



Buchan Offshore Wind

Chapter 5 Environmental Impact Assessment Methodology

QMS Review

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5.1 INTRODUCTION

- 5-1 This chapter provides an overview of the key principles of Environmental Impact Assessment (EIA) alongside the approach being taken to identify and evaluate the likely significant effects of the Proposed Offshore Development on the surrounding environment, including cumulative and transboundary effects. This chapter also specifies which topics are scoped in or out of the Offshore EIA Report (EIAR).
- 5-2 An overview of stakeholder engagement and consultation process is also provided. Details of topic specific consultation are provided within each relevant technical chapter.

5.2 ENVIRONMENTAL IMPACT ASSESSMENT LEGISLATION AND GUIDANCE

- 5-3 The requirement for an EIA originally stems from the EIA Directive (2011/92/EU, as amended by Directive 2014/52/EU). The aim of an EIA is to assess and present the likely significant effects of a plan or project on the environment, so that these effects can be taken into account by decision makers before relevant consents are granted. The regulations set out a procedure for identifying those developments which should be subject to an EIA, and for assessing, consulting and coming to a decision on those developments which are likely to have significant environmental effects by virtue of their size, nature or location.
- 5-4 The requirements of the EIA Directive are given effect in UK domestic legislation through the EIA Regulations, the term used to refer to the following legislation:
- The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 – applies to all applications for Section 36 (S.36) consent in Scottish waters out to 200 nautical miles (nm);
 - The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017 – applies to applications that require an EIA for a marine licence from 0-12 nm; and
 - The Marine Works (Environmental Impact Assessment) Regulations 2007 – for applications requiring an EIA for a marine licence from 12-200 nm.
- 5-5 Collectively, these EIA Regulations set out the statutory process and requirements for EIA, to which the Proposed Offshore Development will adhere.
- 5-6 This EIAR has also been produced in compliance with the following national and international legislation where relevant:
- The Conservation of Habitats and Species Regulations 2017 – only applies in Scotland for specific activities including consent applications under Sections 36 and 37 of the Electricity Act 1989 (Scottish Government, 2022a);
 - The Conservation of Offshore Marine Habitats and Species Regulations 2017 – applies to the Scottish offshore region (beyond 12 nm);
 - The Conservation (Natural Habitats, &c) Regulations 1994 – applies to marine licence applications in the Scottish 0-12 nm zone); and
 - The Wildlife and Countryside Act 1981.
- 5-7 Although Scotland is no longer in the European Union (EU), this EIAR has been produced in compliance with relevant EU directives upon which many Scottish regulations are based:

- Council Directive 2011/92/EU of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment, as amended by Council Directive 2014/52/EU (the “EIA Directive”);
- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (the “Habitats Directive”);
- Council Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (the “Birds Directive”); and
- Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (the “Water framework Directive” (WFD)).

5-8 Further information on the legal framework is presented in **Chapter 2: Legislation and Policy**.

5.2.1 Guidance

5-9 The approach to the EIA also draws on the recommendations contained within the following guidance:

- Marine licensing and consenting: offshore renewable energy projects (Marine Directorate, 2025a);
- Marine Scotland Consenting and Licensing Guidance: For Offshore Wind, Wave and Tidal Energy Applications (Marine Scotland, 2018);
- Guidelines for Ecological Impact Assessment (EclA) in the UK and Ireland – Terrestrial, Freshwater, Coastal and Marine (Chartered Institute of Ecology and Environmental Management (CIEEM), 2018);
- A Handbook on Environmental Impact Assessment: Guidance for Competent Authorities, Consultees and Others Involved in the Environmental Impact Assessment Process in Scotland (NatureScot, 2018);
- Environmental Impact Assessment for Offshore Renewable Energy Projects (British Standards Institute (BSI), 2015);
- Guidelines for data acquisition to support marine environmental assessments of offshore renewable energy projects (Centre for Environment, Fisheries and Aquaculture Science (Cefas), 2012);
- A Review of Assessment Methodologies for Offshore Wind Farms (Collaborative Offshore Wind Research into The Environment (COWRIE) METH-08-08) (Maclean *et al.*, 2009);
- Institute of Environmental Management and Assessment (IEMA) Environmental Impact Assessment Guide to Implementing the Mitigation Hierarchy from Concept to Construction (IEMA, 2024);
- IEMA Guide to Determining Significant for Human Health in Environmental Impact Assessment (IEMA, 2022);

- UK Planning Inspectorate (PINS) Advice Note Nine: Rochdale Envelope (PINS, 2025a);
- PINS Advice on Transboundary Impacts and Process (PINS, 2025b);
- PINS: Advice on Cumulative Effects Assessment (PINS, 2025c);
- Planning Advice Note (PAN) 1/2013 Environmental Impact Assessment (Scottish Government, 2013);
- Cumulative Impact Assessment Guidelines – Guiding Principles for Cumulative Impact Assessment in Offshore Wind Farms (RenewableUK, 2013);
- Assessment of the environmental impact of offshore wind farms (OSPAR Commission, 2008);
- Institute of Environmental Management and Assessment (IEMA) Environmental Impact Assessment Guide to Shaping Quality Development (IEMA, 2015).
- Offshore Wind Marine Environmental Assessments: Best Practice Advice for Evidence and Data Standards – Phase I (Natural England, 2021);
- Guidelines for data acquisition to support marine environmental assessments of offshore renewable energy projects (Judd, 2012);
- A Review of Assessment Methodologies for Offshore Wind Farms (COWRIE METH-08-08) (Maclean *et al.*, 2009);
- Assessment of the environmental impact of offshore wind-farms (Oslo Paris (OSPAR) Commission, 2008a); and
- OSPAR Guidance on Environmental Considerations for Offshore Wind Farm Development (OSPAR, 2008b).

5-10 Where specific guidance has been used, these are identified within the relevant technical chapters of this Offshore EIAR (**Volume 2, Chapters 6-18**).

5.2.1.1 Guidance on Management Plans

5-11 MD-LOT have recently issued guidance on Mitigation and Monitoring Plans (MD-LOT, 2025b), specifically in relation the following plans;

- Fisheries Mitigation, Monitoring and Communication Plan;
- Written Scheme of Investigation and Protocol for Archaeological Discoveries;
- Marine Pollution Contingency Plan for Offshore Renewable Energy; and
- Invasive Non-Native Species Mitigation Plan.

5-12 To account for MD-LOT's recent guidance, the four plans listed above have been submitted as 'proposed' rather than 'outline' plans for the purpose of this Offshore EIAR. Although these plans may undergo further consultation and refinement prior to construction, likely under relevant consent conditions, they have been drafted to provide sufficient information for stakeholders to make informed representations and for the regulator to determine the application.

5-13 To ensure consistency across documentation, the term 'proposed' has been consistently applied to the various other plans associated with the Offshore EIAR, set out below in addition to the aforementioned plans for completeness. It is important to note that these proposed plans will be subject to further consultation, refinement, and approvals, which may be more extensive than the four plans specified under the new guidance.

- Proposed Environmental Management Plan (Buchan Offshore Wind Ltd, 2025a);
- Proposed Marine Mammal Mitigation Protocol (Buchan Offshore Wind Ltd, 2025b);
- Proposed Navigational Safety and Vessel Management Plan (Buchan Offshore Wind Ltd, 2025c);
- Proposed Aids to Navigation Management Plan (Buchan Offshore Wind Ltd, 2025d);
- Proposed Lighting and Marking Plan (Buchan Offshore Wind Ltd, 2025e);
- Proposed Invasive Non-Native Species Management Plan (Buchan Offshore Wind Ltd, 2025f);
- Proposed Fisheries Mitigation, Monitoring and Communication Plan (Buchan Offshore Wind Ltd, 2025g);
- Proposed Offshore Written Scheme of Investigation (Buchan Offshore Wind Ltd, 2025h); and
- Proposed Marine Pollution Contingency Plan (Buchan Offshore Wind Ltd, 2025i)

5.3 CONSULTATION ON APPROACH AND METHODOLOGY

5-14 Consultation relevant to the development of EIA methodology is summarised in **Table 5-1**.

