CALEDONIA
Offshore Wind Farm

Code: UKCAL-CWF-CON-EIA-RPT-00005-5010

Volume 5 Proposed Development (Onshore)

Chapter 10 Summary and Conclusions

Caledonia Offshore Wind Farm Limited

5th Floor Atria One, 144 Morrison Street, Edinburgh, EH3 8EX

OW
OCEAN WINDS

Volume 5 Chapter 10 Summary and Conclusions

Code	UKCAL-CWF-CON-EIA-RPT-00005-5010
Revision	Issued
Date	18 October 2024

Table of Contents

List of Tables

Acronyms and Abbreviations

AMSC	Approval of Matters Specified in Conditions
DE	Design Envelope
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
MLWS	Mean Low Water Spring
ONEC	Onshore Export Cable Corridor
OnTI	Onshore Transmission Infrastructure
OWF	Offshore Wind Farm
PPP	Planning Permission in Principle
RLB	Red Line Boundary

10 Summary and Conclusions

10.1 Introduction

10.1.1.1 This chapter of Volume 5, Proposed Development (Onshore) of the Environmental Impact Assessment Report (EIAR) provides a summary of the consents sought, the Proposed Development (Onshore) design process, the Environmental Impact Assessment (EIA) methodology employed to avoid and reduce impacts and determine potential significant effects, and a summary of the residual effects for each technical chapter. A summary of the mitigation and monitoring commitments is provided in Volume 7, Appendix 7: Proposed Development (Onshore) Schedule of Mitigation.

10.1.1.2 Next steps following submission and acceptance of the EIAR are also identified.

10.2 Summary of EIA

10.2.1 Consents Sought

10.2.1.1 To facilitate the development of the Proposed Development (Onshore), Caledonia Offshore Wind Farm Ltd (the Applicant) is applying for Planning Permission in Principle (PPP) for the onshore elements landward of Mean Low Water Springs (MLWS) under the Town and Country Planning (Scotland) Act 1997 (as amended) (UK Parliament, 1997[1]), submitted to Aberdeenshire Council.

10.2.1.2 A single EIAR covering both onshore and offshore topic assessments supports this application, with the impact assessment of the Proposed Development (Onshore) presented in Volume 5.

10.2.2 Proposed Development (Onshore)

10.2.2.1 The Proposed Development (Onshore) consists of all the Onshore Transmission Infrastructure (OnTI) components of the Caledonia Offshore Wind Farm landward of MLWS. The area within which the OnTI will be located is identified as the OnTI Red Line Boundary, which consists of four main permanent components:

- **A Landfall Site** the interface where the Offshore Export Cable Circuits connect to the Onshore Export Cable Circuits;
- **An Onshore Export Cable Corridor (ONEC)** within which the Onshore Export Cable Circuits will be located;
- **Two Onshore Substations** co-located within an Onshore Substation Site; and

- **An Onshore Grid Connection Cable Corridor** within which the Onshore Grid Connection Cable Circuits connect to the Grid Connection Point, for Phase 1.

10.2.3 Phased Approach

10.2.3.1 To make efficient use of the available grid capacity, the Applicant is seeking to retain the flexibility to deliver the Caledonia Offshore Wind Farm (OWF) generation capacity across two phases. Aligned with this, the Proposed Development (Onshore) is seeking to consent the OnTI across two phases of construction works of:

- Phase 1: Landfall Site, ONEC, 1 x Onshore Substation and Onshore Grid Connection Cable Corridor; and
- Phase 2: Landfall Site, ONEC, 1 x Onshore Substation and Onshore Grid Connection Cable Corridor (the Onshore Grid Connection Cable Corridor for Phase 2 will be subject to a separate planning application).

10.2.3.2 Construction scenarios for delivery of the Proposed Development (Onshore) have been identified and are presented in Volume 1, Chapter 4: Proposed Development Description (Onshore) and Volume 1, Chapter 5: Proposed Development Phasing. To facilitate a robust assessment of potential environmental effects each topic within the EIAR has identified the worst case construction scenario for their assessment, the justification for which has been provided within each topic assessment chapter.

10.2.4 Alternatives Considered

10.2.4.1 A number of alternatives have been considered throughout the design of the Proposed Development (Onshore) with respect to location of the OnTI and the design options considered. The site selection process was undertaken on an iterative basis and considered environmental, technical and planning considerations such as designated sites, residential receptors, areas of peatland, slope, ground conditions and planning designations.

