.12 The base case for the meteorological mast will have a monopile foundation, however the project envelope will include the option to employ a gravity base as an alternative foundation option.
- 2.2.13 Installation of the turbine and meteorological mast is anticipated to take place over a 2 to 3 month period, after which the turbine and meteorological mast will undergo testing and commissioning.
- 2.2.14 The turbine will be expected to be operational for a period of 25 years from final commissioning and the meteorological mast will be operational for a period of 5 years from final commissioning.
- 2.2.15 The export cable will connect the turbine to an onshore sub-station at Fife Energy Park. A 20 mm² fibre optic communications cable will run alongside the power cable to link the cable to the SCADA system.
- 2.2.16 A communications and power cable approximately of 625 meters in length will connect the meteorological mast to the turbine.
- 2.2.17 The main construction phases and likely sequence (with overlap between phases) are as follows:
- Site preparation for foundations; including levelling or pre-piling operations offshore and onshore/intertidal cable routes.
 - Installation of the piled foundations.
 - Concurrent offshore site preparation and installation of electricity inter array and export cables
 - Installation of wind turbine and meteorological mast.
 - Commissioning and energy export.
- 2.2.18 The preferred installation method for the export cable and met mast cable will be to bury (to a target depth of 1 to 1.5m) by either ploughing, jetting or

trenching. The cables may alternatively be laid on the seabed and protected by a suitable method (such as matressing or rock placement on top of the cables) where burial is not possible/effective.

- 2.2.19 The cable route trenching, duct installation and cable installation activities are scheduled to be undertaken over a period of 7 days, avoiding the sensitive overwintering period between October and February for the relevant bird species within the intertidal zone.
- 2.2.20 The final detailed route of the export cable from the turbine will be based on the geophysical, geotechnical and benthic surveys.
- 2.2.21 It is noted that the Scoping Report lists the 'Development' but does not clearly establish all activities for which 'regulatory approval' will be sought.
- 2.2.22 Regulatory approvals will be required for all construction activities, whether as part of the original construction or any subsequent alteration or improvement, any deposit on, or removal from on or under, the seabed of substances, any dredging and deposit¹ (for instance ground preparation for turbines), and any use of explosive substances.
- 2.2.23 Any reference to the 'Development' in this Scoping Opinion should be taken, as appropriate, to include all activities in connection with the construction, operation, maintenance (including 'change-outs' of components) and decommissioning of the 'Development' for which a regulatory approval will be needed.
- 2.2.24 It is worth noting that guidance on decommissioning of offshore renewable energy installations under the Energy Act 2004 from BEIS², whilst relevant to a separate regulatory function under the Energy Act 2004, states that the International Maritime Organisation's standards set out that any infrastructure placed in the marine environment should be designed with full removal in mind. This should feature in the design of the Development and be described in the EIA Report.
- 2.2.25 It is also worth noting NatureScot (the operating name of Scottish Natural Heritage) advice in relation to future proofing for coastal change impacts due to climate change as part of the design process.

¹ [Pre-disposal+sampling+guidance.pdf \(www.gov.scot\)](http://www.gov.scot)

² [Decommissioning of offshore renewable energy installations under the Energy Act 2004: guidance notes for industry \(publishing.service.gov.uk\)](http://publishing.service.gov.uk)

2.3 Onshore/Planning/Harbour Revision Order

- 2.3.1 In its Scoping Report, the Developer states that 'deemed planning' is to be sought as part of the section 36 consent application process. However, in subsequent communication (dated 22 Sept 2021), the Developer has advised the Scottish Ministers that it no longer seeks to pursue deemed planning and will pursue relevant permission for onshore elements on the project from the Local Authority.
- 2.3.2 No communication by the Developer with Scottish Ministers has clarified if any 'onshore EIA' is required and the Scottish Ministers consider this to be a matter for the Developer to agree with the Local Authority as necessary.
- 2.3.3 Where any EIA Report concerning onshore works is required, consideration of the cumulative impacts with the onshore works should be given. Any onshore EIA Report should be available at the time that the EIA Report for the Development is being considered so that all the information relating to the project as a 'whole' is presented.

2.4 The Scottish Ministers' Comments

Description of the Development

- 2.4.1 The Scoping Report makes a small reference to maintenance operations, whereby crew would be transferred to the structure of the turbine and some replacement of parts might take place. It should be noted that to alter or improve works in the Scottish marine area is a 'licensable marine activity' and therefore would require a marine licence. Any such activity, unless clearly authorised by the marine licence for the construction of works, may require further marine licences. It is therefore advised that the Developer considers activities which may require further licences and includes such activities in the application.
- 2.4.2 Throughout the Scoping Report, Scoping Opinion and the representations (appended to the opinion) reference is made to a number of plans, either proposed as suspensive conditions or to accompany the EIA Report. Such plans include a biosecurity plan, a pollution prevention plan, an environmental management plan, a cable plan, a commercial fisheries management and mitigation strategy and a navigation risk assessment. Where possible, and certainly where such plans are proposed as mitigation, these plans should be submitted alongside the applications and the EIA Report.
- 2.4.3 A Project Environment Monitoring Plan or PEMP is likely to be required for this Development. The Developer should outline in the EIA Report, what it

proposes to monitor during the project by way of a draft PEMP submitted as part of the applications.

Design Envelope

- 2.4.4 The Scottish Ministers note the Developer is yet to decide on certain parameters of the Development, notably the foundations for the base of the turbine and meteorological mast and the level of cable protection required. The Developer is advised make every attempt to refine the consideration at the point of application to provide clarity on the relevant parameters. Where the details of the Development cannot be defined precisely, the Developer must apply a worst case scenario and ensure that suitable assessment is carried out to inform full applications for all the required activities.
- 2.4.5 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. To address any uncertainty, the EIA Report must consider the potential impacts associated with each of the different scenarios. The criteria for selecting the worst case and the most likely scenario, together with the potential impacts arising from these, must also be described. The parameters of the Proposed Development must be clearly and consistently defined in the application/s for the section 36 consent and marine licence/s and the accompanying EIA Report.
- 2.4.6 The Scottish Ministers will determine the applications based on the worst case scenario. The EIA will reduce the degree of design flexibility required and the detail may 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 7 below regarding multi-stage regulatory approval. The CMS will ‘freeze’ the design of the project and will be reviewed by the Scottish Ministers to ensure that the worst case scenario described in the EIA Report is not exceeded.
- 2.4.7 It is a matter for the Developer, in preparing the EIA Report, to consider whether it is possible to robustly assess a range of impacts resulting from a large number of undecided parameters. If the Development or any associated activities materially change prior to the submission of the EIA Report, the Developer may wish to consider requesting a new Scoping Opinion.

Alternatives

- 2.4.8 The EIA Regulations require that the EIA Report includes ‘a description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) studied by the Developer, which are relevant to the

Development and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects'. The Scottish Ministers note that the Scoping Report did not indicate any consideration of alternatives.

- 2.4.9 For the avoidance of doubt, the Scottish Ministers advise that the EIA Report must include an up to date consideration of the reasonable alternatives studied as the parameters of the Development have been refined. The Scottish Ministers expect this to comprise a discrete section in the EIA Report that provides details of the reasonable alternatives studied across all aspects of the Development and the reasoning for the selection of the chosen option(s), including a comparison of the environmental effects.

3. Contents of the EIA Report

3.1 Introduction

3.1.1 This section provides the Scottish Ministers' general comments on the approach and content of information to be provided in the Developer's EIA Report, separate to the comments on the specific receptor topics discussed in section 5 of this Scoping Opinion.

3.2 EIA Scope

3.2.1 Matters are not scoped out unless specifically addressed and justified by the Developer and confirmed as being scoped out by the Scottish Ministers. The matters scoped out should be documented and an appropriate justification noted in the EIA Report.

