MUIR MHÒR
OFFSHORE WIND FARM
A joint venture between Fred. Olsen Seawind & Vattenfall

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Why are we developing?

Muir Mhòr Offshore Wind Farm is being developed to help meet the Scottish Government's target of net zero emissions of all greenhouse gases by 2045. Muir Mhòr will significantly contribute to the UK's target of deploying up to 50GW of offshore wind by 2030, with up to 5GW coming from floating offshore wind projects.

We want local communities, members of the public and other stakeholders to engage, ask questions and share their local knowledge.

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Meet the Team

David Hinshelwood
Project Director

Marie-Laurence Carruezco
Deputy Project Director & Technical Project Manager

Martha Lovatt
Senior Development & Consents Manager

Corrinne Gallagher
Stakeholder & Communications Manager

Helen Snodin
Senior Grid & Regulation Manager

Andrew Hynd
Technical Interface Manager

Stephen Kennedy
Procurement & Commercial Manager

James Herring
Health & Safety Manager

Patrick Sweeney
Ports & Logistics Manager

John Kennedy
Land Manager

Bridget Casey
Stakeholder Liaison Officer

Gillies Munro
Deputy Interface Manager

Erin McLeod
Supply Chain & Stakeholder Coordinator

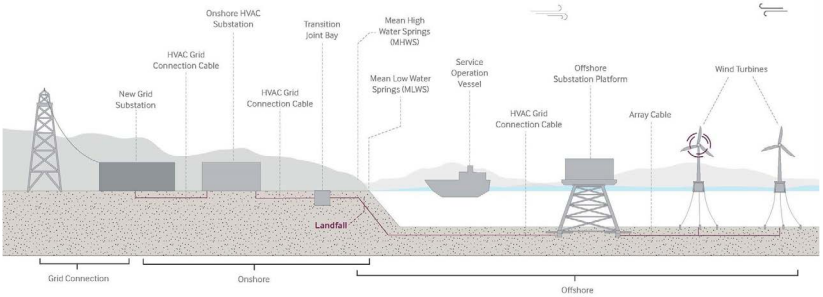
Miles McConville
Consents Manager

Rachel O'Donnell
Onshore Consents Manager

Giulia Agnisola
Offshore Consents Manager

Key Information

Location	~63km east of Peterhead
Capacity	Up to the equivalent of 1.2 million homes
No of turbines	Up to 67
Development Area	~200km^2
Water depth	~60-100m
Landfall location	North of Peterhead
Grid connection location	SSEN's Netherton Hub



Muir Mhòr Offshore Wind Farm will be located approximately 63km east off the coast of Peterhead.

Project Background

Muir Mhòr Offshore Wind Farm is applying decades of industry expertise to deliver one of the world's first commercially viable floating wind projects.

The deep-water location of the project is well-suited to floating turbine technology, and its location and size allow for efficient project delivery, utilising nearby ports and mobilising the strong marine supply chain on the east coast of Scotland.

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The Partners

Muir Mhòr Offshore Wind Farm Limited is a 50/50 joint venture between Fred. Olsen Seawind Limited and Vattenfall Wind Power Limited.

Together, we bring a unique combination of financial, technical, and project development capabilities, with a clear commitment to delivery and a distinct vision for the project.

Crown Estate Scotland
Oighreachd a' Chrùin Alba

ScotWind Auction

Crown Estate Scotland manages, on behalf of Scottish Ministers, most of the seabed off Scotland's coasts. They are responsible for awarding and managing leases and other types of agreements to organisations who want to build offshore wind farms. The Crown Estate Scotland 'ScotWind' Leasing process concluded in January 2022 and Muir Mhòr Offshore Wind Farm Limited was awarded an Option Agreement within the ScotWind Process at the project site.

Our Supply Chain

We are committed to working closely with the supply chain.

We are **actively exploring local opportunities** to engage and work with the supply chain both locally and throughout **Scotland.** We are fully focused on delivering a project **underpinned by the local supply chain,** while undertaking proper, transparent, and fair procurement processes. The Muir Mhòr team is **committed to working with local suppliers** to build their capacity to support us. Our **collaborative approach to supply chain development** ensures that we provide clear guidelines on qualifying for procurement opportunities at all levels for business.