10.2.4.2 The ONEC and Landfall Site presented in this PPP application has undergone a multi-stage appraisal process, as described in Volume 1, Chapter 6: Site Selection and Alternatives, to establish the OnTI Red Line Boundary (RLB) used in the impact assessment. The Onshore Substation Site was also determined through a similar iterative site selection process which included site identification of potential substation sites, site specific surveys, an appraisal of potential substation sites and identification of a preferred Onshore Substation Site. The preferred Onshore Substation Site was determined taking account of environmental and engineering constraints as well as feedback received through public consultation events. The refinement of the OnTI RLB and design of the Proposed Development (Onshore) is ongoing and will be developed and further refined as the Proposed Development (Onshore) progresses into the detailed design stage.

10.2.5 EIA Process and Design Envelope

10.2.5.1 Volume 5 of the EIAR provides an assessment of the potential environmental effects of the Proposed Development (Onshore). This impact assessment has been undertaken using the methodology as described in Volume 1, Chapter 7: EIA Methodology as well as any topic specific methodologies used to determine significant environmental effects.

10.2.5.2 A Design Envelope (DE) approach has been adopted given the Proposed Development (Onshore) is in the early stages of design development and information on the exact location of the OnTI and the methods that will be utilised during construction have not been confirmed. The DE identifies the main components of the Proposed Development (Onshore) and a range of design parameters. Within each topic chapter in the EIAR the combination of parameters that would result in the greatest impact (e.g., largest footprint, longest exposure, or largest dimensions) is considered and identified as the worst case assessment scenario. By employing the DE approach, the Applicant seeks to retain a level of flexibility in the design of the Proposed Development (Onshore) within reasonable maximum extents and ranges.

10.2.5.3 The first outline DE of the Proposed Development (Onshore) was presented within the Onshore EIA Scoping Report (Caledonia Offshore Wind Farm Ltd, 2022[2], see Volume 7, Appendix 1: Onshore Scoping Report), submitted to Aberdeenshire Council in December 2022.

10.2.5.4 Following submission of the Onshore Scoping Report (Volume 7, Appendix 1: Onshore Scoping Report), and as part of an iterative EIA process, the Applicant has refined the area within which the OnTI will be located through environmental surveys, technical and engineering studies and discussion with project stakeholders such as statutory and non-statutory consultees and through a programme of community consultation as outlined in Section 10.2.4.

10.2.5.5 By utilising the DE approach, a robust impact assessment is achieved with the likely significant environmental effects of the Proposed Development (Onshore), no greater than those identified within the EIAR.

10.2.5.6 Potential impacts from the construction, operation and maintenance and decommissioning stages of the Proposed Development (Onshore) DE were identified and subsequently assessed for potential significant effects on the receiving environment. To determine significance of an effect each topic assessment defined the sensitivity of each receptor being impacted (based on criteria such as tolerance to change, ability to recover from impacts and value) and the magnitude of impact (based on criteria such as duration, spatial extent and frequency). Sensitivity and magnitude were determined taking account of industry guidance and professional judgement. For each potential impact, the sensitivity and magnitude were then combined using a matrix approach to determine the potential significance of the effect.

10.2.5.7 Embedded mitigation measures have been considered as part of the impact assessment process, prior to assigning significance of effect. Where significant effects were identified in the assessment, taking account of embedded mitigation, secondary mitigation measures are proposed to reduce the residual effects to non-significant levels. Volume 7, Appendix 7: Onshore Schedule of Mitigation details the embedded mitigation and secondary mitigation measures employed by each topic to avoid, reduce or minimise impacts.

10.2.5.8 Table 10-1 provides a summary of the residual effects anticipated as a result of the Proposed Development (Onshore). Through the application of embedded and secondary mitigation measures, the majority of potential effects as a result of the Proposed Development (Onshore) are predicted to be non-significant in EIA terms.

10.2.5.9 Potential significant effects were identified on the perceived landscape character of the Undulating Agricultural Heartland Landscape Character Type within the immediate vicinity of the Onshore Substations during construction and operation; and on visual amenity during construction and operation before mitigation planting has established. Significant cumulative effects on landscape character and visual amenity have also been identified. Mitigation measures include the use of a landscape mitigation planting plan, of which an indicative version has been provided in support of this PPP application and shown on visualisations in Volume 7E, Appendix 4-3: Landscape and Visual Visualisations. Additional mitigation measures at the Onshore Substation Site may include the creation of landscape bunding using surplus soil and excavated material which will be determined following the identification of the volume of available material at the detailed design stage. The final layout and composition of the mitigation measures will be finalised at detailed design stage.

