MUIR MHÒR
OFFSHORE WIND FARM

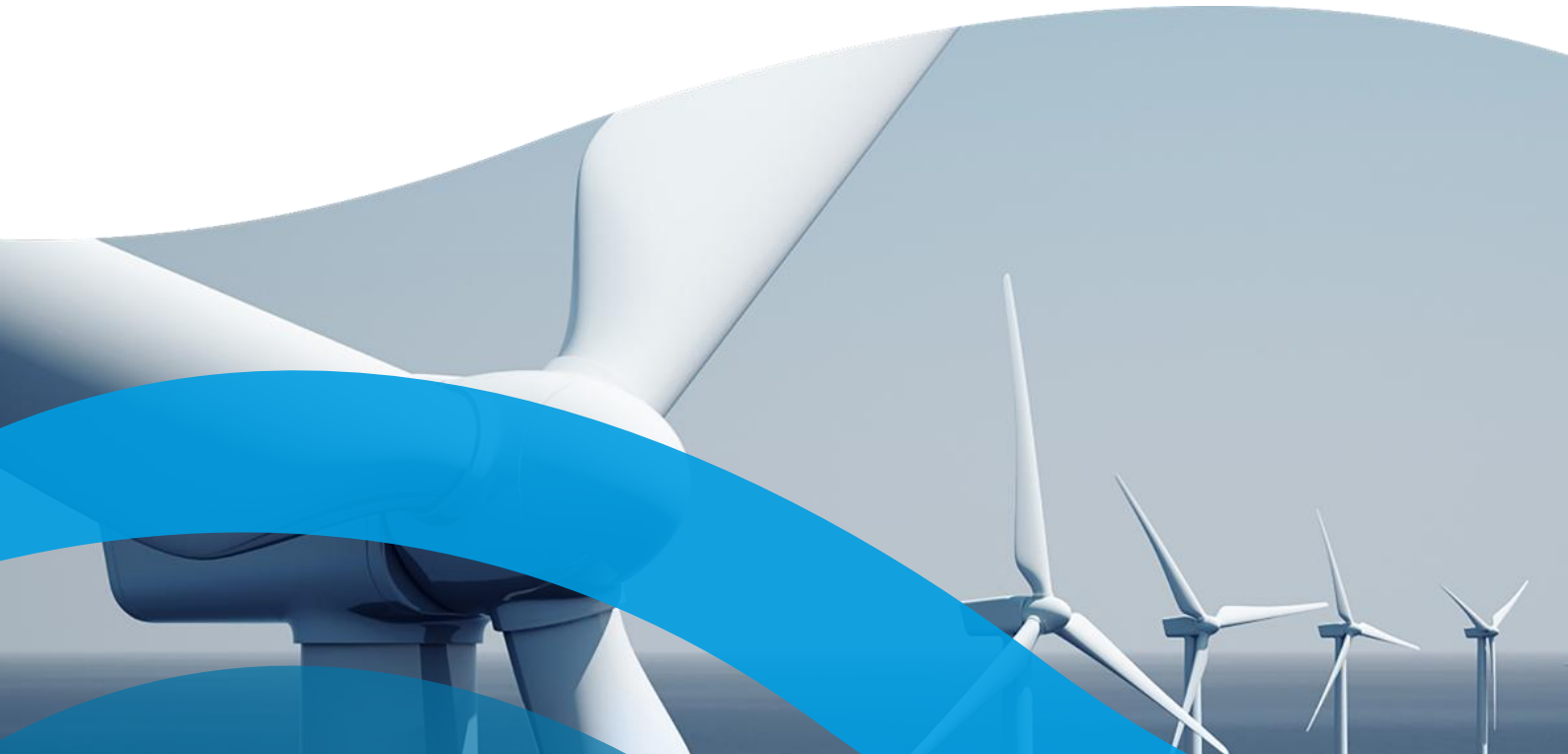
A joint venture between Fred. Olsen Seawind & Vattenfall

Additional Information Report

Muir Mhòr Offshore Wind Farm

Additional Information Report

Chapter 1: Introduction



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EXECUTIVE SUMMARY

Muir Mhòr Offshore Wind Farm Limited (hereafter referred to as 'the Applicant') is proposing to develop the Muir Mhòr Offshore Wind Farm (hereafter 'the Project'). The Project is made up of both offshore and onshore components. The subject of this report is the offshore infrastructure of the Project seaward of Mean High Water Springs (MHWS) which is hereafter referred to as 'the Proposed Development'.

The offshore consent application for the Muir Mhòr Offshore Wind Farm was formally submitted to the Scottish Government's Marine Directorate – Licensing Operations Team (MD-LOT) in November 2024.

On 9 April 2025, MD-LOT issued an Additional Information Request to the Applicant under:

- Regulation 21 of the Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017; and
- Regulation 19 of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017.

This executive summary of the Additional Information Report (AIR) highlights key requests from consultees and the conclusions drawn by the Applicant in the process of providing the information requested.

ORNITHOLOGY

ENVIRONMENTAL IMPACT ASSESSMENT

The additional ornithological information requested by NatureScot relates to the predicted impacts of the Proposed Development to ornithological interests within the marine and intertidal environment. Requests were received from NatureScot in relation to the assessment of impacts to ornithology across the three project areas; the Array Area, the offshore Export Cable Corridor (ECC) and the intertidal landfall area, as well as the three project phases; construction, operation and maintenance and decommissioning.