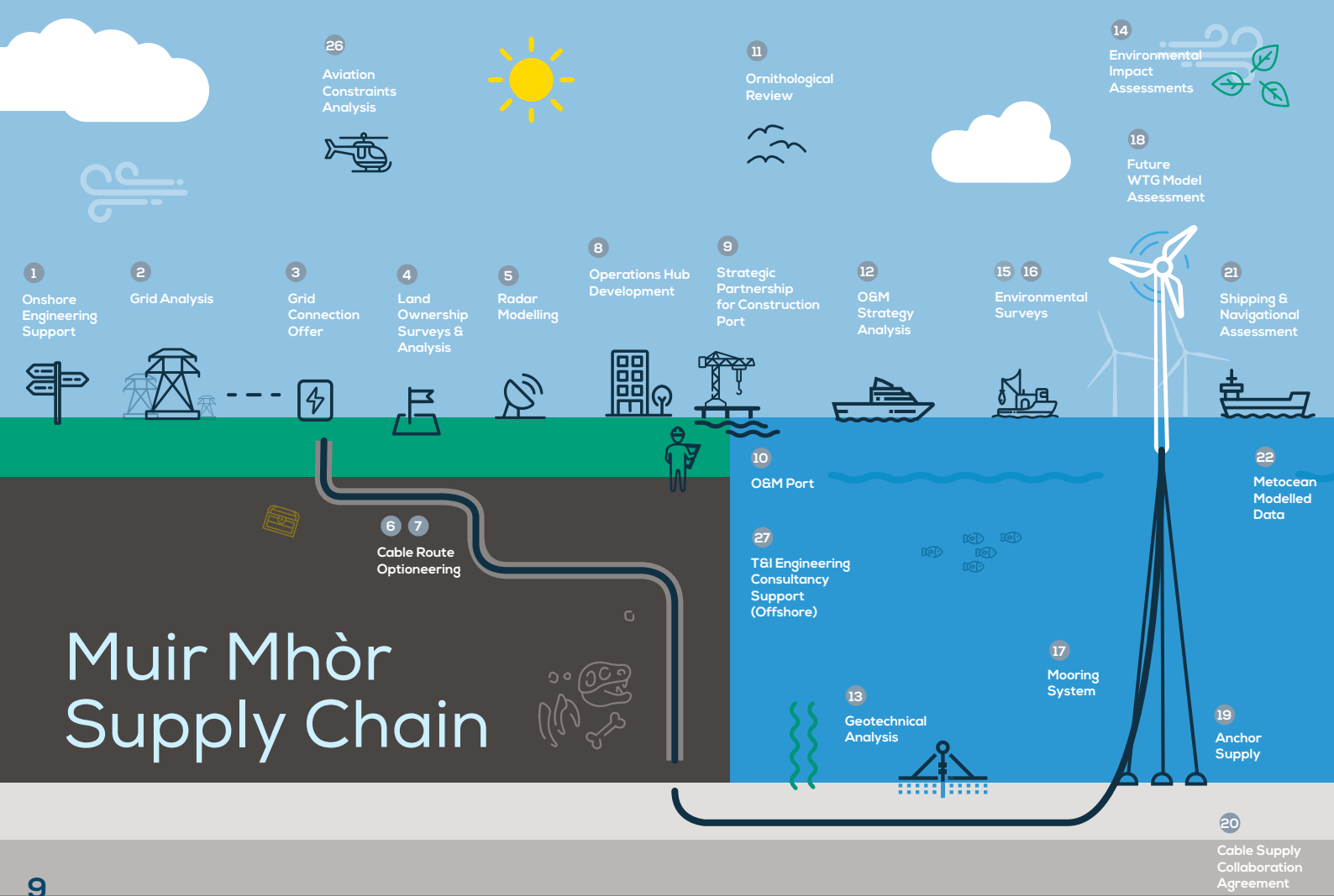
Scottish
based office

£6.3 million
local content
spend to date

Job Creation
local and national

We encourage businesses of all sizes to get in touch.

To register your interest please visit **muirmhor.co.uk/our-supply-chain.**



Muir Mhòr Supply Chain

23 Aerial Environmental Surveys

24 Geophysical Survey

25 Floating LIDAR Deployment

28 Legacy Geology & Geophysics Data

MUIR MHÒR OFFSHORE WIND FARM

1 RPS

2 OWC AN AQUALISBRAEMAR COMPANY

3 nationalgrid

6 XODUS

7 optioneer

11 natural power

12 MUIR MHÒR OFFSHORE WIND FARM

14 GoBe APEM Group

15 EGS

16 benthic solutions limited

21 anatec

22 MUIR MHÒR OFFSHORE WIND FARM

23 HiDef AERIAL SURVEYING LIMITED

24 EGS

25 GREEN REBEL

27 GLOBAL MARITIME

28

Working with the Community

We have a history of working with local communities to create opportunities for residents. At Muir Mhòr Offshore Wind Farm, we are dedicated to bringing real benefits to the local area. Our community benefit fund will be developed in partnership with local people, focusing on their priorities.