Table 5-1 Summary of Consultation on EIA Methodology

Consultee	Issue Raised	Response to Issue Raised and Location in Chapter (if relevant)
<p>MD-LOT (04/09/2024)</p>	<p>The Marine Directorate invited stakeholders to provide feedback on proposed revisions to the ‘Consenting and Licensing Guidance for Offshore Wind, Wave and Tidal Energy Applications’ over a period of 10 weeks between 10 February to 21 April 2023. The revisions were proposed to update the existing guidance, make it more accessible and propose process efficiencies.</p> <p>The Marine Directorate will be updating external guidance to reflect changes and will continue to keep stakeholders updated on implementation. Some of the guidance has already been updated and can be found at Marine environment: licensing and consenting requirements - gov.scot (https://www.gov.scot/collections/marine-licensing-and-consent/).</p> <p>MD-LOT is considering the permitting and assessment requirements for the assembly, operation, storage and ongoing maintenance of offshore wind turbines in the sea and is intending to provide guidance on this to prospective applicants.</p>	<p>The EIAR has been produced following the most recent guidance available across all topic areas. This is detailed fully in Volume 1, Chapter 2: Legislation and Policy, with topic specific legislative context detailed in Volume 2, Chapters 6-18.</p> <p>Responsibility for consenting the port activities including operations and / or any infrastructure upgrades will be the responsibility of the either the ports or the supply chain and will be addressed outwith this EIA. Refer to Volume 1, Chapter 4: Project Description for more information.</p>
	<p>Update on ScotMER ScotMER research is ongoing and the following reports will be published in the coming months:</p> <ul style="list-style-type: none"> • adapting the interim framework for assessing the Population Consequences of Disturbance (iPCoD) framework to utilise a harbour porpoise Dynamic Energy Budget model output in modelling the effects of disturbance; and 	<p>ScotMER has been considered and incorporated into the assessments where information is available. See Volume 2, Chapter 7: Benthic and Intertidal Methodology and Volume 2, Chapter 10: Marine Mammals and other Megafauna for more detail.</p>

Consultee	Issue Raised	Response to Issue Raised and Location in Chapter (if relevant)
	<ul style="list-style-type: none"> • a review of benthic ecological surveying for marine renewable developments in Scottish waters. 	
	<p>Strategic Compensation Update A series of workshops with external stakeholders were held in July on strategic compensation policy. Outputs are being analysed and will be used to inform policy development. A workshop follow up session is scheduled for 4 September for workshop attendees.</p>	<p>Reports have been considered and incorporated into the assessments where information is available. See Volume 2, Chapters 6-18 for more detail.</p>
	<p>National Marine Plan 2 The current National Marine Plan (adopted in 2015) is being updated to National Marine Plan 2 (NMP2). The NMP2 will continue to provide the planning framework for licensing and consenting decisions and set the context for regional and sectoral marine planning.</p> <p>The NMP2 team will be sharing outputs as they become available to enable co-design of policies in the plan with stakeholders, as part of their commitment to considering the Just Transition principles in the marine planning process. Extensive stakeholder engagement across all sectors has been conducted which has informed updated high-level objectives and policies within the Plan.</p> <p>On 15 August 2024, Ministers announced an update to the NMP2 development timeline. The updated timeline introduces further opportunity for stakeholder engagement, including a consultation on a Planning Position Statement in Autumn 2024. The Position Statement will set out the intended policy direction for NMP2 in relation to all stakeholder feedback provided to date, providing stakeholders with an earlier</p>	<p>NMP2 is expected to be published after submission of this Offshore EIAR, however information has been considered and incorporated into the assessments where available. See Volume 2, Chapters 6-18 for more detail.</p> <p>The Applicant will continue to engage with MD-LOT in regard to updates to the planning framework as appropriate.</p>

Consultee	Issue Raised	Response to Issue Raised and Location in Chapter (if relevant)
	<p>opportunity to help shape the Plan policies prior to consultation on the draft plan in late 2025.</p> <p>Sectoral Marine Plan – Iterative Plan Review The updated Sectoral Marine Plan (SMP) for Offshore Wind Energy (SMP-OWE) will support the sustainable development of offshore wind in Scottish waters whilst protecting marine users and our environment.</p> <p>We are working at pace to deliver an updated Sectoral Marine Plan for Offshore Wind Energy (SMP-OWE) in 2025. While an updated SMP-OWE is being prepared, developers may continue to submit applications for consent and licensing in the normal way.</p> <p>These will be considered by Ministers on a case-by-case basis in line with the planning, consenting and assessment framework available at the time.</p> <p>Our Scottish Marine Energy Research programme (ScotMER) will deliver up to £3.2m in new research projects this year to address evidence gaps.</p>	<p>The updated SMP is expected to be published after submission of this Offshore EIAR, however information has been considered and incorporated into the assessments where available. See Volume 2, Chapters 6-18 for more detail.</p> <p>The Applicant will continue to engage with MD-LOT in regard to updates to the planning framework as appropriate</p>
NatureScot (20/11/2023)	<p>Cumulative Impact Assessment We are concerned with the likelihood of multiple offshore export cables making landfall in the area around Peterhead and the potential for cumulative impacts arising from construction and associated geophysical, geotechnical and environmental survey programmes. Therefore, we recommend that this is considered further. We have also raised the need for strategic consideration by both Scottish Government (Offshore Wind and Marine Directorates) and the Electricity System Operator (ESO).</p>	<p>The Proposed Offshore Development will consider the cumulative effects with other relevant plans and projects, see Section 5.6 of this chapter. Cumulative effects are assessed in detail in respect of each of the relevant topic assessments in Volume 2, Chapters 6-18.</p>

Consultee	Issue Raised	Response to Issue Raised and Location in Chapter (if relevant)
<p>NatureScot (20/11/2023)</p>	<p>The EIAR The EIA Report provides the assessment to support the application and should be suitably structured, with appropriate formatting and proportionality to ensure it can be reviewed efficiently and effectively. Consideration should therefore be given to the following aspects:</p> <p>It should clearly follow the direction provided in the Scoping Opinion, or where specific agreement was later reached during the pre-application process. Any divergence from this needs to be laid out separately and must be fully justified.</p> <p>Consideration should be given to the volume and flow of information within and across each receptor chapter and associated technical appendices. The flow of information relating to impact pathway, assessment and conclusions should be concise, but not omit key information on steps taken. Repeated duplication of text should be avoided through appropriate structuring.</p> <p>In electronic versions the EIA Report, navigational aids including use of hyperlinks etc. are required, particularly where there are supporting technical appendices to any chapters.</p> <p>Each stage of the assessment process should be sufficiently transparent to allow the assessments to be repeated. Where specific tools have been used, details of which version and when the assessment was carried out is required.</p>	<p>Advice and agreements from stakeholders as part of the pre-application consultation (PAC) process is outlined within each chapter in relevance of the topic being assessed. The consultation process is detailed in Section 5.9 of this chapter.</p> <p>EIA methodology for assessment of effects is set out in this chapter. Any topic-specific assessments are included in the relevant technical chapters (Volume 2, Chapters 6-18). The EIAR has been developed following advice and directing provided in the Scoping Opinion (MD-LOT, 2023) in order to appropriately present the information relevant to the application. Topic specific chapters have been structured to minimise repetition as far as possible, and to effectively convey the information pertaining to their relevant assessments.</p> <p>This EIAR has been developed to facilitate navigation through use of hyperlinks and appropriate cross-referencing tools.</p>

5.4 EIA SCOPING

- 5-15 The purpose of a Scoping Opinion issued by Scottish Ministers is to outline the scope and level of information to be provided in the EIAR, with input from statutory consultees and relevant interested parties. Where a Scoping Opinion has been issued, the Applicant must ensure that the EIAR is based on the Scoping Opinion, and must take into account current knowledge and methods of assessment (Scottish Ministers, 2018).
- 5-16 A Scoping Request accompanied by a Scoping Report was submitted to Marine Directorate – Licensing Operations Team (MD-LOT) in September 2023 (Buchan Offshore Wind Ltd (BOWL), 2023a), and a Scoping Opinion received from Scottish Ministers in December 2023 (MD-LOT, 2023).

5.4.1 Scope of the Assessment

- 5-17 This Offshore EIAR has been produced in accordance with the EIA Regulations and is based on the Scoping Opinion (MD-LOT, 2023). Accordingly, it focuses on the following topic areas:
- Marine Physical and Coastal Processes;
 - Benthic and Intertidal Ecology;
 - Fish and Shellfish Ecology;
 - Offshore and Intertidal Ornithology;
 - Marine Mammals and Other Megafauna;
 - Commercial Fisheries;
 - Infrastructure and Other Marine Assets;
 - Shipping and Navigation;
 - Major Accidents and Disasters;
 - Military and Civil Aviation;
 - Marine Archaeology and Cultural Heritage;
 - Socio-Economics, Tourism and Recreation; and
 - Climate Change.
- 5-18 In line with feedback received in the Scoping Opinion (MD-LOT, 2023), the following topics have been scoped out of the EIAR:
- Marine Water and Sediment Quality (a WFD Assessment Report has been prepared to satisfy the requirements of the water quality legislative requirements);
 - Seascape, Landscape and Visual Impact Assessment;
 - Offshore Airborne Noise and Vibration; and
 - Offshore Air Quality.