Each of the topics covered within this Chapter of the AIR are:

- Updates to regional population sizes;
- Updates to the assessment of distributional responses;
- Updates to the assessment of Collision Risk Modelling (CRM);
- Updates to the assessment of impact magnitude and species sensitivity;
- Updates to the Cumulative Effects Assessment for additional species; and
- Updates to information regarding the apportioning of impacts.

The results of updates and changes to the assessment which are included in this Chapter of the AIR do not change the conclusions of the Environmental Impact Assessment Report (EIAR).

NatureScot requested clarification on regional population sizes for gannet, puffin, and kittiwake, particularly regarding the colony counts used in the EIAR. Differences were largely due to updates in the Seabird Monitoring Programme (SMP) database. For gannet, the effects of Highly Pathogenic Avian Influenza (HPAI) was considered by comparing survey years before and during the outbreak. While differences in predicted survival rates were noted, the absolute changes were small and did not alter EIAR conclusions. Puffin counts for North Caithness Cliffs Special Protection Area (SPA) were updated following consultation, and kittiwake counts were corrected for Fowlsheugh SPA.

NatureScot agreed that SeabORD was the most biologically accurate model for assessing distributional responses but requested additional analysis using updated SeabORD code or displacement matrices. As the updated code was unavailable, displacement matrices were applied, leading to higher predicted

impacts for guillemot and razorbill, minor changes for puffin, and reduced impacts for kittiwake. These updates required revised Population Viability Analysis (PVAs) but did not change overall conclusions. The Applicant maintains that SeabORD remains the most robust approach, noting that positive effects predicted by the model are plausible given site-specific conditions, whereas displacement matrices likely overestimate impacts.

Additional clarifications addressed discrepancies in collision mortality calculations for kittiwake, which were due to methodological differences rather than errors. An example of revised avoidance rates for kittiwake showed no effect on conclusions. NatureScot also questioned the magnitude and sensitivity assessment approach; however, the Applicant demonstrated compliance with Chartered Institute of Ecology and Environmental Management (CIEEM) guidance and confirmed that changes in adult survival and mortality rates were equivalent. Sensitivity criteria were compared with NatureScot's preferred sources, showing minimal differences.

A cumulative impact assessment was not undertaken within the EIAR for most species due to negligible project-alone impacts, except for great black-backed gull, where cumulative PVA indicated the potential for significant impacts. However, the Applicant considers the PVA unsuitable for this species due to data limitations and likely overestimation of impacts. Minor omissions in apportioning information were corrected in the updated tables.

REPORT TO INFORM APPROPRIATE ASSESSMENT

Chapter 3: Ornithology Report To Inform Appropriate Assessment (RIAA) the AIR provides the further information requested by NatureScot in relation to Appropriate Assessment for Offshore and Intertidal Ornithology dated 4 March 2025.

The NatureScot advice relates to the following three types of SPAs addressed in this Additional Information Report (AIR) as follows:

- Marine SPAs;
- Waterbird SPAs; and
- SPA Breeding Seabird Populations.

Project-alone impacts do not present an Adverse Effect on Site Integrity (AEoSI) for any SPA or species. However, in-combination impacts with other offshore wind farms (e.g., Berwick Bank, Green Volt) present AEoSI risks for several SPAs and species, with some project contributions deemed material requiring further consultation with NatureScot. The Applicant maintains that SeabORD remains the most robust approach and believes that displacement matrices likely overestimate impacts.

COMPENSATION

Chapter 4: Compensation Package of the AIR incorporates a thorough review of the concerns raised during stakeholder consultation, particularly those relating to potential impacts on designated sites and associated species. It is not an update to the compensation case that will be provided to Scottish Ministers.

The revised assessment led to an updated assessment of Likely Significant Effects (LSE), and this Chapter of the AIR sets out the compensation requirements accordingly and in further detail.

The Applicant has proposed to carry forward two compensation measures. Both measures have been revised and updated to include more detail on their development and implementation, and both involve partnering with local organisations who have the expertise required to carry out the proposed measures. The partnerships are being finalised, and their progress will depend on board approval for both the Scottish Seabird Centre and National Trust Scotland (NTS). All parties are committed to progressing these partnerships.

Human disturbance has been linked to increased stress response and reproductive failure in many seabird species. As such, the target species (kittiwake, guillemot, razorbill, puffin, and gannet) stand to benefit from measures aimed at reducing levels of disturbance, particularly at their breeding sites. Disturbance reduction can also benefit the wider ecosystem as well, allowing non-target species the opportunity to carry out their lifecycle without being disturbed.

Predation of seabirds by Invasive Non-Native Species (INNS) on islands is also a concern, and NTS have looked to the Applicant and Caledonia to support the development of a new predator control programme on their islands in the north of Scotland. This is a targeted approach aimed specifically at protecting NTS seabird islands from predation by INNS, but it has the potential to be scaled up to other, non-NTS islands elsewhere in Scotland where seabird colonies have been recorded. Similarly to the human disturbance measure, predator control can also benefit non-target species, such as storm petrel and Manx shearwater, which are also predated upon by INNS.