3.3 Mitigation and Monitoring

3.3.1 Any embedded mitigation relied upon for the purposes of the assessment should be clearly and accurately explained in detail within the EIA Report. The likely efficacy of the mitigation proposed should be explained with reference to residual effects. The EIA Report must identify and describe any proposed monitoring of significant adverse effects and how the results of such monitoring would be utilised to inform any necessary remedial actions.

3.3.2 The EIA Report should clearly demonstrate how the Developer has had regard to the mitigation hierarchy, including giving consideration to the avoidance of key receptors. The Scottish Ministers advise that where the mitigation is envisaged to form part of a management or mitigation plan, the EIA Report must set out these plans or the reliance on these in sufficient detail so the significance of the residual effect can be assessed and evaluated. This should also include identification of any monitoring and remedial actions (if relevant) in the event that predicted residual effects differ to actual monitored outcomes. Commitment to develop plans without sufficient detail is not considered to be suitable mitigation in itself.

3.3.3 The EIA Report must include a table of mitigation which corresponds with the mitigation identified and discussed within the various chapters of the EIA Report and accounts for the representations and advice appended to the Scoping Opinion.

3.3.4 Where potential impact on the environment have been fully investigated but found to be of little or no significance, it is sufficient to validate that part of the assessment by detailing in the EIA Report, the work that has been undertaken, the results, what impact, if any, has been identified and why it is not significant.

3.4 Risks of Major Accidents and/or Disasters

- 3.4.1 The EIA Report must include a description and assessment of the likely significant effects deriving from the vulnerability of the Development to major accidents and disasters. The Developer should make use of appropriate guidance, including the recent Institute of Environmental Management and Assessment (“IEMA”) ‘Major Accidents and Disasters in EIA: A Primer’, to better understand the likelihood of an occurrence and the Development susceptibility to potential major accidents and hazards. The description and assessment should consider the vulnerability of the Development to a potential accident or disaster and also the Development potential to cause an accident or disaster.
- 3.4.2 The Scottish Ministers advise that existing sources of risk assessment or other relevant studies should be used to establish the baseline rather than collecting survey data and note the IEMA Primer provides further advice on this. This should include the review of the identified hazards from your baseline assessment, the level of risk attributed to the identified hazards and the relevant receptors to be considered.
- 3.4.3 The assessment must detail how significance has been defined and detail the inclusions and exclusions within the assessment. Any mitigation measures that will be employed to prevent, reduce or control significant effects should be included in the EIA Report.

3.5 Climate and Greenhouse Gases

- 3.5.1 Aside from a number of references to designing landfall aspects of the Development with regard to potential impacts from localised erosion due to climate change impacts over its 25 year operational life, the Scoping Report does not address climate change effects to be considered within EIA Report. Given the scale of the Development, the Scottish Ministers are content that effects (positive and negative) on climate change need not be considered further in the EIA Report.
- 3.5.2 The Scottish Ministers are however mindful that Greenhouse Gas (“GHG”) emissions from all projects contribute to climate change. In this regard, the Scottish Ministers highlight the IEMA Environmental Impact Assessment Guide “Assessing Greenhouse Gas Emissions And Evaluating Their Significance” (“IEMA GHG Guidance”), which states that “GHG emissions have a combined environmental effect that is approaching a scientifically defined environmental limit, as a such any GHG emissions or reductions from a project might be considered significant.” The Scottish Ministers have considered this together with the Climate Change (Emissions Reduction

Targets) (Scotland) Act 2019 and the requirement of the EIA Regulations to assess significant effects from the Development on climate. The Scottish Ministers therefore advise that the EIA Report must include a GHG Assessment which should be based on a Life Cycle Assessment (“LCA”) approach and note that the IEMA GHG Guidance provides further insight on this matter. The Scottish Ministers highlight however that this should include the pre-construction, construction, operation and decommissioning phases, including consideration of the supply chain as well as benefits beyond the life cycle of the Development.

4. Consultation

4.1 The Consultation Process

4.1.1 Following receipt of the Scoping Report, the Scottish Ministers, in accordance with the EIA Regulations, initiated a 30 day consultation process, which commenced on 25 August 2021. The following bodies were consulted, those marked in bold provided a response and those marked in italics sent nil returns or stated they had no comments:

- **NatureScot**
- **Scottish Environment Protection Agency**
- **Local Authority - Fife Council**
- Local Authority - East Lothian Council
- Local Authority - City of Edinburgh Council
- Fisheries Management Scotland
- **British Telecom**
- Civil Aviation Authority
- *Chamber of Shipping*
- Crown Estate Scotland
- **Defence Infrastructure Organisation**
- Inshore Fishery Group (North & East Coast Regional IFG)
- Joint Radio Company
- **Maritime and Coastguard Agency**
- Marine Safety Forum
- **NATS**
- **Northern Lighthouse Board**
- **Royal Yachting Association**
- **Royal Society for the Protection of Birds**
- Scottish Canoe Association
- **Scottish Fisherman's Federation**
- Scottish Fisherman's Organisation
- Scottish Surfing Federation
- Scottish Wildlife Trust
- Sport Scotland
- Surfers Against Sewage
- *Whale & Dolphin Conservation*
- Visit Scotland
- Ports & Harbours
- **Historic Environment Scotland**
- Transport Scotland
- Marine Scotland Compliance
- Marine Scotland – Marine Planning
- Forth Ports Ltd
- Edinburgh Airport
- Anstruther Harbour Marina
- Cockenzie & Port Seton Fishermen's Association

- Dysart Sailing Club
- East Lothian Yacht Club
- **Elie & Earlsferry Sailing Club**
- Largo Bay Sailing Club
- Methil Creel Fishermen
- Inshore Fishermen's Alliance
- Forth Salmon Fishery Board
- 10 metre and under Association
- Fife Fishermen's Mutual Association (Pittenweem) Ltd
- Scallop Association
- Scottish Wild Salmon Company
- Salmon Net Fishing Association of Scotland
- Scottish Pelagic Fishermen's Association
- Scottish Creel Fishermen's Federation
- Levenmouth Demonstration Turbine
- Communities Inshore Fisheries Alliance
- Sport Scotland
- Community Councils
- Leven Community Council
- Methil Community Council
- **Largo Area Community Council**
- Elie Community Council
- Buckhaven Community Council
- Colinsburgh Community Council
- **Scottish Water**
- Canoe Scotland

4.1.2 Specific advice was sought from Marine Scotland Science ("MSS"), the Marine Scotland – Marine Analytical Unit ("MAU") and Transport Scotland ("TS").

4.2 Responses received

4.2.1 In addition to the representations made by the bodies identified above, advice was also provided by MSS, MAU and TS. The purpose of the consultation was to seek representations to aid the Scottish Ministers' consideration of which potential effects should be scoped in or out of the EIA Report.

4.2.2 The Scottish Ministers are satisfied that the requirements for consultation have been met in accordance with the EIA Regulations. The sections below highlight issues which are of particular importance with regards to the EIA Report and any marine licence applications. The representations and advice received are appended to the Scoping Opinion and each must be read in full for detailed requirements from individual consultees.

4.2.3 Several consultees referred to representations made during previous iterations of this project and the Developer is advised to review the previous

advice given, including the Scoping Opinion of November 2019, to ensure that advice given to the Developer in respect of previous applications is captured to suitably inform the EIA Report.

5. Interests to be considered within the EIA Report

5.1 Introduction

- 5.1.1 This section contains the Scottish Ministers' opinion on whether the impacts identified in the Scoping Report are scoped in or out of the EIA Report. The Scottish Ministers advise that the representations from consultees and advice from MAU, MSS and TS must be considered in conjunction with the Scoping Opinion and with the expectation that recommendations and advice as directed through this Scoping Opinion are implemented.