We are committed to using local businesses for this project, following fair and clear processes. The Muir Mhòr team will work closely with local suppliers to support them.

Transparency is important to us. We will thoroughly study the supply chain, seek out local opportunities, and explore possibilities in Scotland. Our aim is to create numerous opportunities for local businesses and provide environmental and social benefits throughout Scotland. The project will provide a multi-million-pound boost to the local, regional, and national economy.

We are dedicated to improving the skills of the Scottish offshore wind workforce at all levels, starting from school age. We recently had the pleasure of hosting 32 pupils who are studying the Girls in Energy course at Mintlaw Academy.

Investing in Future Engineers

The Future Leaders' Fund is UHI's largest ever scholarship bursary fund and aims to retain high-achieving and talented engineering students in the Highlands and Islands – helping to build pathways for students from their academic studies into future work opportunities.

Scottish Based Location

Scotland is the base for all Muir Mhòr's development, consenting, early engineering and management, and represents the commitment of the joint venture partners to accelerate the project and deliver one of the world's first commercially viable floating offshore wind farms.

Geophysical Survey Charity Campaign

The Project undertook a pioneering initiative to encourage a proactive safety culture across all operations which saw £1,000 for every month of the campaign donated to local charities supporting communities across North East Scotland to mark the clean health and safety bill of the campaign.

Public Consultation

Having completed events over 2023 and 2024 in Peterhead and Longside, welcoming residents, community organisations and local decision-makers we are now in the final stages of preparing the onshore and offshore applications.

Community engagement is crucial for us, feedback received at previous events, alongside results from environmental surveys will inform the forthcoming onshore and offshore applications. We are excited to continue working together and look forward to receiving feedback from this event and the submissions.

Committed to Local Engagement

The Project is actively seeking opportunities from the communities on local initiatives we can get involved in.

Offshore Wind 4 Kids Partnership

In the summer of 2023 we joined forces with OW4Kids to host two exciting demonstration days at Aberdeen Bay and Portobello Beach. This special initiative invited people of all ages to participate in installing their very own offshore wind turbines.

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Timeline

An indicative timeline for development of the project is illustrated here

Scotwind awards Muir Mhòr Option Agreement

January 2022

Submission of Offshore and Onshore Scoping Reports

June 2023

Offshore Environmental Surveys Complete

2023

Scottish Ministers Adopt Scoping Opinion

September 2023

Public Consultation Events

2023 and 2024

Submission of Offshore and Onshore applications

2024

Opportunity to respond to applications

Late 2024 to Early 2025

Project Consent Granted

2025

Construction Begins

Late 2020s

Power Grid Connection and First Generation

Early 2030s

Full Commercial Operational

Onshore Overview

The purpose of the onshore infrastructure is to transmit power generated by the offshore project to the point it is fed into the Netherton Hub and the National Grid network.

The key components of the onshore infrastructure are:

The landfall zone

The landfall zone serves as the transition point between the project's onshore and offshore components, it is where the cables from the offshore wind farm arrive on land.