FISH ECOLOGY

As part of the EIAR, a fish and shellfish ecology assessment was undertaken (Volume 2, Chapter 10: Fish and Shellfish Ecology of the EIAR), which concluded that, subject to the final design of the Proposed Development, there was the potential for LSE to arise on Buchan stock Atlantic herring (*Clupea harengus*). It was therefore determined that further mitigation measures may be necessary during the construction phase of the Proposed Development, to ensure there will be no LSE on spawning Buchan stock Atlantic herring. Consequently, an In Principle Fish Mitigation Plan (Volume 4, Appendix 10: In Principle Fish Mitigation Plan of the EIAR) was submitted, which set out the approach for the Applicant to deliver mitigation measures in relation to the Proposed Development to ensure the avoidance of LSE on Buchan stock Atlantic herring. Following submission of the Application, a formal consultation period was held, during which statutory consultees and the public were invited to provide feedback. During this period, concerns were raised by key consultees, relating to the potential for impacts from the Proposed Development on both herring and sandeel receptors.

Whilst not formally requested by the Scottish Government, the Applicant has provided a fish ecology chapter (Chapter 5: Fish Ecology) to the AIR, with an aim to provide reassurance to consultees on the key issues in relation to fish ecology raised in the consultation period. This Chapter further contextualises the potential impacts of the Proposed Development, to North Sea herring and sandeel stocks, drawing on the information set out in Volume 2, Chapter 10: Fish and Shellfish Ecology of the EIAR, Volume 3, Appendix 9.2: Marine Protected Area Assessment Report of the EIAR, Volume 3 Appendix 10.1: Fish and Shellfish Technical Report of the EIAR, the mitigation measures set out in Volume 4, Appendix 10: In Principle Fish Mitigation Plan of the EIAR, and the latest International Council for the Exploration of the Sea (ICES) stock assessments and guidance.

This Chapter of the AIR identifies no potential for LSE on sandeel stocks from the Proposed Development, and the potential for LSE on herring stocks from Underwater Noise (UWN) and increased Suspended Sediment Concentration (SSC) and deposition. These conclusions align with the those made in Volume 2, Chapter 10: Fish and Shellfish Ecology of the EIAR, and consequently the proposed mitigation measures for herring remain appropriate to ensure that the productivity of the North Sea herring stock is not affected by the Proposed Development.

Further to this, additional clarification, regarding the classification of receptor sensitivities (namely herring and sandeel) as defined in Volume 2, Chapter 10: Fish and Shellfish Ecology of the EIAR, has been provided, following feedback from NatureScot received during the determination phase. It is noted, that whilst NatureScot disagree with the sensitivity classifications, NatureScot are in agreement with the overall significance of effect conclusions made in Volume 2, Chapter 10: Fish and Shellfish Ecology of the EIAR.

COMMERCIAL FISHERIES

Chapter 6: Commercial Fisheries of the AIR provides clarification on the inclusion of certain fleet types in the assessment, confirms the significance of impacts including for the Proposed Development and cumulative effects, and sets out further details on the mitigation strategy, particularly the Fisheries Fund, Disruption Agreements, and the Obstacle Free Zone (OFZ). The AIR also presents additional evidence relating to fisheries landings, pricing, and stock status, offering a broader context to inform the interpretation of predicted effects and the proportionality of mitigation.

It has been confirmed that the commercial fisheries assessment includes *Nephrops*-directed activity within the UK demersal otter trawl fleet. Inconsistencies identified by MD-SEDD have been clarified resulting in no overall changes made to the assessment findings; the clarifications provided relate solely to typographical or summary errors, with the justification and analysis sections already presenting the correct and accurate findings.

It is confirmed that the residual significance of impacts on potting and hook gear is assessed as moderate adverse during construction (due to export cable installation), and minor adverse during operation, reflecting the expected resumption of activity within the ECC (excluding areas of localised cable protection). Displacement-related effects have been consistently assessed across both the array area and ECC combined.

Residual impacts considered moderate adverse have informed the development of a proportionate and structured package of secondary mitigation. Disruption Agreements are proposed for the construction phase of the ECC, while a Fisheries Fund will support affected fleets operating within the array area through construction and the first five years of operation. The Fisheries Fund is intended to enable operational adaptation and broader support measures such as gear innovation, training, or research aligned with fleet needs.

Stock context further informs the assessment. Haddock across ICES Subarea 4 and Division 6.a remains in a healthy state, with spawning stock biomass well above reference points, though recruitment is weakening. Herring in the North Sea is experiencing persistently low recruitment and has undergone downward revision of biological reference points, placing greater emphasis on precautionary management and potential cumulative stressors.

A comparison of Total Allowable Catch (TAC), landings, and total catch (including discards) for haddock between 2011 and 2024 shows a clear upward trajectory in recent years, particularly from 2022 onwards. The TAC peaked significantly in 2024, reflecting improved stock status and revised reference points under the ICES assessment framework. While landings and total catch generally follow the TAC trend, they remain below the quota ceiling in several years, suggesting underutilisation due to fleet behaviour, selectivity constraints, or market conditions. This pattern demonstrates that although haddock availability has increased, actual catch levels have not always matched the full quota potential.

Recent stakeholder feedback highlighted a notable increase in local haddock prices. Analysis of landing data from Peterhead and Fraserburgh confirms this trend, with prices rising sharply in late 2024 and early 2025, reaching over £2.00/kg, significantly above the three-year average of approximately £1.10/kg. This increase occurred despite lower landing volumes, indicating strong market demand and underscores the continued commercial importance of haddock to the regional fleet and economy.

