Muir Mhòr Offshore Wind Farm

Environmental Impact Assessment Report

Volume 2, Chapter 22: Summary and Conclusions

Revision No.	Date	Reason for Issue	Author	Reviewer	Approver
01	22/11/2024	Final	GoBe Consultants Ltd	GoBe Consultants Ltd	MMOWF Ltd

Document Information

Document ID	**MMH-GBE-A004-ENV-0006-216**
Revision	01
Date	22/11/2024

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Glossary

Term	Definition
Array Area	The area in which the generation infrastructure (including Wind Turbine Generators and associated foundations, inter-array cables), Offshore Electrical Platform(s) and an interconnector cable will be located.
Developer	Muir Mhòr Offshore Wind Farm Limited
Floating Foundations	The floating structures on which the Wind Turbine Generators are installed.
Foundation anchors	The structures which anchor the Floating Foundations to the seabed, connected to the foundation mooring.
Foundation mooring	The mooring structures which connect the floating foundations to the anchors.
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 Platform(s) to one another, allowing for power to be transferred between the platforms.
Landfall	The area between Mean High-Water Springs (MHWS) and Mean Low Water Springs (MLWS) where the offshore export cables are brought onshore.
Offshore Electrical Platform(s) (OEP(s))	Offshore platform consisting of High Voltage Alternating Current (HVAC) equipment, details depending on the final electrical set up of the Project.
Offshore Export Cable Corridor (ECC)	The area within which the offshore export cables will be installed.
Offshore export cables	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 offshore export cables; and the landfall area up to Mean High Water Springs (MHWS).
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 this Offshore EIAR 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

Term	Definition
ECC	Export Cable Corridor
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
HVAC	High Voltage Alternating Current
MHWS	Mean High Water Springs
MLWS	Mean Low Water Springs
MMOWF	Muir Mhòr Offshore Wind Farm
OEP	Offshore Electrical Platform
WTG	Wind Turbine Generator

22. SUMMARY AND CONCLUDING STATEMENT

22.1.1. Muir Mhòr Offshore Wind Farm Limited (hereafter referred to as 'the Developer') 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 offshore Environmental Impact Assessment Report (EIAR) is the offshore infrastructure of the Project seaward of Mean High-Water Springs (MHWS) which is hereafter referred to as 'the Proposed Development'.

22.1.2. The Muir Mhòr Array Area covers an area of approximately 200 km^2 and is located approximately 63 km east of Peterhead on the east coast of Scotland. The offshore infrastructure of the Proposed Development includes Wind Turbine Generators (WTGs) and associated floating foundations, the Offshore Electrical Platform(s) (OEP(s) and associated foundations, the inter-array cables, an interconnector cable, offshore export cables and landfall.

22.1.3. This Chapter of the offshore EIAR provides a summary of the potential impacts assessed and key conclusions of the Environmental Impact Assessment (EIA) undertaken for the Proposed Development. Impacts are summarised for the Proposed Development when considered in isolation and cumulatively with other relevant projects.

22.1.4. A robust assessment has been provided within the EIAR of the potential environmental effects of the Proposed Development. The approach and method for the EIAR is described in Volume 1, Chapter 6 (Environmental Impact Assessment Methodology). The EIA process involved the identification of potential impacts from the construction, operation and maintenance and decommissioning stages. The significance of the associated effects on the receiving environment were then determined.

22.1.5. A design envelope approach has been utilised to provide the flexibility for further refinement of the Proposed Development design. In line with the Scottish Government (2022) guidance[1], Volume 1, Chapter 3 (Project Description) provides an explanation of why flexibility in the Proposed Development parameters is required and necessary at this stage, taking account of the scale of the Proposed Development and the potential for technological and supply chain advancements. The parameters which represent the worst-case design scenario for the impact assessments have been determined on a topic-by-topic basis, depending on the receptor and impact being considered, and this is clearly explained in each topic-specific Chapter. This approach results in an impact assessment that provides security and confidence that the likely significant environmental effects of the Proposed Development will be no greater than those identified and assessed within the EIAR.

22.1.6. The significance of an effect was determined within each topic-specific assessment Chapter (Volume 2, Chapters 7 - 20) by defining the sensitivity of each receptor (influenced by tolerance to change, recoverability, adaptability and value) and the magnitude of impact (influenced by spatial extent, duration, frequency, intensity and likelihood) using professional judgement and industry best practice guidance, science, and accepted approaches. For each impact, the sensitivity and magnitude were then combined using a matrix approach to determine the potential consequence of the effect, ranging from negligible to major, where any effect of moderate or greater consequence was deemed significant in EIA terms.