5.2 Airborne Noise and Shadow Flicker

The Developer proposes to carry out noise impact assessment work drawing on the previous noise assessments for the Levenmouth Demonstration Turbine and the previous Forthwind project but not to gather additional further baseline noise monitoring data. The Developer advised that it would engage with the Environmental Health Department of Fife Council to ensure that the baseline noise measurements are still representative and appropriate for use within the EIA Report and advised that current guidance in the assessment of wind turbines noise remains the same as that considered in the Development's original application and will be applied as applicable for the EIA Report.

- 5.2.1 The Developer proposes to **scope out** assessment of construction noise effects, relying on the conclusion of the a previous EIA process that such effects were 'not significant'.
- 5.2.2 The Developer proposes to carry out full operational noise assessment using a previous baseline noise survey.
- 5.2.3 The Developer proposes to repeat analysis of shadow flicker from the Project Environment Statement, Methil Fife, July 2015 ("2015 ES") at all suggested locations.
- 5.2.4 The Developer proposes to reassess the cumulative operational noise impact assessment based on revised acoustic emission characteristics for the turbine.
- 5.2.5 In summary, the Developer proposes the following (table 8 in Scoping Report):

Potential Effects	Construction	Operation	Decommissioning	Developer's Rationale
Airborne noise	x	✓	x	Airborne noise will be generated during the construction, operational and

				decommissioning phases.
Cumulative noise	x	✓	x	A revised cumulative noise assessment with the OREC Levenmouth turbine will be undertaken based on the revised acoustic emission characteristics for the turbine.
Shadow Flicker	x	✓	x	There is the potential for shadow flicker to occur during operation and this will be assessed.

✓ Denotes Developer's intention to scope in,

x Denotes Developer's intention to scope out.

5.2.6 Whilst no representations in relation to airborne noise assessment were received during the consultation on the Scoping Report, it is of note that, following representations to a previous consultation, a previous Scoping Opinion adopted and issued to the Developer for a similar project in November 2019 stated that baseline data collected in 2015 would be too old to reflect the current situation and that new baseline data should be collected.

5.2.7 Therefore, and as previously advised in the Scoping Opinion of November 2019, the Scottish Ministers require that the Developer collects new baseline data to update the 2015 baseline data.

5.2.8 The Scottish Ministers are content with the Developer's proposal to **scope out** airborne noise during construction and decommissioning and advise that operational noise, cumulative operational noise, shadow flicker and cumulative shadow flicker are **scoped in**.

5.3 Shipping and Navigation

5.3.1 The Developer proposes to carry out a scope of assessment work designed to meet the requirements of current UK Guidance, in particular the Marine and Coastguard Agency Marine Guidance Note 543 (MCA MGN 543) and the Department of Energy and Climate Change (DECC) Methodology.

5.3.2 Section 7.3 of the Scoping Report contains the Developer's proposal to gather data on the historical port and anchorage usage; AIS, to characterise vessel activity; and small vessel (non-AIS) activity; and supplement this with further data from Forth Ports, fishing representatives and the Royal Yachting Association.

5.3.3 Section 7.5 of the Scoping Report documents the Developer's proposal to update a previous NRA (from a previous Environmental Statement) in line with the primary guidance of MGN 543 and the DECC 'Methodology for Assessing

Marine Navigational Risk' with up to date traffic assessment and risk modelling. The Developer proposes further consultation with relevant parties.

- 5.3.4 Section 7.4 of the Scoping Report documents the Developer's proposal to engage local fishing organisations to establish the extent and nature of fishing activity within the location, but clarifies that "normal" tools for assessing the fishing activity approach in the vicinity of the Development site are not considered appropriate.
- 5.3.5 Section 7.6 of the Scoping Report documents the Developer's intention to use the information gathered at a Hazard Review workshop undertaken at the Forthwind Offices in Aberdour on 20 October 2017 to inform the updated NRA report and states that further consultation with relevant bodies will be undertaken to ensure that attendees of that workshop are satisfied that that information gathered remains appropriate and valid for the NRA.
- 5.3.6 Section 7.7 of the Scoping Report documents the Developer's initial mitigation measures which include a minimum lower tip clearance height of 25m above MHWS; Navigational Aids; Navigational warnings and procedures; Contingency measures (pollution and marine casualties); Safety Zones; AIS monitoring; and Guard vessel/s during construction.
- 5.3.7 In summary, the Developer proposes the following (from table 9 in the Scoping Report):

Potential Effects	Construction	Operation	Decommissioning	Developer's Rationale
All Shipping and Navigation assessment requirements	✓	×	×	The shipping and navigation risk assessment and risk modelling will be updated
Collision risk to commercial, fishing and recreational fishing vessels.	✓	✓	✓	There will be an increased level of vessel activity within the Development area during the construction phase (including jack-ups / barges, and crew transfer vessels). The installation of the turbine provides an increased risk of collision with vessels and/or service vessels.
Risk of grounding on a subsea cable protection	×	✓	×	The export cables pass through the inshore area where recreational traffic will potentially be transiting up and down the coast. Reductions to the charted depth in shallow water areas could present a

				hazard to recreational craft.
EMI Interference	x	x	x	The devices generate alternating current and with the export cables sited below water or on the seabed, there is not expected to be any adverse EMI effects on navigational equipment.
Effects on Communication, Radar and Positioning Systems	x	x	x	Studies have concluded that there are no significant effects on communication, radar and positioning systems from wind farms; except in instances where radar issues associated with identifying small contacts within an array. As the development is restricted to a single turbine it is proposed that this issue is scoped out
Disruption to SAR Operations (including risk management and emergency response)	x	x	x	As the developed is restricted to a single turbine it is proposed that this issue is scoped out

- 5.3.8 In it's representation the MCA advises that the proposed Navigation Risk Assessment (NRA) will need to be submitted in accordance with MGN 654 (and MGN 372) and the MCA's Methodology for Assessing the Marine Navigation Safety & Emergency Response Risks of Offshore Renewable Energy Installations (OREI).
- 5.3.9 The MCA states that guidance has been updated since the referenced workshop and so further consultation with relevant stakeholders is advised.
- 5.3.10 The MCA stated that the shipping and navigation study should provide updated data on the 2015 NRA and that the shipping and navigation study should include both radar and manual observations, in addition to AIS data, to ensure vessels of less than 300gt are captured.
- 5.3.11 The MCA expects efforts are made to bury the cables, advises that particular attention should be paid to the cabling routes ; that, where appropriate, a Burial Protection Index study should be completed; and, subject to the traffic volumes, an anchor penetration study may be necessary.

- 5.3.12 The MCA advised that acceptable changes to Chart Datum must be discussed with Forth Ports Ltd to ensure the safety of navigation is not compromised by any cable protection measures.
- 5.3.13 The MCA does **not agree** that impacts to emergency response and SAR operations should be scoped out of the assessment. 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).
- 5.3.14 The MCA advises that 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.
- 5.3.15 The Northern Lighthouse Board noted the Developer's intention to engage in respect of the navigational lighting and marking of the turbine and meteorological mast and advised that MGN 543 is no longer valid, having been superseded by MGN 654.
- 5.3.16 In its representation the RYA advised that it's previous advice from 2019 was still relevant. The Scottish Ministers advise the Developer to have regard to that advice during this EIA.
- 5.3.17 The Developer has proposed that data is obtained from Forth Ports Ltd, among other sources, and the MCA has noted this in its response. However, Forth Ports Ltd made no representation to the Scoping Opinion consultation and therefore it is not possible to conclude that the proposed approach to the work package is acceptable.
- 5.3.18 The Scottish Ministers are content with the Developer's proposal to scope out matters as per the table 9 in the Scoping Report apart from the Developer's intention to scope out impacts to emergency response and SAR operations of the assessment and the Developer's intention not to include Shipping and Navigation assessment for operational and decommissioning phases. Therefore, the Scottish Ministers advise that impacts to emergency response and SAR operations and Shipping and Navigation assessment of the effects during operational and decommissioning phases should be **scoped in**.
- 5.3.19 Reference is made throughout the shipping and navigation section to updating the NRA and carrying out further consultation with relevant parties. It should be noted that Scottish Ministers expect these consultations and assessments to have been fully carried out by the time the Developer proposes to apply for

the s.36 consent and marine licences for the Development. The Developer should therefore have concluded the assessment and submit the updated NRA alongside the applications and EIA Report.