To mitigate impacts, an OFZ of 13 km^2 has been integrated into the array layout, targeting areas of relatively higher demersal and pelagic trawl activity. While this does not fully offset displacement, it provides an opportunity to maintain continuing access and operational continuity within those parts of the development footprint identified as areas of relatively higher fishing activity and importance, as corroborated by the data presented in this AIR. A phased monitoring programme, conducted pre-, during, and post-construction, will validate assumptions in the EIAR and inform updates to the Fisheries Management and Mitigation Strategy (FMMS), with opportunity for refinement of mitigations to be implemented if monitoring indicates it is necessary.

Overall, the mitigation strategy is designed to be adaptive, evidence-led, and proportionate to the nature and scale of the predicted effects. It reflects the use of best available data, fleet engagement, and alignment with national marine policy objectives for sustainable development and coexistence with commercial fisheries.

REVISIONS FOLLOWING CONSULTEE INPUT

Following submission of the EIAR in November 2024 and review of consultee responses, the Applicant identified two topic areas that required additional assessment and discussion to further support the license application.

- Volume 2, Chapter 17: Socioeconomics, Tourism and Recreation of the EIAR had not fully incorporated the potentially significant residual effects with respect to 'reduction in access to, or exclusion from established fishing grounds within the array area'; and
- NatureScot had provided comment on Volume 2, Chapter 12: Marine Mammals of the EIAR, relating to the density used in the quantitative assessment for bottlenose dolphins in the Greater North Sea (GNS) Management Unit (MU): "Section 7.5.1 gives incorrect numbers of SCANS III Block R estimates for abundance (147) and density (0.0023 per km^2).

The Applicant acknowledges both issues require further revision and clarification as part of this AIR. Relevant re-assessment and discussion is provided in Section 7.2 and Section 7.3 below.

SOCIO-ECONOMICS COMMERCIAL FISHERIES UPDATE

This section of Chapter 7: Revisions Following Consultee Input of the AIR provides an updated socio-economic assessment of the significant commercial fisheries effects highlighted in the EIAR submission. The worst-case scenarios for potential losses to the commercial fisheries sector and the wider economy have been revisited, and the potential for significant socio-economic outcomes re-assessed.

Volume 2, Chapter 17: Socio-economics, Tourism and Recreation of the EIAR concluded no significant effects with respect to socio-economics, tourism and recreation. The revised assessment shows that following full incorporation of the commercial fisheries effects assessed in the EIAR, this conclusion remains the same. No significant socio-economic effects associated with commercial fisheries are anticipated.

MARINE MAMMALS REVISED ASSESSMENT

This section of Chapter 7: Revisions Following Consultee Input was produced in response to the NatureScot comment relating to the density used in the quantitative assessment for bottlenose dolphins in the Greater North Sea (GNS) Management Unit (MU).

The Applicant acknowledges that the wrong SCANS III block density was presented in Table 7-5 in Appendix 12.1 (0.0023 dolphins/km^2 was presented instead of 0.0298 dolphins/km^2). The consequence of this was that the GNS MU density value of 0.003 dolphins/km^2 was used in the quantitative assessment.

The assessment for bottlenose dolphins in the GNS MU has been revised using the SCANS III block densities as requested by NatureScot. The use of the SCANS III block densities results in substantially more bottlenose dolphins predicted to impacted per piling day at Muir Mhòr in the revised assessment compared to the assessment presented in Volume 1, Chapter 12: Marine Mammals of the EIAR. The use of Interim Population Consequences of Disturbance Model (iPCoD) modelling has supported the conclusion that the magnitude of impact should increase from **Low** in Volume 1, Chapter 12: Marine Mammals of the EIAR to **Medium** in the revised assessment. This increases the significance of effect from **Negligible** in Volume 1, Chapter 12: Marine Mammals of the EIAR to **Minor** in the revised assessment, though neither is significant in EIA terms.

The revised cumulative assessment was undertaken using the SCANS III block densities for other projects rather than the uniform GNS density. The iPCoD modelling has shown that the impacted population is predicted to decline to ~94.7% of the unimpacted population size. The use of iPCoD modelling has supported the conclusion that the magnitude of impact should increase from **Medium** in Volume 1, Chapter 12: Marine Mammals of the EIAR to **High** in the revised assessment. The significance of effect for the cumulative assessment remains the same as it was in Volume 1, Chapter 12: Marine Mammals of the EIAR: **Minor (significant in EIA terms)** (Table 7.21).

Therefore, despite the change in the density estimate for bottlenose dolphins in the GNS MU, the assessment remains **non-significant** both for the project alone and cumulatively with other projects.