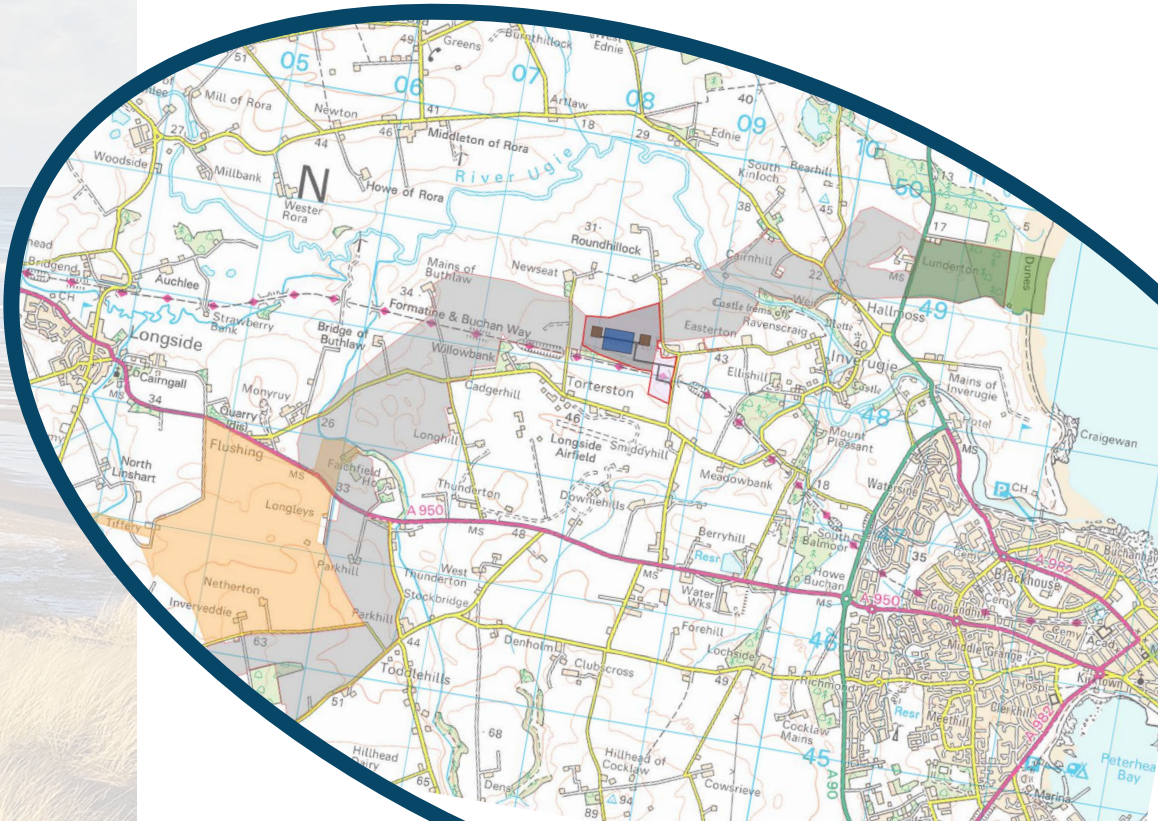
The cable zone

All cables will be buried underground and travel from the landfall zone to the onshore substation and then to the Netherton Hub. The cable route will be refined after further technical and environmental reviews. Once constructed, land along the cable route will be reinstated, allowing agricultural activities to resume.

The onshore substation

The proposed onshore substation buildings will be a maximum height of 15m and a maximum footprint of 200 by 250m.

Substation location



Onshore Key EIA Findings

The key onshore surveys have been completed and results assessed to identify and address any potential impacts.

These results will be written up and presented in the onshore application.

The surveys include:

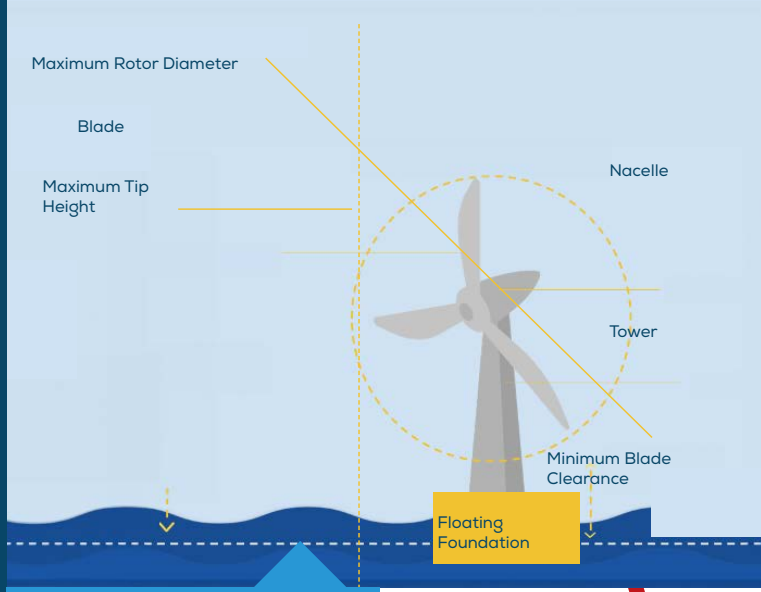
- Hydrology, hydrogeology and coastal geomorphology
- Terrestrial ecology and ornithology
- Archaeology and cultural heritage
- Landscape and visual amenity
- Noise and vibration
- Traffic and transport
- Soils, agriculture and land use
- Socio-economics, tourism, and recreation