5.4 Commercial Fisheries

- 5.4.1 Section 8 of the Scoping Report refers to previous assessment and advice in relation to a 2015 ES for a similar project and location and the conclusions that, in relation to effects on commercially exploited fish and shellfish populations and as the Development now constitutes a single turbine and meteorological mast, there would be no significant effect.
- 5.4.2 The Scoping Report refers to extracts of previous advice (including a Scoping Opinion adopted in November 2019) and states that the original assessment will be included with updated information.
- 5.4.3 The Scoping Report fails to highlight that the November 2019 Scoping Opinion identified the need for displacement effect and population effects to be scoped in, does not refer to previous representations advising that effects on fisheries are scoped in and does not provide detail on what the proposed updated information will be.
- 5.4.4 Whilst recognising that the move from two turbines (a previous iteration of this project) to one is considered to represent a probable improvement in the position in relation to fisheries, Fife Council stated an expectation in its representation that any potential impacts on local fisheries would be considered
- 5.4.5 In its representation, the Scottish Fisherman's Federation (SFF) provided a minute from a meeting held in 2017 in relation to a previous, much larger proposal at a similar site and advised that the Developer is aware of the SFF's concerns. The Developer is understood to have the minute of that meeting. The representation made no reference to the matters to be scoped in or scoped out. The Developer is therefore advised to review previous representation from the SFF.
- 5.4.6 No other representations from fishing representatives were received.
- 5.4.7 MSS advised that underwater noise effects are included in the scope and that marine fish are included in the updated desk based assessment for marine mammals and given consideration to within any mitigation proposed. However, the Scottish Ministers advise that this matter can be dealt with in the fish section rather than the commercial fisheries section and is therefore not in scope for assessment of effects on commercial fisheries.

- 5.4.8 Similarly, MSS recommendation, that EMFF effects on marine fish are scoped in, should apply to consideration of fish in the EIA Report and not in a commercial fisheries assessment.
- 5.4.9 The Benthic Ecology chapter of the scoping report lists potential anchor scars from cable laying vessel and whilst this may have a bearing on commercial fisheries, the Scottish Ministers advise that the Developer provides an explanation of the intended mitigation for, or amelioration of, anchor scars during installation of cables, within a Cable Plan which should accompany the EIA Report and application.
- 5.4.10 MSS advises that the Developer considers mitigation measures such as over-trawl surveys to ensure that the area is still, as practically possible, safe for fishing to continue post cable installation. The Scottish Ministers advise that the Developer sets out its intention to carry out appropriate survey of cables and its intended mitigation for, or amelioration of, any snagging hazards to fishing operations from cable protection measures in either the EIA Report, the Cable Plan or associated fishery related plans.
- 5.4.11 The Scoping Report states that previous assessments will be updated with new information and included within the EIA Report and that the navigational aspects associated with commercial fishery activity will be included within the NRA. The Scottish Ministers are content that this matter is scoped out of further assessment, that the previous assessment, updated with new information is included and that the matters listed above can be effectively addressed with the provision of suitable plans (cable plan, NRA, CFMS). Such plans should accompany the EIA Report and the applications to be considered during the determination of the applications. The reasons for the inclusion of previous assessments in relation to commercial fisheries in the EIA Report must be clearly stated.

5.5 Seascape, landscape and visual resources

- 5.5.1 The Scoping Report proposes that a Seascape, Landscape and Visual Impact Assessment (SLVIA) will be undertaken as part of the EIA. The proposed study area for the SLVIA of the Development in the Scoping Report covers a radius of 50 km from the site boundary.
- 5.5.2 Section 9 of the Scoping Report covers the Developer's proposed baseline; proposed methods of assessment, including the Developer's approach to assessing significance; lists the potentially affected receptors; and lists viewpoints for assessment.

5.5.3 In summary, the Developer proposes the following (from table 13 in the Scoping Report):

Potential Effects	Construction	Operation	Decommissioning	Developer's Rationale
Seascape, landscape and visual, and cumulative effects, of the proposed development on seascape, landscape and visual receptors beyond 50 km radius study area.	x	x	x	50 km radius SLVIA study area accords with relevant guidance (NatureScot, 2014) and represents the outer possible limit for significant effects to arise based on professional experience and review of the visibility of the proposed development on relevant seascape, landscape and visual receptors. SLVIA will focus on assessment within an 'inner study area' of 25 km radius, where significant seascape, landscape and visual effects are more likely to occur.
Effects of the proposed development (including cumulative) on seascape and landscape character of Fife and its Firth of Forth coastline, within 50 km radius study area.	✓	✓	✓	
Visual effects of the proposed development (including cumulative) on visual receptors and views within the ZTV in 50 km radius study area.	✓	✓	✓	
Visual effects of the proposed development (including cumulative) on visual receptors and views within the ZTV in 50 km radius study area at night.	✓	✓	✓	
Effects of the proposed development (including cumulative) on seascape and landscape character of Fife and East Lothian and their Firth of Forth coastlines, within 25 km radius inner study area.	✓	✓	✓	No alteration to physical features of these terrestrial areas as a result of the proposed development, located offshore, only effects on visual/perceptual characteristics. Potential for significant effects on perceived coastal character and landscape character of Fife and East Lothian will be assessed along closest sections of these coastlines within 25 km radius inner study area
Visual effects of the proposed development (including	x	x	x	Proposed development will result in no effects on seascape, landscape

cumulative) on visual receptors and views outwith the ZTV.				and visual receptors outwith the ZTV
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- 5.5.4 Section 9.8 of the Scoping Reports states that options for mitigation of the identified potential effects which are predicted to arise from the Development will be considered iteratively alongside the assessment and will be discussed with the relevant stakeholders for the SLVIA. The Scoping Report states that mitigation measures will be prepared in line with the design statement for the Development.
- 5.5.5 The Scoping Report states that the Developer will be undertaking consultation with relevant consultees, including Fife Council and NatureScot, in order to define the scope of the SLVIA and that the full methodology for the SLVIA would be agreed through further consultations with Fife Council and NatureScot.
- 5.5.6 Fife Council advised that the impact on the seascape and views from the Fife Coast will be a key factor.
- 5.5.7 NatureScot highlighted that the proposed turbine will be widely eye-catching and will significantly affect the distinctive regional character of the landscapes and seascape of the Firth of Forth and that there will likely be significant cumulative issues resulting from the greater overall scale of the turbine in relation to the existing and consented turbines and with other tall structures in the area.
- 5.5.8 NatureScot does not agree with the proposed Zone of Theoretical Vision (ZTV) and advised that, for a 280m turbine, an appropriate initial ZTV is at least 60km.
- 5.5.9 NatureScot advised that the 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 which should be compared against the ZTV for the consented scheme and that sensitive receptors beyond the proposed ZTV should be identified by the Developer and discussed further with relevant Local Authorities.
- 5.5.10 NatureScot advised on further viewpoints to be considered, and these should therefore also be **scoped in**, and gave advice in relation to lighting, baseline information on coastal character and cumulative impact assessment which should be followed.