Glossary

Term	Definition
Applicant	Muir Mhòr Offshore Wind Farm Limited.
Array Area	The area in which the generation infrastructure (including Wind Turbine Generators and associated foundations and Inter-array Cables), Offshore Electrical Platform(s), and an Interconnector cable will be located.
Floating Foundations	The floating structures on which the Wind Turbine Generators are installed.
Foundation anchors	The mooring structures which anchor the Floating Foundations to the seabed connected to the foundation mooring.
Inter-array Cables	Cables which link the Wind Turbines Generators to each other and the Offshore Electrical Platform(s).
Interconnector cable	Cable which links the Offshore Electrical Platforms to one another, allowing for power to be transferred between the platforms.
Obstacle Free Zone	The Obstacle Free Zone will contain no operational infrastructure from the seabed surface upwards: floating foundations, foundation moorings, foundation anchors, wind turbine generators and offshore electrical platforms.
Offshore Electrical Platform (OEP)	Offshore platform consisting of High Voltage Alternating Current equipment, details depending on the final electrical set up of the Project.
Offshore Export Cable Corridor (ECC)	The area within which the Offshore export cable(s) will be installed.
Offshore export cable(s)	The subsea electricity cable circuits running from the Offshore Electrical Platform(s) to the landfall which will transmit the electricity generated by the offshore wind farm to the onshore export cables for transmission onwards to the onshore substation and the national electrical transmission system along with auxiliary cables such as fibre optic cables.
Offshore transmission infrastructure	The proposed transmission infrastructure comprising: Offshore Electrical Platform(s) and associated foundations and substructures; the interconnector cable, the Offshore export cables; and the landfall area up to Mean High Water Springs.
Project	Muir Mhòr Offshore Wind Farm – comprises the wind farm and all associated offshore and onshore components.
Proposed Development	The offshore Muir Mhòr Offshore Wind Farm project elements to which the Offshore Environmental Impact Assessment Report relates.
Wind Turbine Generator (WTG)	The wind turbines that generate electricity consisting of tubular towers and blades attached to a nacelle housing mechanical and electrical generating equipment.

Acronyms and Abbreviations

Term	Definition
AIR	Additional Information Report
AEOSI	Adverse Effect on Site Integrity
CIEEM	Chartered Institute of Ecology and Environmental Management
CRM	Collision Risk Modelling
DAERA	Department of Agriculture, Environment and Rural Affairs
ECC	Export Cable Corridor
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
FMMS	Fisheries Management and Mitigation Strategy
HPAI	Highly Pathogenic Avian Influenza
HRA	Habitats Regulations Assessment
IAC	Inter-Array Cable
ICES	International Council for the Exploration of the Sea
INNS	Invasive Non-Native Species
iPCoD	Interim Population Consequences of Disturbance Model
IROPI	Imperative Reasons of Overriding Public Interest
Km	Kilometres
MAU	Marine Analytical Unit
MD-LOT	Marine Directorate – Licensing Operations Team
MD-SEDD	Marine Directorate – Science, Evidence, Data and Digital
MLWS	Mean Low Water Springs
MW	Megawatt
NE	Natural England
NPA	Norwegian Pelagic Association
NTS	National Trust Scotland
OEP	Offshore Electrical Platform
OFZ	Obstacle Free Zone
PPP	Planning Permission in Principle
pSPA	Potential Special Protection Area
PVA	Population Viability Analysis
RIAA	Report to Inform an Appropriate Assessment
RSPB	Royal Society for Protection of Birds
SFF	Scottish Fishermen's Federation
SMP	Seabird Monitoring Plan
SPA	Special Protection Area
S(pot)	Spawning Potential
SSC	Suspended Sediment Concentration

TAC	Total Allowable Catch
UK	United Kingdom
VWP	Vattenfall Wind Power
WTG	Wind Turbine Generator

1. INTRODUCTION

1.1. BACKGROUND

1.1.1. Muir Mhòr Offshore Wind Farm Limited (hereafter referred to as 'the Applicant') is a joint venture between Fred. Olsen Seawind Limited and Vattenfall Wind Power Limited.

1.1.2. Fred. Olsen Seawind Limited is a leading offshore wind Applicant, leveraging Fred. Olsen Renewables' 25 years of wind energy expertise. Since 2021, its offshore wind activities have operated under Fred. Olsen Seawind AS, fully owned by Bonheur ASA. Other entities include Fred. Olsen Wind Carrier, who are responsible for the installation of 20% of the world's offshore wind turbines outside of China, and Fred. Olsen 1848 who develop and commercialise renewable energy innovations.

1.1.3. Vattenfall, one of Europe's largest electricity and heat producers, employs around 20,000 people. Vattenfall Wind Power (VWP) has been active in the United Kingdom (UK) for over a decade, growing its wind portfolio from one project in 2008 to 11 by 2023. VWP operates over 1 Gigawatt (GW) of wind capacity in the UK, of which 400 Megawatt (MW) is in Scotland, powering 130,000 homes. Key projects include the 96.8 MW European Offshore Wind Deployment Centre in Aberdeen Bay and the 240 MW South Kyle onshore wind farm under construction. VWP is also expanding its district heating and power networks.

1.1.4. The Applicant is proposing to develop the Muir Mhòr Offshore Wind Farm (hereafter 'the Project'). The Project is made up of both offshore and onshore components. The subject of the Additional Information Report (AIR) is the offshore infrastructure only and is relevant to the application for the offshore elements of the Project.

1.1.5. The Muir Mhòr Array Area covers an area of approximately 200 kilometres square (km^2) and is located approximately 63 kilometres (km) east of Peterhead on the east coast of Scotland. The offshore infrastructure of the Proposed Development includes:

- Up to 67 Wind Turbine Generators (WTGs) and associated floating foundations and anchors;
- Up to two Offshore Electrical Platforms (OEPs) and their associated fixed foundations;
- Inter-array Cables (IAC);
- OEP Interconnector cable;
- Offshore export cables; and
- Cable protection where required.