5-19 Justification for scoping these topics out of further assessment is summarised in **Table 5-2**.

Table 5-2 Summary of Topics Scoped Out of the EIAR

Topic	Justification
Marine Water and Sediment Quality	The effects of any changes to water quality resulting from the construction, operation and maintenance (O&M), or decommissioning of the Proposed Offshore Development are determined through the assessment of other ecological receptors in the area. Effects are therefore addressed in other technical chapters where relevant, including the Benthic and Intertidal Ecology, and Fish and Shellfish Ecology topic chapters (Volume 2, Chapters 7 and 8 , respectively). A Water Framework Directive Assessment is provided in Volume 3, Appendix 7.4 which assesses all defined water quality receptors within WFD waters (defined as 3 nm) from Mean High Water Springs (MHWS)).
Seascape, Landscape and Visual Impact Assessment	No likely significant effects due to distance to surface piercing infrastructure and temporary nature of construction/decommissioning activities.
Offshore Airborne Noise and Vibration	No likely significant effects due to temporary nature of works, distance to construction activities and distance to surface piercing infrastructure.
Offshore Air Quality	<p>Engine emissions from construction vessels activities, O&M and decommissioning phases will contribute to atmospheric emissions at a local level, however these will be small in scale. The greater number of vessels will be utilised during the construction phase are mainly temporary in duration and focused at the Array Area, thus at considerable distance from key air quality receptors, predominantly located onshore.</p> <p>Air quality is therefore scoped out of any further assessment as there is no potential for likely significant effects to arise.</p>

5.5 KEY PRINCIPLES OF THE PROPOSED OFFSHORE DEVELOPMENT ASSESSMENT

5-20 EIA is a tool used to assess the potential impacts a development proposal or project could have on the environment, i.e. the Buchan Offshore Wind Farm. A detailed understanding is developed of both the surrounding environment and the Proposed Offshore Development, inclusive of pre-construction, construction, O&M and decommissioning activities in order to identify likely significant effects. These are then evaluated to determine the likely significant effects the Proposed Offshore Development could have upon individual receptors and the wider environment.

5-21 The assessment considers the likely significant effects both alone and cumulatively with other relevant projects. Where potential impacts are considered to result in adverse likely significant effects, mitigation measures are required to be implemented where feasible to remove or reduce the significance of those effects. Mitigation measures will be incorporated into the design of the Proposed Offshore Development where reasonably practicable to avoid or reduce impacts.

- 5-22 The EIA process also requires the identification of appropriate and proportionate targeted measures to monitor (and validate or otherwise) the predicted impacts of the Proposed Offshore Development in the short, medium or long term.
- 5-23 Following the Scoping phase, the EIA process involves:
- identification and characterisation of impacts and their effects;
 - identification of the sensitivity to receptors in respect of potential effects;
 - identification of the magnitude (scale) of change for each potential effect
 - incorporating additional measures to avoid and mitigate negative impacts and effects (i.e. secondary mitigation);
 - assessment of the significance of any residual effects after mitigation; and
 - identification of opportunities for ecological enhancement.
- 5-24 This EIAR has been prepared taking into consideration the Scoping Opinion (MD-LOT, 2023), responses to the consultation process and the outcome of the assessment of any likely significant effects arising from the Proposed Offshore Development during the construction, O&M, and decommissioning stages of the project lifecycle. Upon completion and submission of the EIAR, it, and associated consultation, is required to be made publicly available to allow consultation bodies and the general public the opportunity to provide feedback.
- 5-25 Following submission, MD-LOT, on behalf of Scottish Ministers, will examine the environmental information including the EIAR, all associated comments and any representation received from consultation. This will enable them to reach a reasoned conclusion on the likely significant effects of the Proposed Offshore Development on the environment, along with any potential monitoring measures, and make a recommendation to Scottish Ministers to approve or refuse permission. At this point, a Decision Notice will be issued, incorporating the authority's reasoned conclusion on the likely significant effects of the development on the environment. Where the application is granted, the Proposed Offshore Development would receive the required s.36 Consent and Marine Licences, with associated conditions of consent attached.

5.5.1 Characterisation of the Existing Environment

- 5-26 It is important and necessary in terms of the EIA process to establish baseline conditions of the existing and future environment against which potential impacts and likely significant effects can be assessed, and any future change can be monitored. The area will encompass the Proposed Offshore Development extent, including the Array Area and Export Cable Corridor (ECC), as well as surrounding technical study areas for all pertinent assessment topics and receptors. The process of establishing the existing environment includes:
- a review of publicly available information and available data from other developments within the study area which is defined on a topic by topic basis;
 - defining each receptor-based study area factoring in mobility and range of any potential movement of receptors e.g., through migration or presence of spawning/foraging ground;

- deciding whether any further data, including site specific survey data, are required and ensuring data are gathered in a manner which is targeted to answer key questions in addition to identified data gaps; and
- a thorough review of all information gathered to ensure confidence in the characterisation of the environmental baseline at an appropriate and proportional level of detail.

5-27 A review of the existing environment has been undertaken for each topic to determine the status of the existing baseline conditions in the study area. A detailed approach for each topic is provided in the relevant technical chapter of this EIAR, and has been determined by a number of factors such as the distribution of receptors, footprint of likely significant effects, administrative/management boundaries (e.g., territorial waters, International Council for the Exploration of the Seas (ICES) rectangles) and where appropriate these have been agreed with regulators or advisors.

5.5.2 Evidence Based Approach

5-28 This EIAR relies primarily on published scientific literature and publicly available data, site-specific reports and surveys to assess the current state of the environment, as well as professional judgement by competent experts.

5-29 The Proposed Offshore Development is located in the North Sea, and as such there exists a comprehensive literature of background information to characterise the environment.

5.5.3 Realistic Worst Case Design Scenario

5-30 The Design Envelope approach (also referred to as the Rochdale Envelope approach) has been adopted for the assessment. This is in accordance with current good practice including the guidance for applicants on using the Design Envelope for applications under S.36 of the Electricity Act 1989 (Scottish Government, 2022b). The Design Envelope concept allows for some flexibility within minimum and maximum parameters. This enables the necessary inclusion of design options where the full details of a project and technologies are not known at the point of application submission.

5-31 The use of the Design Envelope approach has been recognised in the UK Overarching National Policy Statement (NPS) for Energy (NPS EN-1) (Department for Energy Security and Net Zero (DESNZ), 2023a) and NPS for Renewable Energy Infrastructure (NPS EN-3) (DESNZ, 2023b) respectively. While the NPSs are not directly applicable to Scottish waters, they have been referenced in the 2022 Scottish Government Guidance (Scottish Government, 2022b), and are indicative of the approach that has been used in the majority of offshore wind farm (OWF) applications in Scotland and more broadly in the UK to date.

5-32 The Design Envelope allows for a range of parameters for each aspect of the Proposed Offshore Development to be defined in the EIAR and to allow for the assessment of a realistic worst-case scenario for a particular receptor and/or impact. **Volume 1, Chapter 4: Project Description** defines the envelope for which consent is sought.

5-33 On a topic-by-topic basis, assessment within the EIAR considers the relevant design parameters that give rise to the greatest likely significant effects for the receptors. Any design parameter that is equal to or less than those assessed in terms of its worst-case impact on a receptor will have an equal or lesser impact than the remainder of the Design

Envelope on that receptor, and therefore the impacts of the whole Design Envelope is within this worst-case assessment outcome.

- 5-34 The Design Envelope has been developed in parallel with the EIA process with elements of each informing the other as part of an iterative process. Throughout this process there has been both refinement and greater definition of parameters, on which the assessment presented has been undertaken.
- 5-35 Throughout this Offshore EIAR, the Design Envelope approach has been undertaken to allow meaningful assessments of the Proposed Offshore Development to proceed, whilst still allowing reasonable flexibility for future project design decisions.

5.5.4 Identification of Impacts and Significance of Effect

5.5.4.1 Impacts and Effects

- 5-36 For the purposes of this EIAR, the term ‘receptor’ is defined as the physical or biological resource or human user group that have the potential to be affected by impacts as a result of the Proposed Offshore Development. Receptors are identified through available data and baseline studies compiled in the development of the EIAR.
- 5-37 The term ‘impact’ is defined as an action resulting in changes to a feature or receptor (Chartered Institute of Ecology and Environmental Management (CIEEM), 2018). For example, seabed clearance (an action) is likely to result in seabed disturbance (an impact). Impacts can be defined as direct, indirect, temporary, irreversible, secondary, cumulative and inter-related. They can also be either positive or negative, although the relationship between them is not always straightforward and relies on available evidence and professional judgement.
- 5-38 The term ‘effect’ is defined as an outcome to an environmental feature or receptor from an impact (CIEEM, 2018). For example, seabed clearance (the action) results in seabed disturbance (impact), with the potential to disturb benthic habitats and species (effect).
- 5-39 The likely significance of effects is determined by consideration of the magnitude of impact alongside the sensitivity of each receptor/receptor group in accordance with the defined significance. These criteria are arrived at by following peer-reviewed literature, best practice standards and expert opinion, informed by consultation with relevant stakeholders and statutory consultees. This process may be conducted differently with respect to the different technical chapters (**Volume 2, Chapters 6-18**). Each of these chapters will detail the methodology applied to determine the likely significance of an effect.