- 5.5.11 NatureScot provided references for appropriate guidance to be followed and the Developer is advised to follow the advice of NatureScot in this regard.
- 5.5.12 The Scottish Ministers agree with the aspects to be **scoped in** in table 13 of the Scoping Report and, following advice contained in the representation of NatureScot, conclude that those matters intended by the Developer to be scoped out (beyond and outwith the 50km proposed ZTV) should not be scoped out, but should be **scoped in**.
- 5.5.13 As the Scoping Report states that mitigation measures will be prepared in line with the design statement for the proposed development it will be important that such measures and statements are produced in the EIA Report and applications.
- 5.5.14 It is not apparent from the Scoping Report, whether the Developer proposes to include the meteorological mast in the assessment. The Scottish Ministers conclude that, unless the relevant stakeholders all agree not to include the mast in writing, then the mast should be included in the assessments.
- 5.5.15 Reference is made throughout the seascape, landscape and visual resources section of the Scoping Report to further consultation and dialogue with relevant stakeholders and advisers. All such dialogue should have been had at the time of application to properly inform the EIA Report and applications. It will not be acceptable to leave any assessments until after applications are made. It will also be important to include relevant stakeholders with an interest in any wider ZTV and from viewpoints across the Forth Estuary.

5.6 Archaeology and cultural heritage

- 5.6.1 Section 10 of the Scoping Report details the Developer's proposal to assess impacts upon terrestrial archaeology and cultural heritage. The Developer does not intend to carry out any assessment of direct physical effects of the onshore works, as the potential for direct effects as it was previously established (Forthwind Offshore Wind Demonstration Project Environment Statement, Methil Fife, July 2015) that that no direct effects are anticipated during the construction, operation or decommissioning of the onshore work of the previous proposal.
- 5.6.2 The Developer proposes to scope indirect visual effects from the operational stage of the Development only in to the EIA.
- 5.6.3 In summary, the Developer proposes the following (from table 14 in the Scoping Report):

Potential Effects	Construction	Operation	Decommissioning	Developer's Rationale
Direct physical effects	x	x	x	The onshore footprint is small and on a heavily modified site of reclaimed land. A previous Archaeological Desk Based Assessment of the site concluded that no direct effect will be experienced
Indirect, visual effects	x	✓	x	The presence of the turbine offers the potential indirect, visual effects upon the settings of some cultural heritage features situated within the Zone of Theoretical Visibility (ZTV) and within 35 km of the Development

- 5.6.4 Historic Environment Scotland (HES) advised that the proposed scope for the cultural heritage assessment is appropriate.
- 5.6.5 HES advised that Macduff's Castle (SM no. 860), Wemyss Caves (SM no. 817), Wemyss Castle (HB No. 16709) and Wemyss Castle GDL would need to be considered for impacts on their setting and recommended that potential impacts on these heritage assets are assessed within the updated cultural heritage and archaeology chapter of the EIA Report.
- 5.6.6 HES also advised that the Developer seeks advice on the scope of the cultural heritage assessment from Fife Council's archaeological and cultural heritage advisors. As Fife Council did not include advice on the cultural heritage assessment, the Developer is advised to approach Fife Council in order to better inform the cultural heritage assessment.
- 5.6.7 HES provided references to guidance to be followed in carrying out assessments.
- 5.6.8 The Scottish Ministers note that, following the submission of the Scoping Report which details a proposal to seek deemed planning permission from the Scottish Ministers in relation to the onshore elements, the Developer confirmed that it no longer intends to seek deemed planning permission.
- 5.6.9 The Scottish Ministers advise that indirect effects during operation only should be **scoped in** to the cultural heritage assessment to inform the EIA Report, that the advice of HES is followed and that further dialogue be had with the Local Authority.

5.7 Offshore ecology

- 5.7.1 No HRA screening report has been submitted. In line with the advice contained with NatureScot's representation and Marine Scotland Science advice, the Scottish Ministers advise that an HRA report must be submitted at the time of the applications. The Developer should note NatureScot's advice on informal consultation on a draft prior to submission of the HRA Report to Scottish Ministers.
- 5.7.2 The Scoping Report states that 'the cumulative impact assessment will follow the approaches agreed with Marine Scotland and NatureScot'. It is noted that the Scoping Report identifies other plans, projects or activities which are intended by the Developer to be considered in the EIA cumulative assessment and NatureScot's advice in relation to this matter should be followed. Projects and plans to be considered in the cumulative and in-combination assessments should be shared with Scottish Ministers and stakeholders prior to any cumulative or in-combination assessments being undertaken.
- 5.7.3 Chapter 11 of the Scoping Report details the intended assessments for effects on birds and marine mammals. To aid in clarity of advice, this Scoping Opinion will document the opinion in relation to these two receptor groups separately

5.8 Offshore ecology: Ornithology

- 5.8.1 The Scoping Report lists designated sites to be considered and the documents the proposal to scope in or out in table 17. The Scottish Ministers agree with the intention for Outer Firth of Forth and Tay Bay Complex SPA and Firth of Forth SPA to be **scoped in** but, as contained in advice from RSPB, NatureScot and MSS, the Scottish Ministers do not agree that the other designated sites should be scoped out. Based on advice received from NatureScot, the Scottish Ministers advise that all the sites listed in page 82 of the Scoping report should be **scoped in**.
- 5.8.2 In summary, the Developer proposes the following (from table 13 in the Scoping Report).

Potential Effects	Construction	Operation	Decommissioning	Developer's Rationale
Collision	x	✓	x	Once the turbines are operational, there will be a collision risk to birds flying through the wind farm. Collision risk to bird species will be assessed using survey data and collision modelling
Displacement	✓	✓	✓	There is the potential for some displacement to bird species at

				all stages of the project. During both the construction and decommissioning phases, there will be increased vessel traffic to build and dismantle the wind farm. During operation there is the potential for some displacement from the presence of the turbines themselves.
Barrier Effects	x	✓	x	Due to the small scale of the proposed wind farm the potential barrier effects on birds are minimal. However, consideration will be given to this potential impact within the EIA and accordingly it is scoped in.
Indirect Effects	x	x	x	As mentioned above it is considered that, based on the results of the benthic surveys undertaken for the 2015 ES that the benthic habitats do not provide key spawning, nursery or foraging habitat for fish/shellfish fauna and consequently are extremely unlikely to provide a key foraging resource for birds. Other indirect effects such as turbidity and smothering of benthos were considered to be negligible in the original Forthwind ES and as such it is proposed that they will be scoped out.
Cumulative Effects	✓	✓	✓	Section 11.13 contains a list of Developments considered for cumulative effect.

- 5.8.3 For the avoidance of doubt, the Scottish Ministers, in line with advice received from NatureScot, advise that the effects of the whole project, including effects from pre-construction activities, should be included in the assessments.
- 5.8.4 The Scoping Report documents the Developer's intention to seek further advice from relevant stakeholders in relation to a number of aspects. Representations received from NatureScot and RSPB, and advice from MSS, offer to engage in such dialogue, particularly in relation to the development of a method statement for impact analysis and in relation to any adjustments required to the data to represent a new survey area.
- 5.8.5 The Scoping Report documents the Developer's intention to use data collected for previous applications. The age of these data were highlighted in several representations received. As such the Scottish Ministers advise that further

consideration is given to collecting new data (see 5.8.8 below) and, where it is appropriate to use the data previously collected, suitable explanation to justify their use and, as advised by RSPB, any uncertainty brought about by the use of these data must be clearly expressed in the EIA Report. It is advised that further dialogue is held with relevant stakeholders and a written position be agreed on the use of previously collected data for the assessments of this EIA. It should not, however, be the responsibility of stakeholders to advise the Developer on the suitability of the data, more on the Developer's stated and justified position on their use. It is for the Developer to clearly demonstrate the consideration of the age of data used for assessment, clearly narrate where older data is to be or has been used and provide clear justification for having used it. The Scottish Ministers note the Developer's intention to include full and detailed justification to demonstrate that the underlying survey data is adequate and suitably robust for the purposes of defining the potential impacts in the EIA Report and also include detail on any uncertainty in the assessment outputs.