1.1.6. The Proposed Development is located wholly in the UK Exclusive Economic Zone (EEZ), and the offshore Export Cable Corridor (ECC) is located within the EEZ and then into the Scottish Territorial Sea to landfall.

1.2. APPLICATION

1.1.7. An application for consent under Section 36 of the Electricity Act 1989 and Marine Licences under section 20 of the Marine (Scotland) Act 2010 and section 65 of the Marine and Coastal Act 2009 for the Proposed Development was submitted to Scottish Minsters in November 2024.

1.1.8. The application for the Proposed Development included the following documentation:

- Environmental Impact Assessment Report (EIAR) which presents information on the assessment of the LSE of the Proposed Development on various receptors from a range of impacts. This included a Non-Technical Summary and Volumes 1 to 4:
  - Volume 1: Offshore EIAR Introductory Chapters 1 to 6;
  - Volume 2: Offshore EIAR Chapters 7 to 22;
  - Volume 3: Offshore EIAR Technical Reports (Appendices to Chapters 3 to 18); and
  - Volume 4: Offshore EIAR Supporting Documents.
- Report to Inform an Appropriate Assessment (RIAA) which provides information to inform an assessment of the effects of the Proposed Development on the integrity of European sites in relation to their Conservation Objectives; and
- Derogation Case prepared under the derogation provisions of the Habitats Regulations to demonstrate the need for the Proposed Development, the absence of alternative solutions, the Imperative Reasons of Overriding Public Interest (IROPI) in the Proposed Development proceeding, as well as presenting the compensatory measures to be secured.

1.1.9. The Applicant submitted an application for Planning Permission in Principle (PPP) for the onshore elements of the Project (the onshore components of the Project landward of Mean Low Water Springs (MLWS)) to Aberdeenshire Council in December 2024. Aberdeenshire Council granted PPP on 19 June 2025.

1.3. AIR PURPOSE, STRUCTURE AND SCOPE

AIR PURPOSE

1.1.10. Following the review of the application for the Proposed Development, and upon receipt of representations from consultees, Marine Directorate – Licensing Operations Team (MD-LOT) issued an Additional Information Request to the Applicant on 09 April 2025 under:

- Regulation 21 of the Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017; and
- Regulation 19 of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017.

1.1.11. The Additional Information Request have been made to the Applicant for the provision of further information to allow Scottish Ministers to make a reasoned conclusion on the significance of the effects of the Proposed Development on the environment, and also to provide clarity on several specific points raised by consultees.

1.1.12. This AIR has been prepared by the Applicant in response to the Additional Information Request from MD-LOT, received on 9 April 2025, in support of the application made for the Proposed Development in November 2024.

AIR REPORT STRUCTURE

1.1.13. This Additional Information Report is divided into the following sections:

- Non-Technical Summary;
  - Brief, standalone, non-technical overview of the information presented in the AIR;

- Chapter 1: Introduction;
  - Overview of the purpose, scope and structure of the AIR and a summary of the key points raised by consultees;
- Chapter 2: Offshore Ornithology EIA;
  - Provides additional information for:
    - Regional population sizes;
    - The assessment of distributional responses;
    - The assessment of Collision Risk Modelling (CRM);
    - The assessment of impact magnitude and species sensitivity;
    - The Cumulative Effects Assessment for additional species; and
    - Information regarding the apportioning of impacts.
- Chapter 3: Ornithology RIAA;
  - Provides further information requested by NatureScot in relation to Appropriate Assessment for Offshore and Intertidal Ornithology in relation to the following types of Special Protection Areas (SPAs);
    - Marine SPAs;
    - Waterbird SPAs; and
    - SPA Breeding Seabird Populations.
  - Provides a summary of the updated Population Viability Analysis (PVA) model outputs in relation to SPA breeding seabird populations, with the associated project interpretation and conclusions.
- Chapter 4: Compensation Package;
  - Presents a review of the concerns raised relating to potential impacts on designated sites and associated species; and
  - A transparent and evidence-based rationale for the proposed compensation measures, ensuring they are proportionate, targeted, and aligned with relevant policy and regulatory expectations
- Chapter 5: Fish Ecology;
  - Contextualises the herring and sandeel stocks and potential impacts to them through the following:
    - The status of the stocks updated through reference to the latest ICES stock assessments and advice;
    - The Spawning Potential (S(pot)) of the stocks established, potential impacts quantified, and outputs calculations discussed in relation to the stock assessments; and
    - Mitigation measures presented and discussed.
- Chapter 6: Commercial Fisheries;
  - Provides clarification on the inclusion of certain fleet types in the EIA assessment, confirms the significance of impacts including for the Proposed Development and cumulative effects, and sets out further details on the mitigation strategy, particularly the Fisheries Fund, Disruption Agreements, and the Obstacle Free Zone (OFZ).
- Chapter 7: Revisions Following Consultee Input; and
  - Update to the EIAR Socio-economic chapter to incorporate residual significant effects for commercial fisheries; and

  - Update to the EIAR Marine Mammals chapter to present a revised assessment for bottlenose dolphins.
- Chapter 8: Conclusion;
  - Summary of the information presented in each Chapter of the AIR.