10.2.6 Summary of Effects

Table 10-1: Summary of Residual Effects for the Proposed Development (Onshore)

Chapter	Construction Stage Effects	Operation and Maintenance Stage Effects	Decommissioning Stage Effects
2. Land Use	No residual significant effects identified	All impacts scoped out	No residual significant effects identified
3. Terrestrial Ecology and Biodiversity	No residual significant effects identified	No residual significant effects identified	No residual significant effects identified
4. Landscape and Visual	Potential significant adverse effects on visual amenity at some viewpoints and local visual amenity. Potential significant adverse effects for the Proposed Development (Onshore) and cumulative	Potential significant adverse effects on visual amenity at some viewpoints and local visual amenity at the Onshore Substations. Potential significant adverse cumulative effects identified on landscape character within approximately	Potential significant adverse effects on visual amenity at some viewpoints and local visual amenity. Potential significant adverse effects for the Proposed Development (Onshore) and cumulative scenarios identified on

Chapter	Construction Stage Effects	Operation and Maintenance Stage Effects	Decommissioning Stage Effects
	scenarios identified on landscape character within approximately 600m of the Onshore Substations were identified.	600m of the Onshore Substations. The above effects are expected to reduce to non-significant after the establishment of mitigation planting at the Onshore Substations.	landscape character within approximately 600m of the Onshore Substations.
5. Terrestrial Archaeology and Cultural Heritage	No residual significant effects identified	No residual significant effects identified	No residual significant effects identified
6. Hydrology and Hydrogeology	No residual significant effects identified	No residual significant effects identified	No residual significant effects identified
7. Geology Soils and Contaminated Land	No residual significant effects identified	No residual significant effects identified	No residual significant effects identified
8. Airborne Noise and Vibration	No residual significant effects identified	No residual significant effects identified	No residual significant effects identified
9. Traffic and Transport	No residual significant effects identified	No residual significant effects identified	No residual significant effects identified

10.2.7 Management Plans

10.2.7.1 A range of post consent plans will be developed as the design of the Proposed Development (Onshore) evolves and these will be in accordance with the PPP conditions assigned. A number of Outline Management Plans and supplementary assessments in support of the PPP application have been prepared including:

- Volume 7, Appendix 10: Outline Construction Environmental Management Plan;
- Volume 7E, Appendix 9-2: Outline Construction Traffic Management Plan;
- Application Document 6: Drainage Impact Assessment;
- Application Document 7: Outline Peat Management Plan; and
- Application Document 8: Outline Habitat Management Plan.

10.3 Next Steps

10.3.1.1 Upon the submission and acceptance of the Caledonia OWF EIAR and supporting PPP application, the subsequent key steps are:

- **Notifications and further consultation with relevant parties** Aberdeenshire Council will notify owners which are subject of the PPP application. Aberdeenshire Council will additionally publish the application as appropriate upon validation and consultation with stakeholders.
- **Determination and notification of decision** Aberdeenshire Council will determine whether PPP should be granted based on the information provided within the EIAR and supporting documentation as well as representations from the public and statutory consultees. If successful in obtaining the PPP, a decision notice will be issued by Aberdeenshire Council outlining the conditions to which the decision is subject.
- **Post-consent and Approval of Matters Specified in Conditions (AMSC) stage application** the Applicant (or other legal entity progressing with the development of the Proposed Development (Onshore) projects) will continue to refine and finalise the DE during the post-consent stage. All relevant PPP conditions will be discharged and/or complied with through a subsequent AMSC application(s) within the timeframe specified and in consultation with stakeholders and relevant parties.
- **Construction, operation and maintenance and decommissioning**

10.4 References

[1] UK Parliament (1997) 'Town and Country Planning (Scotland) Act 1997 (as amended)' Available at: https://www.legislation.gov.uk/ukpga/1997/8/contents (Accessed 01/10/2024).

[2] Caledonia Offshore Wind Farm Ltd (2022) Caledonia Offshore Wind Farm - Onshore Scoping Report.

Caledonia Offshore Wind Farm
5th Floor, Atria One
144 Morrison Street
Edinburgh
EH3 8EX

www.caledoniaoffshorewind.com

OCEAN WINDS