- 5.8.6 NatureScot advised that the previous Vantage Point survey information is now likely to be out of date and as such the Scottish Ministers advise that it is not suitable for current bird impact assessments.
- 5.8.7 NatureScot advised that all existing bird survey data should be collated and presented clearly. This must include dates of collection (and so age of data), methodology used, and target species and that possible sources of bias, for example arising through survey methods, and other factors such as presence/absence of oil rigs and/ or cruise liners during surveys, should be identified.
- 5.8.8 The validity of existing survey data was referenced in the NatureScot and RSPB representations and therefore the Scottish Ministers advise the collection of a further season of wintering bird survey data. Survey methods should be discussed and agreed with NatureScot and Marine Scotland Science, should be designed to target the species of most concern (including scoters, divers), and will have to be collected during the winter 2022-23 season.
- 5.8.9 Furthermore, the Scoping Report states that existing data will be sourced from a list of organisations or resources under the heading *Ecology Data* in section 11.4.3. It is not made apparent what this data actually is, as the list is a list of organisations and not data and the Developer is advised to ensure the data and sources are appropriate.
- 5.8.10 The Scoping Report proposes a summary EIA Report Ornithology Chapter with more detailed Technical Reports appended to the EIA Report. The technical reports will cover Collision Risk Modelling, Displacement and Barrier

Effects, Consideration of Population Level Consequences, an HRA Ornithology Report and Cumulative Impact Assessment. Detailed advice in relation to these assessments is provided in the representations from NatureScot and RSPB and in MSS advice and the Scottish Ministers advise the Developer to follow this advice, including NatureScot's advice to consider impacts on supporting habitats.

- 5.8.11 It is of note that the RSPB does not support the percentages in Table 21 and highlighted that using a generic percentage value of impact across different species will not account for the specifics of the species and population being assessed. This is an area which will need further consideration and justification by the Developer to reduce the risk of misrepresenting significance. Whilst NatureScot did not make particular reference to this in its representation, it did provide advice on assessing population level effects in a HRA context (under *Population consequences* in Appendix B of their consultation response). The approach outlined by NS is supported by MSS. The Developer is advised to give further consideration to this matter and seek dialogue with relevant stakeholders and advisers.
- 5.8.12 NatureScot advised that data for CRM is revisited and split according to the GPS tracks from the survey vessel. Whilst it is appropriate to account for the development area being a subset of wider survey area, the Scottish Ministers advise that the approach must be carefully considered. It may not be appropriate to only include observations from a subset of the wider survey area (i.e. the development area) as this may lead to increased statistical error, especially for species with lower encounter rates. Such error could affect results. MSS advise that it may be better to make density calculations based on the wider survey area. The Scottish Ministers therefore advise the Developer to properly consider the matter and include these considerations on how to approach the reduction in area in a method statement for further review by relevant stakeholders. This must be in writing and the agreed way forwards must be communicated in writing to the Scottish Ministers.
- 5.8.13 RSPB encourages the Developer to include monitoring of the effect of different blades and rotor length on collision risk as part of the demonstration project's remit. The Scottish Ministers advise that a Project Environment Monitoring Plan or PEMP is included in the submission of the EIA Report and applications. The RSPB advice in relation to this matter being included should be taken and monitoring proposals must form part of the PEMP.
- 5.8.14 As advised by MSS, the Scottish Ministers expect to the EIA Report to contain the Developer's consideration of increasing the air gap (the clearance under the blades to sea) as a practical option for mitigation for collision risk.

5.8.15 The Scottish Ministers agree with the Developer's proposed approach to scope matters in to the EIA Report (Table 23 of the Scoping Report), but do not support the Developer's intention to scope out indirect effects given the overlap with the Outer Firth of Forth and St Andrews Bay Complex SPA. Indirect effects should therefore be **scoped in** as should the designated sites listed on page 82 of the Scoping Report.

5.8.16 The Developer is advised to fully review the representations provided by NatureScot and RSPB, both in this Scoping exercise and advice previously given, where applicable. In its advice for the Scoping Opinion, MSS has also included advice which will be of use to the Developer. The Developer is advised therefore to follow the advice appended to this Scoping Opinion unless clearly advised not to.

5.9 Offshore ecology: Marine Mammals

5.9.1 The Scoping Report lists designated sites to be considered and documents the proposal to scope in or out in table 17. The Scottish Ministers agree with the intention for Firth of Tay Eden Estuary SAC, Isle of May SAC and Moray Firth SAC to be **scoped in**.

5.9.2 In summary, the Developer proposes the following (from table 23 in the Scoping Report).

Potential Effects	Construction	Operation	Decommissioning	Developer's Rationale
Increased underwater noise	✓	x	✓	The foundation solution used (e.g., drill piles) has the potential for underwater noise during construction and decommissioning due to increased vessel and works activities. As the location, scale and nature of the development, is smaller than that already consented, an updated desk based assessment provided in the previous Forthwind construction plan will be updated and provided within the EIR.
Increased vessel presence	x	x	x	Due to the location, scale and nature of the development, the risk of collision or disturbance to marine mammals during the construction and decommissioning phases of the Development is negligible.
Changes in electromagnetic fields	x	x	x	The cables will either be buried to a depth of 1m or covered by protective material, meaning

				that the significance of the EMF effect will be negligible. In addition, the location, scale and nature of the development means that the risk of electromagnetic fields from the export cables affecting the navigational ability of marine mammal species is negligible
Entanglement	x	x	x	There are no moorings associated with offshore turbines.
Indirect effects	x	x	x	As mentioned above indirect effects such as the loss of foraging are likely to be negligible as the seabed in this area is not considered to be an important fish/shellfish resource. As such, it is proposed to scope these out.
Cumulative Effects	✓	✓	✓	Section 11.8 provides a list of Developments considered for cumulative effect.

5.9.3 NatureScot advises that impacts upon receptors from UXO clearance and geophysical surveys (during the 'pre-construction' phase) will require consideration (potentially in combination with other noisy activities) and should be included in the EIA Report. The Scottish Ministers advise that effects from these regulated activities are **scoped in** to the EIA Report.

5.9.4 The Scoping Report states that the piles will be located in drilled sockets and that no impact piling will be used. However, the marine mammals section states that 'the worst-case scenario for this development is assumed to be the installation of one turbine utilising pin piled foundations'. It is not clear if this means that impact piling noise is proposed to be assessed as a worst case. In line with NatureScot and MSS advice the Scottish Ministers advise that the EIA Report must be clear on the method and if construction methods later change to include more noisy underwater activities than those assessed, further consideration in an EIA and HRA context will be required. This would likely involve further assessment, application, consultation, determination and licensing.

5.9.5 NatureScot advises that disturbance from underwater noise and vessel noise and presence should be considered in relation to each of the key species. MSS concurs that underwater noise and vessel presence should be scoped in for pre-construction, construction and decommissioning phases. The Scottish Ministers therefore do not support the Developer's intention to scope out vessel noise and presence. Vessel noise and presence and underwater noise should be **scoped in**, including the effects caused during preconstruction activities.