5.5.4.2 Determining Magnitude of Impacts

- 5-40 Magnitude refers to size, amount, intensity and volume and should be quantified if possible and expressed in absolute or relative terms (CIEEM, 2018). The extent, duration, frequency and reversibility should also be considered when determining the magnitude of an impact. Due to the above considerations the definition and determination of the magnitude of impact will vary for specific pathways, receptors and individual technical assessments, however, in general magnitude assigned is set out in **Table 5-3**.

Table 5-3 Definition of Magnitude

Magnitude	Description	
High	Adverse	Total loss or major alteration to key elements/features of the baseline conditions
	Beneficial	Major improvement to key elements/features of the baseline conditions
Medium	Adverse	Partial loss or alteration to one or more key elements/features of the baseline conditions
	Beneficial	Improvement to one or more key elements/features of the baseline conditions
Low	Adverse	Minor loss or alteration to baseline conditions
	Beneficial	Minor improvement to baseline conditions
Negligible	Adverse	Very small loss or alteration to baseline conditions
	Beneficial	Very small improvement to baseline conditions

5-41 In instances where there is the potential for both adverse and positive impacts, magnitude definitions are defined for both. Professional judgement has been used to determine the magnitude of impacts, with justification being provided as part of the EIAR.

5.5.4.3 Determining Sensitivity of Receptors

5-42 Generally, sensitivity may be defined in terms of quality, rarity, value or importance of the receptor being assessed. The specific scale of sensitivity for a receptor is dependent on the EIA topic or receptor in question and detail is provided in the relevant technical chapter as part of the EIAR. The ability of a receptor to adapt to change, tolerate and/or recover from likely significant effects is key in assessing sensitivity to impacts. Unless otherwise set out in individual technical chapters, sensitivity is generally classed as High, Medium, Low or Negligible as defined in **Table 5-4**.

Table 5-4 Definition of Sensitivity

Sensitivity	Description
High	Extensive or major changes or response to an impact with long term effects
Medium	Major changes or response to an impact with medium term effects
Low	Minor changes or response to an impact, but recoverable in the short to medium term
Negligible	Very small changes or response, recoverable or reversible in the short term

5-43 Each receptor is defined by a scale of increasing sensitivity where appropriate. Guidance has also been taken from the value attributed to elements through designation or protection under law. Expert judgement is particularly important when determining the sensitivity of receptors, and justification and explanation for this determination is provided in the relevant sections of the EIAR where applicable.

5-44 Where appropriate and proportionate, consultation was undertaken to agree approach to sensitivity assignment and assessment. Details are presented within relevant technical chapters of Volume 2 of this EIAR.

5.5.4.4 Determining Likely Significance of Effect

5-45 Magnitude and sensitivity are required to be considered together to determine the likely significance of an effect. This may be qualitative or quantitative and will be informed by expert judgement. **Table 5-5** demonstrates how the combination of magnitude and sensitivity provide an assessment of likely significance of effect.

Table 5-5 Matrix used to Assess the Likely Significance of Effect

		Negative Magnitude				Beneficial Magnitude			
		High	Medium	Low	Negligible	Negligible	Low	Medium	High
Sensitivity of receptor	High	Major	Major	Moderate	Minor	Minor	Moderate	Major	Major
	Medium	Major	Moderate	Minor	Negligible	Negligible	Minor	Moderate	Major
	Low	Moderate	Minor	Minor	Negligible	Negligible	Minor	Minor	Moderate
	Negligible	Minor	Minor	Negligible	Negligible	Negligible	Negligible	Negligible	Minor

5-46 In order to determine whether or not a likely significant effect may result from the Proposed Offshore Development, significance ratings are utilised. These significance ratings are set out in **Table 5-6**. In general, significant effects are defined in EIA terms as anything within the Moderate or Major significance, however determination of significance is receptor-specific, and will be defined in each technical chapter with supporting rationale in line with best practice guidance, supporting evidence and professional judgement. Where relevant and applicable, subject to the receptor under assessment, the significance of the effect is qualified with respect to the international, national, regional or local scale over which it may occur.

Table 5-6 Definition of Significance of Effect Levels

Effect Significance	Definition
Major	Very large or large changes in receptor condition, both adverse or beneficial, which are likely to be important considerations at a regional or district level as they contribute to achieving national, regional or local objectives, or could result in exceedance of statutory objectives and/or breaches of legislation.
Moderate	Intermediate changes in receptor condition, which are likely to be important considerations at a local level.
Minor	Small changes in receptor condition, which may be raised as local issues but are unlikely to be important in the decision making process.
Negligible	No discernible change in receptor condition.
No Impact	No change in receptor condition.

5-47 Each technical chapter of the EIAR provides specific definitions of magnitude, sensitivity and significance of effect, as required, incorporating guidance, consultation feedback and professional judgement relevant to each specialism. Where alternative approaches to determination of significance are employed, these have been clearly detailed and explained.

5.5.5 Mitigation Measures

5-48 Where the EIA identifies that an aspect of the Proposed Offshore Development is likely to give rise to significant environmental effects, the EIA Regulations require ‘a description of

the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements'. This is above and beyond embedded mitigation measures (see **Section 5.5.5.1**), which are incorporated into the project design prior to assessments being conducted. .

- 5-49 Where mitigation measures (above embedded mitigation) are proposed, the predicted likely significance of effect has been reassessed to determine the residual effect. This accounts for the degree of uncertainty inherent in the baseline data, identification of activities and receptor sensitivity.
- 5-50 Mitigation measures may be expressed as 'commitments' and are anticipated to be obligations enforceable pursuant to management documents, imposed by conditions set out within the consent obtained. A summary of all mitigation types is detailed in the sections below and all measures (including embedded mitigation and monitoring requirements) are provided within a **Commitments, Mitigation and Monitoring Register** found in **Volume 3, Appendix 1-1**.

5.5.5.1 Embedded Mitigation

- 5-51 Embedded mitigation is defined as modifications directly incorporated into the design to reduce adverse environmental effects. These measures are applied during the pre-application phase and are an inherent part of the project which do not require additional action to be taken (IEMA, 2024).
- 5-52 The definition of embedded mitigation may also be referred to elsewhere as 'primary mitigation' or 'designed in measures'. For the purpose of this EIAR these such measures are referred to as 'embedded mitigation' only. Secondary and tertiary mitigation are defined in **Sections 5.5.5.2** and **5.5.5.3** respectively.

5.5.5.2 Secondary Mitigation

- 5-53 Secondary mitigation is defined as actions that will require further activity in order to achieve the anticipated outcome. These may be imposed as part of the planning consent (i.e. conditioned in the licence), or through inclusion in this EIAR (i.e. a commitment made by the project) (IEMA, 2024).
- 5-54 Secondary mitigation is introduced after the impact assessment has been completed. Measures are deemed appropriate to prevent, reduce and offset likely significant effects which could not be avoided through embedded mitigation and tertiary measures. Secondary mitigation is detailed within each technical chapter and supporting appendices as relevant.

5.5.5.3 Tertiary Mitigation

- 5-55 Tertiary mitigation is defined as: "*Actions that would occur with or without input from the EIA feeding into the design process. These include actions that will be undertaken to meet other existing legislative requirement, or actions that are considered to be standard practices used to manage commonly occurring environmental effects*" (IEMA, 2024).
- 5-56 Actions such as preparation of and compliance with industry standard management plans would be considered tertiary mitigation.

5-57 These measures can also be referred to as inexorable but for the purpose of this EIAR will only be referred to as tertiary mitigation (except where they are already included as an embedded measure).

5.5.5.4 Residual Effects

5-58 Residual effects are those effects remaining once all identified secondary mitigation measures have been taken into consideration. A residual level of significance equal to or greater than moderate will be considered a 'significant' effect in terms of the EIA Regulations, while a residual level equal to or less than minor will be considered 'not significant' in terms of the EIA Regulations and therefore within this EIAR.

5.5.5.5 Monitoring

5-59 The EIA Regulations also make the provision, where appropriate, for monitoring of potential significant adverse effects. Monitoring arrangements have therefore been proposed, where relevant and proportionate, as part of the mitigation within this EIAR. These are summarised in **Volume 3, Appendix 1.1: Commitments, Mitigation and Monitoring Register**.