Environment*	Potential Impact	Proposed Mitigation
Landscape and Visual Amenity	Visual impact of the substation building	• Preparation of landscape, planting and reinstatement plans, including ensuring appropriate screening and bunding around the onshore substation to reduce visual impact.
Noise and Vibration	Noise and vibration impacts during construction and operation	• Preparation and implementation of a Construction (and Decommissioning) Environmental Management Plan (CEMP/ DEMP). This will include, but not be limited to, specific sections on noise and vibration management; dust and air quality management; and soil resource management. • Installation of anti-vibration mounts at the onshore substation. • Any noise from the substation during its operation will comply with stringent limits in line with British Standards and Aberdeenshire Council requirements.
Terrestrial Ecology and Ornithology	Impacts on birds, wildlife and habitats during construction and operation	• Preparation and agreement of Species and Habitat Protection Plans. • Preparation of a Biosecurity Management Plan to avoid the introduction and spread of marine and terrestrial non-native species. • Appointment of a qualified Ecological Clerk of Works (ECoW) to monitor the implementation of approved mitigation measures.
Archaeology and Cultural Heritage	Impacts upon any archaeological features or designated assets	• Implementation of a working protocol should unrecorded archaeological features be discovered, secured by a Written Scheme of Investigation which will be agreed with relevant consultees prior to commencement.
Traffic and Transport	Damage to local road network, disruption during constructions	• Implementation of a Construction Traffic Management Plan (CTMP). • Use trenchless crossing construction techniques such as horizontal directional drilling (HDD) under main roads, where possible, e.g. the A90.
Hydrology, Hydrogeology and Coastal Geomorphology	Impacts on any sensitive watercourses and private water supplies	• Preparation of a Drainage Management Plan, which will apply to the operational phase. • Use trenchless crossing construction techniques such as HDD under major river crossings and sand dunes. • Implementation of measures to protect any private water supplies identified in proximity to the proposed development.
Soils, Agriculture and Land Use	Impacts upon any agriculture land or soils throughout the construction period	• Appropriate site investigation, soil testing, remediation and validation during the pre-construction stage. • Preparation of a Soil Resource Management Plan.

*Examples listed are not exhaustive.

Offshore Overview

The offshore infrastructure captures the energy produced by wind and generates electricity that is then fed into the main transmission system through the export cable that connects with the landfall zone (see onshore section).



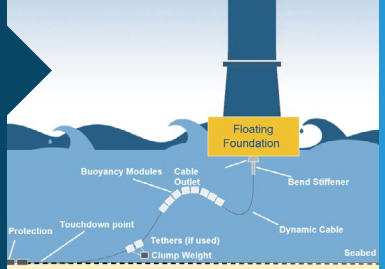
Wind Turbines

It is currently estimated the project will use a maximum of 67 turbines, with a minimum of 1000m spacing between each turbine. The maximum possible tip height of each turbine is estimated to be 340m.

3 offshore export cables with max lengths of 120km each.

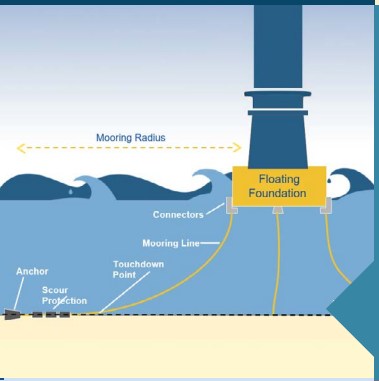
Inter-Array Cables

The inter-array cables connect the individual wind turbines together and then to the Offshore Substation Platform(s). These cables will be flexible in the water to accommodate the movement of the floating foundations.



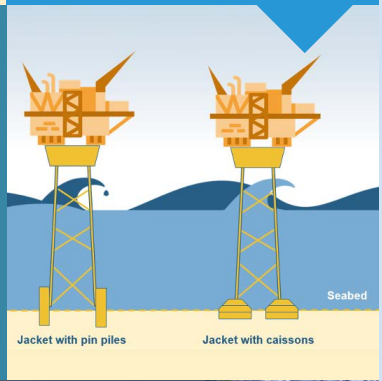
Offshore Substation Platform

This is where the electricity generated by the turbines is collected and transmitted landward by the offshore export cables. There will be up to a maximum of two platforms.