- 5.9.6 The EIA Report should include assessment of the effects of full Decommissioning (the full removal of all materials used in the construction of the Development) activities.
- 5.9.7 As stated in the birds section above, the Scoping Report states that existing data for marine mammal assessment will also be sourced from a list of organisations or resources under the heading *Ecology Data* in section 11.4.3. It is not made apparent what this data actually is, as the list is a list of organisations and not data and the Developer is advised to ensure the data and sources are appropriate.
- 5.9.8 The Scottish Ministers advise that assessment of the cumulative effects of the activities during the pre-construction phase should be also included the EIA Report.
- 5.9.9 The Scoping Report claims that indirect effects, such as the loss of foraging, are likely to be negligible as the seabed area within the site is not considered to be an important area for fish and shellfish food sources. The Scottish Ministers agree that indirect effects in relation to marine mammals can be **scoped out**.
- 5.9.10 Scottish Ministers agree that, entanglement and EMF from the export cable (in relation to marine mammals) are **scoped out**.
- 5.9.11 The Developer is advised to fully review the representations provided by NatureScot and RSPB, both in this Scoping exercise and advice previously given, where applicable. In its advice for the Scoping Opinion, MSS has also included advice which will be of use to the Developer. The Developer is advised therefore to follow the advice appended to this Scoping Opinion unless clearly advised not to and to hold discussions with MSS and NatureScot prior to undertaking assessments.

5.10 Offshore ecology: Fish and Shellfish

- 5.10.1 The Scoping Report states the Developer's intention to scope out assessments of the direct effects, effects of EMF and effects of accidental spillage on fish and shellfish for all stages of the Development.
- 5.10.2 In summary, the Developer proposes the following (from table 23 in the Scoping Report).

Potential Effects	Construction	Operation	Decommissioning	Developer's rationale
Direct effect	x	x	x	The development site has reduced considerably in scale. As such direct effects on, spawning, nursery or foraging resource for fish or shellfish are predicted to be negligible.
EMF effect	x	x	x	The implementation of mitigation measures, namely covering subsea cabling to minimise any electromagnetic fields, all residual effects on the SAC and its qualifying features are considered to be negligible.
Accidental Spillage	x	x	x	The implementation of mitigation measures, namely implementation of a Pollution Prevention Plan), all residual effects on the SAC and its qualifying features are considered to be negligible.

- 5.10.3 The Developer's intention to scope out the effects of accidental spillage is predicated on the production of a pollution prevention plan. For the Scottish Ministers to be able to consider the mitigation provided by this plan, the Developer must submit the plan at the time of the application and submission of EIA Report.
- 5.10.4 The Scottish Ministers agree with the Scoping Report, that direct effects of the Development on spawning, nursery and foraging resource for fish and shellfish will be negligible. However, as fish have the potential to be negatively impacted from increased underwater noise from construction activities, increased underwater noise effects should be **scoped in** to the EIA Report for marine fish.
- 5.10.5 MSS has advised that, whilst cable burial may mitigate EMF emissions, recent research and modelling by Hutchison *et al.* 2021 (see MSS advice in Appendix for reference) has shown that burying the cable only increases the distance between the EMF source and the receptive species and may fall within the field of attraction for some species.
- 5.10.6 The Scoping Report (Annex D) appears to state that the original [2015 ES] fisheries assessment for salmon and sea trout will be updated in the EIA Report and that sea trout and sparring (smelt) will be considered within the fish and shellfish chapter of the EIA Report.

- 5.10.7 MSS advised that diadromous fish should be scoped in as the Firth of Forth is important for several diadromous fish species.
- 5.10.8 MSS does not agree with EMF being scoped out for diadromous fish, which may make use of geomagnetic cues to navigate.
- 5.10.9 Annex D of the Scoping report states that the Developer is *'content to engage with the ScotMER, where appropriate, in future monitoring work. As MSS agrees due to the size and scale of the proposed Development it is no longer considered proportionate to include this aspect in the application.'* It is not clear whether this means that the Developer is going to engage with ScotMER. The EIA Report must clarify this aspect and, if it is proposed not to engage, full explanation must be presented.
- 5.10.10 The Scottish Ministers advise that EMF effects in relation to marine fish and diadromous fish is **scoped in**, that the effect of underwater noise from construction activities on marine fish should be **scoped in** to the EIA Report and effects from the construction, operation and decommissioning of the Development on diadromous fish are **scoped in** by way of an assessment updated since its submission in 2019.

5.11 Benthic ecology

- 5.11.1 The Scoping Reports scopes out assessment of effects upon benthic features that much was assessed and not found to be significant during a 2015 ES for a similar development and no further survey work is proposed.
- 5.11.2 The Scottish Ministers are content that Benthic Ecology is largely scoped out, however, the effects of EMF on benthic features must be assessed whether in a standalone assessment or as part of wider assessment of EMF effects in the EIA Report for the receptors considered above in this Scoping Opinion.
- 5.11.3 Annex D states that, in order to mitigate and manage the risk of introducing invasive non-native species, a *'marine biosecurity plan requiring Marine Scotland approval prior to the commencement of offshore works will be produced as part of the post consent arrangement. And that the 'biosecurity plan will address both the management of installation and maintenance vessels, but also the arrangements for managing the turbine foundation to prevent the establishment of non-native invasive species.'*
- 5.11.4 For the avoidance of doubt, and to properly manage the risk of introduction of invasive non-native species, the Scottish Ministers advise that this should be presented in a binding biosecurity plan, perhaps as part of an Environmental Management Plan and that, in order for this to present mitigation and

management measures for consideration, needs to be submitted alongside the EIA Report and applications.

5.12 Physical process and water quality

- 5.12.1 The Scoping Report refers to conclusions from a 2015 ES, claims that effects from suspended sediment issues will be localised to the Development, states that no significant environmental effects would be anticipated from the resuspension of sediments, that no effects are predicted from cable landfall, proposed that the operational effects of changes to hydrodynamics, sediment transport and adjacent coastline, cumulative effects and effects from decommissioning activity are all scoped out.
- 5.12.2 The Scoping Report states that *'the water body around the Development has been classified as having a 'Moderate' status by SEPA in 2013, hence its overall sensitivity is considered medium.'*
- 5.12.3 The Development is proposed to be located within the Elie to Buckhaven water body and, whilst records show that the classification was 'moderate' in 2013, the available records show that this water body has been classified as 'good' since 2013. The reference to 2013 classification is therefore out of date and the claim in the Scoping Report, that it is *'reasonable to conclude that the assessment outcome for the revised Development design would be the same as the 2015 ES (i.e., not significant)'*, will require further and more up to date justification.
- 5.12.4 SEPA included a number of factors which will require further consideration by the Developer in its representation and states that the EIA Report should identify if the impacts of the proposal which are likely to lead to deterioration of the marine environment or present opportunities for improving the marine environment.
- 5.12.5 It is therefore recommended that water quality is further considered and that a Water Framework Directive assessment is carried out to support the application and is included in the EIA Report. The Developer may wish to consider the UK's Clearing the Waters for All Guidance³ alongside SEPA's representation, as, whilst this guidance is not specific to Scottish projects, it is a useful way to demonstrate the up-to-date consideration of effects on waterbodies and will assist in the assessment of the Development against the objectives of the Water Framework Directive (WFD) of preventing deterioration and promoting improvements in the water environment in order that all water bodies achieve "good" ecological status.