5.6 CUMULATIVE EFFECTS ASSESSMENT

5.6.1 Overview

5-60 In addition to considering the impacts from the Proposed Offshore Development alone, EIA Regulations state that any likely significant effects that could occur cumulatively with other existing, consented and/or planned developments (as agreed with MD-LOT, see **Section 5.6.3.1**), are considered within the assessment. Cumulative effects are therefore the combined effect of the Proposed Offshore Development on the environment as a result a culmination of effects from other existing and/or approved development.

5-61 The following sections provide an overview of the legislation and guidance associated with the Cumulative Effects Assessment (CEA) and the approach to CEA (**Section 5.6.3**).

5.6.2 Cumulative Effect Assessment Legislation and Guidance

5-62 An assessment of cumulative effects is required in accordance with the EIA Directive (2011/92/EU, as amended by Directive 2014/52/EU), as well as the Marine Works (Environmental Impact Assessment) Regulations 2007, Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 and Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (the EIA Regulations).

5-63 The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 states: *"A description of the likely significant effects of the development on the environment resulting from, inter alia: (e)the cumulation of effects with other existing and/or approved development, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources"*.

5-64 The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 also states: *"The description of the likely significant effects on the factors specified in regulation 4(3) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development. This description should take into account the environmental protection objectives established at Union level (as they had effect immediately before IP*

completion day) or United Kingdom level which are relevant to the development including in particular those established under the law of any part of the United Kingdom that implemented Council Directive 92/43/EEC and Directive [2009/147/EC](#).”.

5-65 There are several other relevant guidance documents which have been considered in the development of this CEA, including but not limited to:

- A Handbook on Environmental Impact Assessment: Guidance for Competent Authorities, Consultees and Others Involved in the Environmental Impact Assessment Process in Scotland (NatureScot, 2018);
- Environmental Impact Assessment for Offshore Renewable Energy Projects (BSI, 2015); and
- Renewable UK Cumulative Impact Assessment Guidelines. Guiding Principles for Cumulative Impacts Assessment in Offshore Wind Farms (RenewableUK, 2013).

5-66 Further information on the legal framework of CEA is presented in **Volume 1, Chapter 2: Legislation and Policy**.

5-67 In addition, PINS has provided detailed guidance which has been used for many years for nationally significant infrastructure projects of a similar scale, including a number of OWFs. PINS' 'Advice on Cumulative Effects Assessment' (PINS, 2025) provides guidance on a four-step process that has been applied here.

5.6.3 Approach to the Cumulative Effect Assessment

5-68 Consideration of the EIA Regulations and relevant guidance has informed a staged process for CEA which considers the level of detail available for projects, plans and activities alongside the potential for interactions with the Proposed Offshore Development. The stages of CEA as set out as follows:

- Stage 1: Establishing the long list;
- Stage 2: Establishing the short list;
- Stage 3: Information gathering; and
- Stage 4: Assessment

5.6.3.1 Stage 1: Establishing the Long List of Other Existing and, or Approved Development

5-69 A long list of relevant projects, plans and activities has been developed under the first stage of the CEA. The long list includes the details of the relevant operational or planned (either under construction or at various stages in the planning process) projects, plans and activities in the UK and adjoining international jurisdictions. The CEA includes those plans, projects and activities that are considered to be 'reasonably foreseeable', which would include the following:

- developments that are approved/consented, awaiting implementation;
- proposals within the planning process awaiting determination, with design information available within the public domain; and

- developments which have submitted Scoping Reports and where there is sufficient information available within the public domain.
- 5-70 The development of the list has been based on publicly available information at time of preparation. The long list has been produced based on the scale of other projects and the potential for them to produce cumulative effects with the Proposed Offshore Development.
- 5-71 As a first step to defining the long list, relevant projects have been identified using categories based on type and scale of development as a means of maintaining consistency. The search area for these categories are based on well-established distances found to be proportionate/suitable to capture relevant projects with the potential for cumulative effects, which are used as industry standard, or where guidance or scientific support is available.
- 5-72 Categories of projects under consideration in the long list include:
- aggregate dredging and disposal;
 - offshore energy;
 - commercial fisheries;
 - oil and gas;
 - cables and pipelines; and
 - coastal developments (including ports).
- 5-73 In order to establish the relevant ‘other existing and/or approved development’ a Zone of Influence (Zoi) for each environmental receptor is considered and documented in the corresponding technical chapter of this EIAR.
- 5-74 A tiered approach has been used when undertaking the CEA (as advised in Marine Scotland Licensing Guidance, 2018 and the proposed revisions (Marine Scotland, 2023)). This provides a framework for placing relative weight upon each project/plan to be included in the CEA, based upon the project, plan or activity’s current stage of maturity and certainty in its parameters. The level of maturity will govern whether adequate detail is available to undertake a meaningful assessment, and if so whether a qualitative or quantitative assessment is undertaken by the applicant. In devising the approach for the CEA the UK Planning Inspectorate (PINS) Advice on Cumulative Effects Assessment (PINS, 2025a) has been considered including the tiering system. Projects, plans or activities have been assessed accounting for the following:
- Tier 1 – The Proposed Offshore Development, combined with onshore elements of the project;
 - Tier 2 – All projects or plans assessed under Tier 1, plus those plans/projects which have become operational since the baseline characterisation of the Proposed Offshore Development, plus those under construction, those with consent, and those pending determination following a submitted application;
 - Tier 3 – All projects or plans assessed under Tier 2, plus those projects that have submitted a Scoping Report to MD-LOT; and

- Tier 4 - All projects or plans assessed under Tier 3, projects that are considered reasonably foreseeable, plus those with a granted Agreement for Lease (AFL) or equivalent where information is available to inform the cumulative assessment and there is sufficient data confidence.

5-75 The long list of plans and projects has been considered based upon the maximum Zol of the Proposed Offshore Development. The CEA has been undertaken for each technical chapter and the relevant impacts consider:

- whether there is potential spatial overlap between the Proposed Offshore Development and other plans and projects including consideration of the Zol for each environmental impact being considered;
- whether there is temporal overlap between the Proposed Offshore Development and other plans and projects; and
- whether the scale and nature other plans and projects are likely to result in a potential interaction and cumulative effect with the Proposed Offshore Development.

5-76 Where there is no potential for spatial or temporal overlap, or due to the nature and scale of other plans and projects, a cumulative impact cannot arise. These projects, activities or plans have therefore been screened out from a detailed CEA assessment.

5.6.3.2 Stage 2: Establishing the Short List

5-77 As per PINS (2025), the “After Stage 1, applicants should develop and apply threshold criteria to the long list. These criteria should be used to establish a shortlist of the existing and, or approved development to be included in the CEA. This will ensure that the assessment is proportionate.”, and addresses the following:

- temporal scope: Consideration of the relative construction, operation and decommissioning programmes of the ‘other existing, and/or approved development’ identified in the Zol together with the Proposed Offshore Development, to establish whether there is overlap and any potential for interaction;
- scale and nature of development: Consideration of whether the scale and nature of the ‘other existing, and/or approved developments’ identified in the Zol are likely to interact with the Proposed Offshore Development; and
- other factors: Consideration of whether there are any other factors, such as the nature and/or capacity of the receiving environment that would make a significant cumulative effect with ‘other existing, and/or approved developments’ more or less likely and whether a source-pathway receptor approach should be adopted to inform the assessment.

5-78 The criteria above have been followed in order to allow clear justification for screening projects in/out (**Table 5-7 Screening Criteria for the CEA Short List**).

Table 5-7 Screening Criteria for the CEA Short List

Project screened in	Project screened out
<ul style="list-style-type: none"> • project, plan or activity is considered as part of the baseline environment but has ongoing effects; • potential for impact-receptor pathway exists; 	<ul style="list-style-type: none"> • project, plan or activity included as part of the baseline environment (therefore not a consideration in the CEA);

Project screened in	Project screened out
<ul style="list-style-type: none"> • potential for a spatial effect interaction exists; and/or • potential for temporal effect interaction exists. 	<ul style="list-style-type: none"> • low data confidence (meaningful assessment cannot be undertaken); • no potential impact-receptor pathway exists; • no potential for a spatial effect interaction; and/or • no potential for a temporal effect interaction.

5-79 Only where there is the potential for both spatial and temporal interaction between effects as a result of the construction, operation and/or decommissioning of the Proposed Offshore Development and one or more other plans/projects, has a cumulative effect been taken forward for consideration in the CEA. Where the potential for a significant cumulative effect has been identified, additional information is collected (Stage 3).