AIR SCOPE

1.1.14. Table 1.1 summarises MD-LOT's request for additional information received on 9 April 2025 and sets out where in the AIR they are addressed.

1.1.15. Following submission of the EIAR in November 2024 and the subsequent review of consultee responses, the Applicant identified three topic areas that required further discussion in support of the application.

- Fish Ecology;
  - Concerns were raised by key consultees, relating to the potential for impacts on both sandeel and herring receptors. The Applicant has presented further contextualisation in this regard within the AIR;
- Socioeconomics;
  - Volume 2, Chapter 17: Socioeconomics, Tourism and Recreation of the EIAR had not fully incorporated the potentially significant residual effects with respect to '*reduction in access to, or exclusion from established fishing grounds within the array area*';
- Marine Mammals;
  - NatureScot provided comment on Volume 2, Chapter 12: Marine Mammals of the EIAR, relating to the density used in the quantitative assessment for bottlenose dolphins in the Greater North Sea Management Unit: "*Section 7.5.1 gives incorrect numbers of SCANS III Block R estimates for abundance (147) and density (0.0023 per km2)".*

1.1.16. Whilst not formally requested by MD-LOT, the Applicant has therefore provided the following information with an aim to provide reassurance to consultees on the key issues raised in the consultation period relating to the aforementioned topics. The additional information is presented in the following Chapters of the AIR:

- Chapter 5: Fish Ecology; and
- Chapter 7: Revisions Following Consultee Input containing:
  - Socioeconomics commercial fisheries update; and
  - Bottlenose Dolphin Refined Assessment.

Table 1.1 Summary of MD-LOT Additional Information Request

Topic	Description / Summary of Issues Raised	Where This has Been Considered in the AIR
Ornithology	MD-LOT requires that the following must be submitted as additional information on the basis of the NatureScot, Royal Society for Protection of Birds (RSPB) and Natural England (NE) representations: Due to issues with SeabORD, and their cascading effects on apportioning and PVA, NatureScot, RSPB and NE are unable to reach conclusions with respect to the species/Special Protection Area (SPA) colony combinations listed below and require additional information before providing their final ornithology advice, both under EIA and Habitats Regulations Assessment (HRA). Please refer to the attached responses for further detail and instructions on resolving the SeabORD issues. – Troup, Pennan and Lion's Heads SPA – guillemot, razorbill, kittiwake – Buchan Ness to Collieston Coast SPA – guillemot, kittiwake – Fowlsheugh SPA – razorbill, kittiwake – Forth Islands SPA – puffin, kittiwake – East Caithness Cliffs SPA – kittiwake – St Abb's Head to Fast Castle SPA – kittiwake – Farne Islands SPA – puffin – Coquet Island SPA – puffin Additionally, MD-LOT requires that the following should be clarified on the basis of the NS representation: – Designated sites – St Abb's Head to Fast Castle SPA – distances from the development to this site appear incorrect. NS request clarification regarding which distances have been carried through to the apportioning stage, as this may impact the weighting for kittiwake. – Assessment approach – breeding season population – colony counts – there are several instances where recent colony counts have not been used. NatureScot request clarification from the Applicant regarding why the more recent population counts were not used in the assessment and commentary around the likely implications of this decision. – CRM – kittiwake – there are discrepancies between monthly/ seasonal/ annual collision mortality totals. NatureScot require apportioning and PVA to be repeated with the correct seasonal and annual collision mortality totals, unless the Applicant can justify the discrepancy through the presentation of the raw model outputs. – Apportioning – kittiwake in the breeding season – there are errors in the mortality figures used and subsequently in survival rates. NatureScot require displacement, CRM, apportioning and PVA to be repeated with the resulting percentage point change in survival rate presented, unless the Applicant can justify that the errors do not result in significant changes to the PVA outcomes. – PVA – some species have been excluded from cumulative assessment on the basis that proposal-alone effects are below the relevant threshold. This is incorrect. NatureScot request that cumulative impact values are presented to determine whether a cumulative PVA is required for Arctic tern, great	Chapter 2: Offshore Ornithology EIA Chapter 3: Ornithology RIAA Chapter 4: Compensation Package

Topic	Description / Summary of Issues Raised	Where This has Been Considered in the AIR
	black-backed gull, fulmar, Manx shearwater, and red-throated diver. In relation to the RIAA, NatureScot's consideration is subject to the outcome of the issues highlighted above, where additional information and/or clarification is requested, before providing final advice. Please also note the comments in relation to Marine SPA's and consider addressing this in your response.	
Commercial Fisheries	MD-LOT requires that the following should be clarified on the basis of the Marine Directorate – Science, Evidence, Data and Digital (MD-SEDD) advice: MD-SEDD advises clarification is needed over whether the *Nephrops* fleet is included in the UK demersal otter trawl sections of the impact assessment. If this has not been included, please provide justification as to why. Subject to this response, further assessment may be required. MD-SEDD advises clarification is required regarding section 13.9.62 of the cumulative effects assessment. The report states the effects during operation will be the same as during construction, however it later states the effect will be minor adverse for potting and hook gear types, when in section 13.9.48 for construction the effect was moderate and significant for all fleets. MD-SEDD advises that there are multiple inconsistencies in section 13.7 'Assessment of likely significant effects', which make it unclear whether there is a significant effect or not for some impacts. MD-SEDD advise the following inconsistencies are clarified to confirm the correct significance of effects in the assessment: – For Impact 3 – In section 13.7.76 the report lists the magnitude of impact for demersal seine as low, and significance of effect as minor and not significant. The magnitude is given above as medium in section 13.7.66. In Table 13-13 the magnitude is listed as medium and the significance of effect as moderate and significant; – For Impact 4 – In section 13.7.91 and 13.7.92 the significance of effect is given as minor and not significant, when the magnitude and sensitivity are listed as medium. Table 13-15 gives the significance of effect as moderate and significant; – For Impact 5 – In Table 13-16 the sensitivity for UK potting is listed as low, but in section 13.7.106 above it is listed as medium; and – For Impact 12 – In Table 13-24 the sensitivity for UK potting is listed as low, but in section 13.7.183 above it is listed as medium. MD-SEDD highlights several clarifications required in relation to mitigation in order to understand what these mitigation measures will deliver and how this is anticipated to reduce predicted impacts.	Chapter 6: Commercial Fisheries