³ [Water Framework Directive assessment: estuarine and coastal waters - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/clearing-the-waters-for-all)

- 5.12.6 The Scoping reports states the Developer's intention to use geophysical survey information from the 'original' 2015 ES and it is proposed that this survey information is used to support this application and that there is no intention to carry out further geophysical surveys to provide additional baseline information.
- 5.12.7 The Scoping Report stated that the majority of contaminants analysed showed concentrations below Action Level one. It did not state where the samples were taken from in relation to the Development, nor did it clarify what contaminants were analysed. The Scoping report stated that Total Petroleum Hydrocarbons where above action levels. The EIA Report should clarify these levels and suitably explain the claim in the Scoping Report that the levels would not have a negative effect on the biological communities. This element should be considered during the WFD assessment to accompany the application.
- 5.12.8 By way of mitigation for accidental spills, the Scoping report states that the Developer will adhere to a pollution/spill prevention plan to reduce the level of potential effect to negligible. In order for such a plan to be considered as mitigation, it must be submitted alongside the application and EIA Report.
- 5.12.9 SEPA has referred to the need to put controls in place to avoid the introduction of invasive non-native species and advises the Developer to detail the measures to minimise the risks of introducing of invasive non-native species into the adjacent water bodies 'within the EIA Report and draft Construction Environmental Management Plan'. In consideration of invasive non-native species, NatureScot has advised that 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.
- 5.12.10 Advice from SEPA and NatureScot has been appended to this Scoping Opinion.
- 5.12.11 Also appended is the representation from Scottish Water and, whilst this has no bearing on the EIA scoping exercise, has information of use to the Developer.
- 5.12.12 Annex D of the Scoping Report states that a '*marine biosecurity plan requiring Marine Scotland approval prior to the commencement of offshore works will be produced as part of the post consent arrangement*'.
- 5.12.13 For the avoidance of doubt, and to properly manage the risk of introduction of invasive non-native species, the Scottish Ministers advise that this should be presented in a binding biosecurity plan, perhaps as part of an Environmental

Management Plan and that, in order for this to present mitigation and management measures for consideration, needs to be submitted alongside the EIA Report and applications (as stated in Benthic Ecology section of this opinion).

- 5.12.14 On the basis that a suitably informed biosecurity plan and a suitably informed pollution prevention plan are submitted alongside the EIA Report and a water framework directive assessment is followed for submission alongside the applications, the Scottish Ministers agree that physical process and water quality can be **scoped out** of EIA Report. The Developer may wish to include the output of its water framework directive assessment in the EIA Report.
- 5.12.15 The Scoping Report states that cable landfall and duct will be designed to address potential impacts from localised erosion due to climate change impacts over its 25 year operational life. As advised by NatureScot, the Scottish Ministers advise that landfall must be designed in alignment with outputs from the Dynamic Coast project (i.e. considering the impacts of coastal climate change) and should be **scoped in**.

5.13 Socio-economics

- 5.13.1 Chapter 14 of the Scoping Report sets out the Developer's intention to scope certain matters in relation to socio-economic effects into the EIA Report. The Scottish Ministers advise that the matters in Table 31 of the Scoping Report are all **scoped in** for all stages of the Development (Construction, Operation and Decommissioning) and advise that the advice from Marine Scotland Analytical Unit (appended) is followed.

5.14 Other Marine Users

- 5.14.1 The Scoping Report states that consultation with the Defence Infrastructure Organisation (DIO) has taken place and *'although it is anticipated that no effects should arise from the Development on its facilities, this will be confirmed within the EIA Report'* and that *'DIO confirmed that Development does not lie within a safeguarding zone'* and that *'this will be re-checked and included within the EIA Report prior to submission.'*
- 5.14.2 The Scoping Report also states that it *'is assumed that the DIO will require lighting to be placed on the turbine and a proposed Lighting and Navigation Marking plan will be submitted to the appropriate authorities for approval prior to construction. Confirmation from the DIO that military activities will not be affected by the proposed development will be addressed within the EIA Report for this development application.'*

- 5.14.3 The DIO does not anticipate there to be any concerns relating to military maritime activities nor does the MOD have no concerns in respect of airfields or radar for the Development.
- 5.14.4 The Scoping Report clarifies, in table 32, that an assessment of the effects of the Development on military activities at the construction, operation and decommissioning phases is **scoped in** to the EIA. The Scottish Ministers, in line with DIO advice, agree that this should be **scoped in**.
- 5.14.5 The Developer should have regard to the DIO's representation appended to this Opinion.
- 5.14.6 The Scoping Report scopes in an assessment of the effects of Civil Aviation during operation of the Development and states that the Civil Aviation Authority (CAA), Edinburgh Airport and NATS will be consulted to ensure that the operations of the Development will not impact civilian aviation activities. The Scottish Ministers advise that such consultations must take place, and any issues closed off or agreed, prior to any application being made where possible.
- 5.14.7 The Scoping Report proposes that an "Instrument Flight Procedure Safeguarding Assessment" and any effects upon NATS En-Route's infrastructure and operations from the Development will be presented in the EIA Report. The Scottish Ministers agree that this should be **scoped in**.
- 5.14.8 Whilst the Scoping Report states that a proposed Lighting and Navigation Marking Plan will be submitted to the appropriate authorities for approval prior to construction, the Scottish Ministers advise that, if possible, this accompanies the application and EIA Report.
- 5.14.9 The Scoping Reports states that the Joint Radio Company (JRC) will be consulted on the proposed location and turbine dimensions of the Development to establish if it has the potential to have an impact on the radio link infrastructure operated by the local electricity utility and Scotia Gas Networks.
- 5.14.10 BT advised that the Development would not cause interference to BT's current and presently planned radio network.
- 5.14.11 The Scottish Ministers are content that this issue remains **scoped in** for the Operational Phase of the Development.

5.15 Issues to be scoped out

- 5.15.1 The Scottish Ministers are content with the matters to be scoped out in chapter 16 of the Scoping Report.

6. Application and EIA Report

6.1 General

- 6.1.1 The EIA Report must be in accordance with the EIA Regulations and the Scottish Ministers draw your attention in particular to, regulation 6. In accordance with the EIA Regulations, the Scottish Ministers advise that the EIA Report must be based on this Scoping Opinion.
- 6.1.2 The Scottish Ministers note the need to carry out an assessment under The Conservation (Natural Habitats, &c.) Regulations 1994. This assessment must be coordinated with the EIA in accordance with the EIA Regulations.
- 6.1.3 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. As part of the submission of the EIA Report the Scottish Ministers advise that Developer must provide confirmation of how this Scoping Opinion is reflected in the EIA Report.

7. Multi-Stage Regulatory Approval

7.1 Background

- 7.1.1 The EIA Regulations contain provisions regulating the assessment of environmental impacts. A multi-stage approval process arises where an approval procedure comprises more than one stage; one stage involving a principal decision and one or more other stages involving implementing decision(s) within the parameters set by the principal decision. While the effects which works 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 principle decision, assessment must be undertaken at the subsequent stage.
- 7.1.2 The definition in the EIA Regulations is as follows: *“application for multi-stage regulatory approval” means an application for approval, consent or agreement required by a condition included in a regulatory approval where (in terms of the condition) that approval, consent or agreement must be obtained from the Scottish Ministers before all or part of the works permitted by the regulatory approval may be begun*”.
- 7.1.3 A marine licence, if granted, by the Scottish Ministers for the Development, may have several conditions attached requiring approvals etc. which fall under this definition, for example the approval of a CMS. When making an application for multi-stage approval the Developer must satisfy the Scottish Ministers that no significant effects have been identified in addition to those already assessed in the EIA Report.
- 7.1.4 If during the consideration of information provided in support of an application for multi-stage regulatory approval the Scottish Ministers consider that the works 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 and their impacts will be required. This information will fall to be dealt with as additional information under the EIA Regulations, and procedures for consultation, public participation, public notice and decision notice of additional information will apply.

Signed

Mike Bland
Marine Scotland – Licensing Operations Team

22 December 2021

Authorised by the Scottish Ministers to sign in that behalf.

Appendix I: Consultation Representations & Advice

Please refer to separate document provided alongside the Scoping Opinion.

Appendix II: Gap Analysis

Please refer to separate document provided alongside the Scoping Opinion.