5.6.3.3 Stage 3: Information Gathering

5-80 For each project identified, the following information has been sought as a minimum, where practicable:

- proposed design and location information;
- proposed programme of construction, operation and decommissioning; and
- environmental assessments that set out baseline data and effects arising from the 'other existing development and/or approved development'.

5-81 The source of the information in each case is clearly identified. This includes:

- website of the relevant local planning authority;
- through direct liaison with other stakeholders including other local authorities,
- statutory bodies; and
- relevant applicants/developers.

5.6.3.4 Stage 4: Assessment

5-82 The CEA has been undertaken in line with the EIA methodology outlined in **Section 5.5**, and is included in each technical chapter, taking into consideration all relevant projects (not limited to offshore wind energy), and assessing any potential cumulative impacts of the Proposed Offshore Development on the surrounding environment.

5-83 The Applicant may consult with key consultees for agreement on relevant existing and/or approved developments to be included as part of the CEA. The most up to date publicly available project parameters will be used to inform CEA. Where this information does not exist publicly, the Applicant has sought to consult and collaborate with other developers to obtain key project parameters for assessment where appropriate. The ability to quantify impacts from other developments in the short list is therefore expected to vary, and the type of cumulative assessment undertaken, i.e. fully quantitative, partially quantitative, or qualitative, will depend on the level of information available, but will also be proportional to

the impact. Therefore, where there is insufficient data on which to undertake a quantitative or semi-quantitative assessment, the assessments will be presented qualitatively. It is proposed that, in order to allow finalisation of the EIAR, a minimum 6 month cut off period prior to submission of the EIAR is used for the inclusion of cumulative projects, after which no new or updated information will be considered as part of the CEA.

- 5-84 As time progresses, some projects may not be taken forward and/or built out as currently described, and the certainty with which projects progress will differ. This introduces a level of uncertainty with regard to the likely significant effects which may arise. When drawing any conclusions, the phase a project is in will be taken into consideration (see **Section 5.6.3.1**). It is typically assumed that any projects that are built and already operational, along with active licensed activities, at the time that baseline data is collected, will constitute part of the existing baseline conditions. Any impact they might have had will be reflected in the baseline characterisation undertaken to inform the impact assessment. It is noted that some operational projects may have ongoing impacts and those identified were considered in the CEA if relevant and applicable (e.g. collision risk to birds).

5.7 TRANSBOUNDARY EFFECTS

- 5-85 Transboundary effects arise when impacts from a development have the potential to affect ecological features over several administration areas. EIA covers the ZoI regardless of administrative boundary and this information should be notified to the relevant authorities to enable appropriate action to be taken (CIEEM, 2018). Transboundary effects are required to be assessed in line with the relevant EIA Regulations as set out in **Section 5.6**. Where transboundary impacts have been scoped into the assessments, relevant impacts are identified and assessed in the technical chapters of this EIAR.

5.8 INTER-RELATED EFFECTS

- 5-86 Inter-related effects are defined as multiple effects on the same receptor. These occur either where a series of the same effect acts on a receptor over time to produce a potential additive effect or where a number of separate effects, such as noise and habitat loss, affect a single receptor, for example marine mammals. The EIA Regulations require that inter-related effects between EIA topics are considered. Potential inter-related effects have been assessed within this EIAR and consider the following scenarios:
- inter-relationships between impacts; and
 - interactions between impacts.
- 5-87 These can occur throughout the lifetime of the Proposed Offshore Development (i.e. over more than one phase – construction, O&M and decommissioning) interacting to potentially create a more significant effect upon a receptor than if assessed in isolation within a single phase. Alternatively, effects can interact spatially and/or temporally resulting in inter-related effects upon a single receptor. These can be short term, temporary or transient effects, or incorporate longer term effects.
- 5-88 Inter-related effects are signposted and cross-referenced in the relevant technical chapters.

5.9 STAKEHOLDER ENGAGEMENT AND CONSULTATION

- 5-89 Stakeholder engagement and consultation is a key aspect of the EIA process. Early and ongoing consultation is important to allow integration of public and stakeholder feedback and data into the decision-making and design processes. The approach to stakeholder consultation ensures a robust application is made that takes into consideration potential environmental, community, and socio-economic receptors that might be impacted by the Proposed Offshore Development. There is a dual intention that identified issues are considered both in design progression and EIA process in order to be reduced or mitigated where feasibly practicable.
- 5-90 Consultation has been undertaken to ensure that key stakeholders and communities are able to raise any potential issues or areas of impact to be considered in the EIA process. The Applicant will continue to engage with stakeholders to appropriately address any issues as they arise.
- 5-91 The principles of the Marine Licensing (PAC) (Scotland) Regulations 2013 (PAC Regulations) and best practice guidance (Scottish Government, 2018) were implemented to undertake stakeholder engagement and public consultation, the purpose of which was to promote public engagement in environmental matters and ensure public authorities are well informed. Feedback received has been used to guide development of the process to ensure statutory consultees as well as local communities, environmental groups and other interested parties are considered. A PAC Report has been submitted alongside this application.
- 5-92 This section details the process implemented for stakeholder identification, engagement and consultation throughout pre-Scoping, Scoping and EIA phases.

5.9.1 Stakeholder Engagement

- 5-93 Stakeholder engagement is comprised of two main elements: communication and consultation. The former is the provision of information to enable stakeholders to understand the progress of the Proposed Offshore Development. The latter invites the opportunity for stakeholders to provide information and express views which influence the EIA process.
- 5-94 This leads to four basic objectives for the engagement strategy:
- identification of stakeholders with an interest in the Proposed Offshore Development;
 - communicate appropriate information to stakeholders including any potential positive (beneficial) or negative (adverse) impacts that the Proposed Offshore Development may have;
 - consult and record views of stakeholders; and
 - communicate the results of consultation at the appropriate point.
- 5-95 Development, and consent of the Proposed Offshore Development, has and will continue to rely on engagement with relevant key stakeholders from the pre-bid phases through to consent application, and beyond. It is acknowledged that stakeholders will hold different information needs and will maintain different levels of engagement.

5-96 The Applicant commenced consultation regarding development of the Project in 2021 prior to winning the ScotWind bid. Extensive engagement has been undertaken since the award of the site in January 2022. This early engagement informed the approach of the Applicant in seeking to understand, at the earliest opportunity, what views stakeholders had on the Plan Option (PO) and areas they would wish to see considered as part of the development and consenting process. This early consultation gave the Applicant clear understanding of the principal issues to be considered and allowed both survey and assessment scopes to account for these.

5-97 A list of the organisations that the Applicant engaged with regarding assessment and consenting issues prior to bid submission includes:

- Aberdeenshire Council
- Babcock International;
- Bristow Helicopters;
- Civil Aviation Authority (CAA);
- Crown Estate Scotland (CES);
- Highlands and Islands Enterprise;
- Highland Council;
- Historic Environment Scotland (HES);
- Marine Directorate – Science, Evidence, Digital and Data (MD-SEDD);
- Marine Directorate (MD-LOT);
- Maritime and Coastguard Agency (MCA);
- Ministry of Defence (MoD);
- MVH Helicopters;
- National Air Traffic Services (NATS);
- National Grid (NGESO);
- Natural England;
- NatureScot;
- Northern Lighthouse Board (NLB);
- Northlink Ferries;
- Oil and Gas Authority (OGA).
- Scottish Fishermen Federation (SFF) and Scottish White Fish Producers Association (SWFPA);
- Scottish Hydro Electric Transmission plc;
- Scottish Pelagic Fishermen’s Association; and

- The Royal Society for the Protection of Birds (RSPB).

5-98 The Applicant has adhered to statutory consultation requirements as part of the consenting process.

5-99 Since the award of the rights to develop the PO by CES in January 2022 the Applicant has built on and continued engagement, particularly with key statutory stakeholders. An introductory meeting was held between MD-LOT and the Applicant in June 2022, and the Applicant has attended quarterly project update meetings with MD-LOT and NatureScot, in order to provide project updates, seek advice on approach to key project activities (i.e. survey methodologies and the approach to exemptions and European Protected Species (EPS) licensing for the 2023 Site Investigation (SI) Campaign). This is in addition to keeping appraised on future policy and guidance development.

5-100 In recognition of the potential cumulative impacts that may arise from projects within the region, the Applicant has also engaged with developers that were awarded projects within the north-east and surrounding region via the Peterhead Developer Forum and the North East and East Ornithology Group (NEEOG). This engagement remains ongoing and is intended to allow, among other objectives, collaborative workstreams to be progressed. This is in addition to information sharing to understand potential for, and opportunity to reduce, cumulative effects.

5.9.2 Public and Community Engagement

5-101 As part of the EIA, a public consultation on the Proposed Offshore Development has been undertaken, and aligned with consultation events for the onshore elements of the Project, where practicable in order to ensure efficiency of the events and allow Project-wide feedback.