[1] Scottish Government (2022). Guidance for applicants on using the design envelope for applications under Section 36 of the Electricity Act 1989. Edinburgh: The Scottish Government.

22.1.7. Each impact assessment took account of embedded commitments (measures identified and adopted as part of the Proposed Development design to reduce the magnitude of impact including industry best practice measures), and where significant effects were identified in the initial assessment, appropriate and proportionate secondary mitigation measures are proposed in order to reduce the residual effects to non-significant levels where possible.

22.1.8. Monitoring requirements have also been outlined, as required, in each topic-specific assessment Chapter (Volume 2, Chapters 7 - 20) to verify impact predictions and address uncertainties. A summary of this monitoring is provided in Volume 2, Chapter 21 (Summary of Embedded Commitments, Mitigation and Monitoring). The monitoring approaches will be further refined during the post-consent stage in accordance with relevant consent conditions and in consultation with stakeholders.

22.1.9. Overall, with the implementation of the embedded commitments, identified mitigation measures and monitoring proposals, the majority of the potential effects from the construction, operation and maintenance (O&M) and decommissioning of the Proposed Development are predicted to be not significant (in EIA terms) (Table 22-1). The exception to this are the residual significant effects on commercial fisheries. As a result of this precautionary commercial fisheries assessment, a suite of additional mitigation and monitoring has been proposed to minimise impacts on the fishing industry.

22.1.10. It is important to note that positive effects have also been identified. For example, the climate and socio-economic assessments have shown the Proposed Development could provide significant beneficial effects.

22.1.11. If successful in attaining the required Section 36 Consent and Marine Licences, the development of the Proposed Development will play a key role in fulfilling Scottish and UK renewable energy and climate change reduction targets and will have beneficial impacts for energy security and on the local and Scottish economy, for example through positive contributions towards employment opportunities and wider economic output.

22.2. SUMMARY OF EIA CONCLUSIONS

22.2.1. A summary of the EIA conclusions for each Chapter in the EIAR is presented in Table 22-1.

Table 22-1 Summary of EIA conclusions

EIAR Chapter within Volume 2	Proposed Development Alone			Cumulative		
	Construction[2]	O&M	Decommissioning	Construction[2]	O&M	Decommissioning
Chapter 7 (Marine and Coastal Processes)	No residual significant effects identified			No residual significant effects identified		
Chapter 8 (Marine Water and Sediment Quality)	No residual significant effects identified			No residual significant effects identified		
Chapter 9 (Benthic Subtidal and Intertidal Ecology)	No residual significant effects identified			No residual significant effects identified		
Chapter 10 (Fish and Shellfish Ecology)	No residual significant effects identified			No residual significant effects identified		
Chapter 11 (Offshore and Intertidal Ornithology)	No residual significant effects identified			No residual significant effects identified		
Chapter 12 (Marine Mammals)	No residual significant effects identified			No residual significant effects identified		
Chapter 13 (Commercial Fisheries)	No residual significant effects identified	Significant residual effect identified (Moderate)	No residual significant effects identified	Significant residual effect identified (Moderate)		
Chapter 14 (Shipping and Navigation)	No residual significant effects identified			No residual significant effects identified		
Chapter 15 (Marine Archaeology and Cultural Heritage)	No residual significant effects identified			No residual significant effects identified		
Chapter 16 (Military and Civil Aviation)	No residual significant effects identified			No residual significant effects identified		
Chapter 17 (Socio-Economics, Tourism and Recreation)	No residual significant (adverse) effects identified Residual significant (beneficial) effects identified			No residual significant effects identified		

[2] Including Pre-Construction

EIAR Chapter within Volume 2	Proposed Development Alone			Cumulative		
	Construction[2]	O&M	Decommissioning	Construction[2]	O&M	Decommissioning
Chapter 18 (Climate)	No residual significant effects identified			No residual significant effects identified		
Chapter 19 (Infrastructure and Other Users)	No residual significant effects identified			No residual significant effects identified		
Chapter 20 (Major Accidents and Disasters)	No residual significant effects identified			No residual significant effects identified		