Topic	Description / Summary of Issues Raised	Where This has Been Considered in the AIR
Shadow Derogation Case	Overall, MD-LOT highlights the advice provided by NatureScot and RSPB Scotland in relation to the shadow derogation case. The NatureScot advice is focused on ecological feasibility of compensation measures, and at present NatureScot advises there is insufficient information to have confidence that the proposed measures are likely to compensate for the predicted impacts of the proposal to seabirds. MD-LOT therefore advises that the applicant gives consideration to this advice and updating its shadow derogation case.	Chapter 4: Compensation Package

1.4. CONSULTATION SUMMARY

1.1.17. Consultees that provided representations that are addressed within the AIR are summarised in Table 1.2. More detailed information is set out in each topic chapter.

Table 1.2 Consultation Undertaken Post-submission of the Application

Consultee	Description / Summary of Issues Raised	Where This has Been Considered in the AIR
Department of Agriculture, Environment and Rural Affairs (DAERA)	DAERA compared the project area and the foraging ranges from the Northern Ireland SPAs and concluded that the following should be assessed within the RIAA: – Copeland Island SPA – Manx Shearwater – East Coast Marine Potential SPA (pSPA) – Manx Shearwater; and – Rathlin Island SPA – Fulmar	Chapter 3: Ornithology RIAA
Floatation Energy	Whilst recognising that ornithological assessments are conservative and precautionary, the conclusion of no Adverse Effect on Site Integrity (AEOSI) from the project alone should be reviewed as some estimated impacts are higher than expected. The proposed compensation of providing for predator eradication at Inchcolm and Inchkeith islands in the Firth of Forth are ambitious. It is unclear how the efficacy of predator removal from the islands would be achieved or maintained for the duration of the project, particularly given ongoing access by recreational and tourist vessels is anticipated.	Chapter 3: Ornithology RIAA Chapter 4: Compensation Package
Marine Analytical Unit (MAU)	MAU raised concerns that there was only limited coverage of social impacts, and this could increase the uncertainty around some social impacts that could be associated with this project. Additionally, MAU suggested that using anecdotal evidence is not sufficiently robust for an assessment such as this and would need to be backed up by some other robust data source or analysis that demonstrates this to have occurred.	Chapter 7: Revisions Following Consultee Input
Marine Directorate – Science Evidence Data and Digital (MD-SEDD)	MD-SEDD requested clarification about the assessment of Commercial Fisheries and Fish Ecology	Chapter 5: Fish Ecology Chapter 6: Commercial Fisheries
NatureScot	NatureScot raised queries across a variety of subjects including offshore ornithology, fish ecology and marine mammals, including requesting clarification on certain points and advising on future assessments.	Chapter 2: Offshore Ornithology EIA Chapter 3: Ornithology RIAA Chapter 4: Compensation Package Chapter 5: Fish Ecology Chapter 6: Commercial Fisheries Chapter 7: Revisions Following Consultee Input

Consultee	Description / Summary of Issues Raised	Where This has Been Considered in the AIR
Norwegian Pelagic Association (NPA)	The NPA highlighted that International Council for the Exploration of the Sea (ICES) advice states: "that no activities on spawning habitats should be allowed unless the effects of these activities have been assessed and shown not to be detrimental" and claimed it is not clear in the EIA that this is the case for the proposed development.	Chapter 5: Fish Ecology Chapter 6: Commercial Fisheries
Royal Society for the Protection of Birds (RSPB)	RSPB Scotland's position is that they object to the Application due to being unable to reach a clear conclusion on the scale of the potential cumulative effects. They are concerned that there appeared to be some problems with the PVA apportionment. Therefore, it was not possible for the RSPB to come to a conclusion regarding potential effects arising from the project alone nor in combination with other projects	Chapter 2: Offshore Ornithology EIA Chapter 3: Ornithology RIAA Chapter 4: Compensation Package
Scottish Fishermen's Federation (SFF)	The SFF suggest that the Muir Mhòr array could detrimentally impact a significant number of fishing opportunities, and also severely impact the reproduction of the North Sea herring stock, which is the reason they object to the project.	Chapter 5: Fish Ecology Chapter 6: Commercial Fisheries

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Muir Mhòr Offshore Wind Farm Ltd
120 Bath Street,
Glasgow,
G2 2EN
muirmhor.co.uk