5-102 Engagement with stakeholders commenced prior to the preparation of the Scoping Report (Buchan Offshore Wind Ltd, 2023a), and has been ongoing and iterative during the EIA process, focused around the following key stages:

- consultation on the survey scopes of work for key survey campaigns that inform the EIA;
- provision of key technical reports and data used to inform the assessments, to relevant stakeholders for information and feedback;
- pre-Scoping workshop – refer to **Section 5.9.3**;
- formal submission and publication of the Offshore Scoping Report (BOWL, 2023a) and request for a Scoping Opinion, with a separate Onshore Scoping Report submitted to Aberdeenshire Council;
- post-Scoping consultation to agree the content of the EIAR;
- completion of non-statutory and statutory PAC events (please refer to the PAC Report submitted alongside this EIAR for details);
- formal submission and publication of consent applications and the accompanying EIAR to seek views on the proposal; and

- additional public/stakeholder-specific engagement events that will take place at intervals during the consenting process as required, together with the issuing of project communications and documentation to the Proposed Offshore Development's website.

5-103 It is essential that stakeholders were introduced to the Proposed Offshore Development at the earliest opportunity, kept up to date on project developments, and are informed of the development programme including planning and construction timeframes. The Applicant has endeavoured to establish regular two-way communication with stakeholders to ensure the likely significant effects are understood and assessed, that baseline data and assessment methodology are understood and agreed where practicable, and that efforts can be made to reduce, mitigate or compensate any potentially significant impacts identified during this process.

5-104 The stakeholder engagement process included the following methods:

- initial discussions, through multi-stakeholder workshops and bilateral meetings/communications with individual stakeholders, to introduce the design and location of the project, and to ensure any potential conflicts with stakeholder interests are identified early and resolved;
- employment of Fisheries Liaison Officers (FLOs) to directly engage with commercial fishing industry (and following industry best practice);
- presentation of survey results and conclusions;
- providing opportunities for comment on the evolving project design and explanation of how the project envelope is informed by stakeholder interests;
- reviewing conclusions of the initial impact assessment;
- developing agreed strategies for avoiding, or minimising, any adverse impacts on stakeholder interests;
- identifying knowledge gaps and developing research opportunities to resolve issues;
- identifying opportunities for partnership working; and
- development of a project website.

5-105 The information shared and received through the stakeholder engagement process took account of:

- advice received as part of the EIA Scoping process;
- advice received from direct engagement and community consultation;
- results of SI surveys including the 2023 offshore survey campaign;
- outputs from engineering and design studies; and
- preliminary results from environmental assessment including EIA and HRA.

5-106 Information pertaining to topic specific consultation is detailed in the relevant sections of technical **Chapters 6 – 18** and has been considered in the related assessment.

5.9.3 Pre-Scoping Workshop

5-107 The Applicant held a formal pre-Scoping workshop, covering a range of technical topics, in May 2023. The aim of this workshop was to present the approach to scoping in those impacts considered likely, based on current knowledge and baseline data, to have a significant effect on the receiving environment and therefore to be assessed as part of the EIA and HRA, as well as agreeing on the likely significant effects to be scoped out.

5-108 The key comments from stakeholders are detailed in **Table 5-8**. Briefing packs detailing a high-level baseline, the Scoping methodology, and the EIA methodology were distributed four weeks prior to the meeting taking place. During the meetings, consultees were asked to comment on what they had received in the briefing packs and provide feedback on specific questions relating to baseline and assessment methodologies. The advice/ guidance received during the meetings was considered as part of the relevant chapters in the Scoping Report.

Table 5-8 Pre-Scoping Engagement Workshop

Receptor Topic	Consultee(s)	Key topics considered
Physical and Coastal Processes	MD-LOT, MSS ¹ & NatureScot	General agreement on data sources, guidance, and receptors to be considered. Discussion on impacts to water stratification were undertaken in relation to how the project considers this potential impact. See Volume 2, Chapter 6: Marine Physical and Coastal Processes .
Benthic and Intertidal Ecology	MD-LOT, MSS, NatureScot and SFF	General agreement on methods, data sources, and impacts to be considered. Discussion on suitable ZoI. See Volume 2, Chapter 7: Benthic and Intertidal Ecology .
Fish and Shellfish Ecology	MD-LOT, MSS, NatureScot, Aberdeenshire Council, SWFPA & SFF	General agreement on methods, data sources, and impacts to be considered. Discussion noise modelling and agreement on approach to stationary or fleeing model. See Volume 2, Chapter 8: Fish and Shellfish Ecology .
Offshore and Intertidal Ornithology	MD-LOT, MSS, NatureScot & RSPB	Information on baseline findings to date provided. Detailed discussion on methodologies, ornithology strategy, and use of key tools (screening tool, cumulative effects framework, PVA) for assessment undertaken. Discussion of ongoing work being undertaken by Scottish government on ornithology receptors. See Volume 2, Chapter 9: Offshore and Intertidal Ornithology .
Marine Mammals and other Megafauna	MD-LOT, MSS & NatureScot	Discussion of baseline data findings to date. General agreement on methodologies, including underwater noise assessment (request for high level of information in EIA), and data sources. General agreement on impacts to be considered. See Volume 2, Chapter 10: Marine Mammals and Other Megafauna .
Commercial Fisheries	MD-LOT, MSS, Aberdeenshire Council, SFF,	General agreement on data sources, methodologies and impacts to be assessed. Some additional data sources flagged for consideration. Discussion about relevance of

¹ Marine Scotland Science

Receptor Topic	Consultee(s)	Key topics considered
	SWFPA & SPFA	data during COVID 19 raised. SPFA presented data relevant to their members. See Volume 2, Chapter 11: Commercial Fisheries.
Shipping and Navigation	MD-LOT, MCA, NLB & SWFPA	General agreement with baseline as currently described and impacts to be considered. Discussion and information provided by stakeholders on the level of data they expect to see informing the assessment. See Volume 2, Chapter 13: Shipping and Navigation.
Socio-Economics, Tourism and Recreation	MD-LOT, Aberdeenshire Council, Aberdeen City Council, MD-MAU, SFF & NatureScot	Discussion of current guidance and application to socio-economic assessments. Discussion on study area undertaken, and detailed discussion on how projects manage uncertainty and undertake suitable assessments in respect of local impacts. See Volume 2, Chapter 17: Socio-Economics, Tourism and Recreation.

5.9.4 Fisheries Liaison

5-109 The Applicant has engaged extensively with the local and commercial fishing communities, with the appointment of both a project Fisheries Liaison Officer and Fisheries Industry Representative. Regular consultation events have been conducted with representatives of the fishing industry to provide project updates, identify key areas of concern and consider mitigation opportunities. These are detailed in **Volume 2, Chapter 11: Commercial Fisheries.**

5.9.5 Feedback and Reporting

5-110 All feedback received throughout the PAC phase was recorded and collated, inclusive of written, verbal, email and phone. A PAC report as per the schedule to the PAC Regulations, has also been prepared for submission alongside the marine licence application. This details how the consultation responses provided as part of the PAC were considered by the Applicant.

5-111 All topic-specific feedback and responses have been included in the relevant chapters.

5.9.6 Feedback Informing the Proposed Offshore Development

5-112 The Applicant has reviewed all feedback received throughout the pre-application process. The majority of the feedback related to the assessment of impacts and accounting for the requirements of appropriate legislation beyond the EIA Process. These have been taken on board and used to inform both the EIA and key decisions on the Proposed Offshore Development. Please refer to **Volume 1, Chapter 3: Site Selection and Consideration of Alternatives** for detail on how stakeholder feedback has contributed to the refinement of the Proposed Offshore Development.