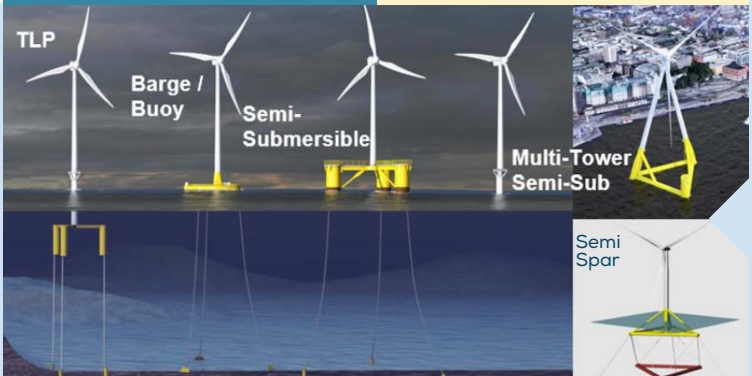
Mooring and Anchoring

The mooring and anchoring systems keep the foundation on station, maintaining the position of the WTG and foundation within a limited area.



Offshore Cable

The offshore cables will transmit electricity to shore, where they will be connected to the national grid. A maximum of three offshore cables are being considered.



Floating Foundations

The wind turbine generators (WTGs) will be supported by a floating foundation with associated mooring and anchoring systems to keep the foundation 'on station'. There are several floating foundation types under consideration by the project.

Offshore Key EIA Findings

The offshore Environmental Impact Assessment (EIA) is ongoing and will be submitted as part of the offshore application.

The EIA is based on a combination of:

- Desk based assessments and field surveys
- Evaluating magnitude of impact
- Consideration of mitigation/design changes to project
- Identification of monitoring measures

To reduce potential impacts that may arise from the proposed offshore development, mitigation measures will be put in place. The table on the following page lists some of the mitigation measures that are proposed as part of the design and development process. The final list will be included in the EIA Report.

Topic	Potential Impact	Mitigation
Benthic Subtidal and Intertidal Ecology	Damage, disturbance or loss of seabed habitats	• Offshore infrastructure will be microsited, where possible, around sensitive seabed habitats to avoid impacts.
Fish and Shellfish Ecology	Disturbance of sandeel habitats	• The export cable corridor has been routed to avoid crossing the Turbot Bank Nature Conservation Marine Protected Area (designated for sandeels).
Offshore Ornithology	Collision risk for sea birds	• Minimum air gap of 30m (i.e. distance between sea level and lower sweep of turbine blades) has been incorporated to minimise collision risk.
Marine Mammals	Underwater noise from construction activities	• A foundation piling strategy and Marine Mammal Mitigation Plan will be developed and adhered to.
Commercial Fisheries	Cable snagging leading to damaged fishing gear	• A Company Fisheries Liaison Officer will be appointed to ensure clear communication with commercial fisheries.
Shipping and Navigation	Collision and/or allision between offshore wind farm structures & vessels	• A Vessel Management Plan, Lighting & Marking Plan and Navigational Safety Plan will be developed & adhered to.
Marine Archaeology and Cultural Heritage	Loss or damage to archaeological assets (e.g. shipwrecks)	• Archaeological analysis of pre-construction survey data to identify archaeological assets. • Offshore infrastructure and works will be microsited, where possible, around identified wrecks to avoid impacts.

MUIR MHÒR
OFFSHORE WIND FARM

Contact & Feedback

Thank you for taking the time to visit and engage with our project. Consultation plays a crucial role in our development process. We value your feedback and opinions. Please consider filling out a feedback form or contacting our team to discuss the plans in more detail.

TO SUBMIT FEEDBACK DIGITALLY:
Scan this QR code with your phone

General enquiries: **info@muirmhor.co.uk**
Supply chain enquiries: **supplychain@muirmhor.co.uk**
Consent enquiries: **consent@muirmhor.co.uk**
Website: www.muirmhor.co.uk

Please note that comments provided today are not formal representations to the determining authorities. Following submission of the applications and licences in 2024, there will be periods during which formal representations can be made to Scottish Ministers, Marine Scotland and Aberdeenshire Council on the offshore and onshore elements of the project.