5.10 REFERENCES

- British Standards Institute (BSI) (2015). Environmental Impact Assessment for Offshore Renewable Energy Projects – Guide. Available at: <http://shop.bsigroup.com/upload/271276/PD%206900.pdf> (Accessed August 2024).
- Buchan Offshore Wind Ltd. (2025a). PMP 1 - Proposed Environmental Management Plan (pEMP). Available online at: <https://buchanoffshorewind.com/document-library>.
- Buchan Offshore Wind Ltd. (2025b). PMP 2 - Proposed Marine Mammal Mitigation Protocol (pMMMP). Available online at: <https://buchanoffshorewind.com/document-library>.
- Buchan Offshore Wind Ltd. (2025c). PMP 3 - Proposed Navigational Safety and Vessel Management Plan (pNSVMP) Available online at: <https://buchanoffshorewind.com/document-library>.
- Buchan Offshore Wind Ltd. (2025d). PMP 4 - Proposed Aids to Navigation Management Plan (pAtoN) Available online at: <https://buchanoffshorewind.com/document-library>.
- Buchan Offshore Wind Ltd. (2025e). PMP 5 - Proposed Lighting and Marking Plan (pLMP) Available online at: <https://buchanoffshorewind.com/document-library>.
- Buchan Offshore Wind Ltd. (2025f). PMP 6 - Proposed Invasive Non Native Species Management Plan (pINNSMP) Available online at: <https://buchanoffshorewind.com/document-library>.
- Buchan Offshore Wind Ltd. (2025g). PMP 7 - Proposed Fisheries Mitigation, Monitoring and Communication Plan (pFMMCP) Available online at: <https://buchanoffshorewind.com/document-library>.
- Buchan Offshore Wind Ltd. (2025h). PMP 8 - Proposed Offshore Written Scheme of Investigation (pOWSI) Available online at: <https://buchanoffshorewind.com/document-library>.
- Buchan Offshore Wind Ltd. (2025i). PMP 9 - Proposed Marine Pollution Contingency Plan (pMPCP) Available online at: <https://buchanoffshorewind.com/document-library>.
- Buchan Offshore Wind Ltd (BOWL) (2023a) Offshore Scoping Report. Available online at: <https://marine.gov.scot/node/24504> (Accessed August 2024).
- Buchan Offshore Wind Ltd (BOWL) (2023b). Offshore HRA Screening Report. Available online at: <https://marine.gov.scot/node/24837> (Accessed August 2024).
- Centre for Environment Fisheries and Aquaculture Science (CEFAS) (2004). Offshore Wind Farms: Guidance Note for Environmental Impact Assessment in Respect of FEPA and CPA: Version 2 – June 2004. Prepared by CEFAS on behalf of the Marine Consents and Environment Unit (MCEU). Available at: <https://www.cefasc.co.uk/publications/files/windfarm-guidance.pdf>. (Accessed September 2024).
- Centre for Environment, Fisheries and Aquaculture Science (Cefas) (2012). Guidelines for Data Acquisition to Support Marine Environmental Assessments of Offshore Renewable Energy Projects. Available at: https://tethys.pnnl.gov/sites/default/files/publications/CEFAS_2012_Environmental_Assessment_Guidance.pdf (Accessed August 2024).
- Chartered Institute of Ecology and Environmental Management (CIEEM) (2018). Guidelines for ecological impact assessment in the UK and Ireland: terrestrial, Freshwater, Coastal and Marine. Version 1.2. Chartered Institute of Ecology and Environmental Management, Winchester. Available

at: <https://cieem.net/wp-content/uploads/2018/08/ECIA-Guidelines-2018-Terrestrial-Freshwater-Coastal-and-Marine-V1.2-April-22-Compressed.pdf> (Accessed August 2024).

Department for Energy Security and Net Zero (DESNZ) (2023a). National Policy Statement for Renewable Energy Infrastructure (EN-1). Available online at:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1147380/NPS_EN-1.pdf (Accessed August 2024).

Department for Energy Security and Net Zero (DESNZ) (2023b). National Policy Statement for Renewable Energy Infrastructure (EN-3). Available online at:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1147382/NPS_EN-3.pdf (Accessed August 2024).

IEMA (2022). EIA Guide to: Assessing GHG Emissions and Evaluating their Significance. Institute of Environmental Management and Assessment. Available online at: <https://www.iema.net/preview-document/assessing-greenhouse-gas-emissions-and-evaluating-their-significance> (Accessed August 2024).

IEMA (2024). Environmental Impact Assessment Guide to Implementing the Mitigation Hierarchy from Concept to Construction. August 2024. Available at: [iema-mitigation-in-eia-guidance-final.pdf](#) (Accessed October 2024).

Judd, A. (2012). Guidelines for data acquisition to support marine environmental assessments of offshore renewable energy projects. Centre for Environment, Fisheries, and Aquaculture Science.

MacLean I.M.D., Wright L.J., Showler D.A. and Rehfisch M.M. (2009). A Review of Assessment Methodologies for Offshore Wind farms (COWRIE METH-08-08). Available at:

<https://tethys.pnnl.gov/sites/default/files/publications/Maclean-et-al-2009.pdf> (Accessed August 2024).

Marine Scotland (2018). Marine Scotland Consenting and Licensing Guidance: For Offshore Wind, Wave and Tidal energy Applications. Available at:

<https://www.gov.scot/binaries/content/documents/govscot/publications/consultation-paper/2018/10/marine-scotland-consenting-licensing-manual-offshore-wind-wave-tidal-energy-applications/documents/00542001-pdf/00542001-pdf/govscot%3Adocument/00542001.pdf> (Accessed August 2024).

Marine Directorate (2025a). Marine licensing and consenting: offshore renewable energy projects. Available at: <https://www.gov.scot/publications/marine-licensing-and-consenting-offshore-renewable-energy-projects/> (Accessed February 2025).

Marine Directorate (2025b). Mitigation and Monitoring Plans. Available at:

<https://www.gov.scot/publications/marine-licensing-and-consenting-offshore-renewable-energy-projects/pages/mitigation-and-monitoring-plans/> (Accessed April 2025).

Marine Directorate - Licensing Operations Team (MD-LOT) (2023). Scoping Opinion adopted by the Scottish Ministers for Buchan Offshore Windfarm Scottish Government. 20 December 2023.

Natural England (2021). Offshore Wind Marine Environmental Assessments: Best Practice Advice for Evidence and Data Standards – Phase I. Available on request at:

<https://naturalengland.blog.gov.uk/2022/04/13/offshore-wind-best-practice-advice-to-facilitate-sustainable-development/> (Accessed 01/12/2024).

NatureScot (2018). A Handbook on Environmental Impact Assessment: Guidance for Competent Authorities, Consultees and Others Involved in the Environmental Impact Assessment Process in Scotland. Available at: <https://www.nature.scot/handbook-environmental-impact-assessment-guidance-competent-authorities-consultees-and-others> (Accessed August 2024).

OSPAR Commission (2008a). Assessment of the environmental impact of offshore wind farms. Available online: https://qsr2010.ospar.org/media/assessments/p00385_Wind-farms_assessment_final.pdf (Accessed August 2024).

OSPAR Commission (2008b). OSPAR Guidance on Environmental Considerations for Offshore Wind-Farm Development.

Guidance Note for Environmental Impact Assessment in respect of FEPA and CPA requirements (Cefas, 2004).

RenewableUK (2013). Cumulative Impact Assessment Guidelines: Guiding Principles for Cumulative Impacts Assessment in Offshore Wind Farms. June 2013. Available online: <http://www.nerc.ac.uk/innovation/activities/infrastructure/offshore/cumulative-impact-assessment-guidelines/> (Accessed August 2024).

Scottish Government (2013). Planning Advice Note 1/2013 Environmental Impact Assessment. Available online: <https://www.gov.scot/publications/planning-advice-note-1-2013-environmental-impact-assessment/> (Accessed August 2024).

Scottish Government (2018). Marine Scotland Consenting and Licensing Guidance. For Offshore Wind, Wave and Tidal Energy Applications. Available at: <https://www.gov.scot/binaries/content/documents/govscot/publications/consultation-paper/2018/10/marine-scotland-consenting-licensing-manual-offshore-wind-wave-tidal-energy-applications/documents/00542001-pdf/00542001-pdf/govscot%3Adocument/00542001.pdf> (Accessed August 2024).

Scottish Government (2022a). Electricity Act 1989 - sections 36 and 37: applications guidance. Available at: <https://www.gov.scot/publications/good-practice-guidance-applications-under-sections-36-37-electricity-act-1989/> (Accessed August 2024).

Scottish Government (2022b). Guidance for applicants on using the design envelope for applications under section 36 of the Electricity Act 1989. Available online at: <https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2020/02/marine-licensing-applications-and-guidance/documents/guidance/guidance-for-applicants-on-using-the-design-envelope-for-applications-under-section-36-of-the-electricity-act-1989/guidance-for-applicants-on-using-the-design-envelope-for-applications-under-section-36-of-the-electricity-act-1989/govscot%3Adocument/guidance-applicants-using-design-envelope-applications-under-section-36-electricity-act-1989.pdf> (Accessed August 2024).

UK Planning Inspectorate (PINS) (2025a). Advice Note Nine: Rochdale Envelope. Available online: <https://www.gov.uk/government/publications/nationally-significant-infrastructure-projects-advice-note-nine-rochdale-envelope> (Accessed April 2025).

UK Planning Inspectorate (PINS) (2025b). Advice on Transboundary Impacts and Process. Available online: <https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-transboundary-impacts-and-process> (Accessed April 2025).

UK Planning Inspectorate (PINS) (2025c). Advice on Cumulative Effects Assessment. Available online: <https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-cumulative-effects-assessment> (Accessed April 2025).