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## **Volume 4 Caledonia South**

### Chapter 14 Summary and Conclusions

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# Volume 4 Chapter 14: Summary and Conclusions

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## Acronyms and Abbreviations

<b>DE</b>	Design Envelope
<b>DSLPP</b>	Development Specification and Layout Plan
<b>EIA</b>	Environmental Impact Assessment
<b>EIAR</b>	Environmental Impact Assessment Report
<b>LMP</b>	Lighting and Marking Plan
<b>MD-LOT</b>	Marine Directorate – Licensing Operations Team
<b>MHWS</b>	Mean High Water Springs
<b>O&amp;M</b>	Operation and Maintenance
<b>OECC</b>	Offshore Export Cable Corridor
<b>OFTI</b>	Offshore Transmission Infrastructure
<b>OSP</b>	Offshore Substation Platform
<b>OWF</b>	Offshore Wind Farm
<b>WTG</b>	Wind Turbine Generator

## 14 Summary and Conclusions

### 14.1 Introduction

14.1.1.1 This chapter of the Caledonia Offshore Wind Farm (OWF) Environmental Impact Assessment Report (EIAR) provides a summary of the consents sought, the Caledonia South 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.

14.1.1.2 A summary of the mitigation and monitoring commitments for Caledonia South is provided in the following document:

- Volume 7, Appendix 9: Caledonia South Schedule of Mitigation.

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

14.1.1.4 This Summary and Conclusions chapter is relevant to Caledonia South. Summaries and Conclusions for the Proposed Development (Offshore) and Caledonia North are presented in Volume 2, Chapter 14 and Volume 3, Chapter 14 respectively.

### 14.2 Summary of EIA

#### 14.2.1 Consents Sought

14.2.1.1 To facilitate the development of Caledonia South, Caledonia Offshore Wind Farm Ltd (the Applicant) is applying for:

- A Section 36 application for the construction of the power generation site (OWF). To be submitted to Marine Directorate - Licensing Operations Team (MD-LOT).
- Two Marine Licence applications for the offshore generating stations and for the Offshore Transmission Infrastructure (OfTI) (1 x Generation and 1 x Transmission). To be submitted to MD-LOT.

14.2.1.2 A single EIAR covering both onshore and offshore topic assessments supports these applications, with the impact assessment of Caledonia South presented in Volume 4.

#### 14.2.2 Caledonia South

14.2.2.1 Caledonia South consists of the Caledonia South Site (Array Area) and all the Offshore Transmission Infrastructure (OfTI) components seaward of Mean High Water Springs (MHWS). The Caledonia South boundary includes the Caledonia South Site, Caledonia South Offshore Export Cable Corridor

(OECC) and Landfall Site. A summary of the infrastructure within Caledonia South is provided below:

- Up to 78 Wind Turbine Generators (WTGs) to be installed across the Caledonia South Site, using either bottom-fixed foundations only or a combination of bottom-fixed and up to 39 floating foundations (floating foundations, if installed, will be restricted to the deeper southern part of the site);
- Up to two Offshore Substation Platforms (OSPs) which transform electricity generated by the WTGs to a higher voltage allowing more efficient transmission to shore;
- Up to 78 inter-array cables which connect the WTGs together with the OSPs;
- One interconnector cable which connect OSPs to each other; and
- Up to two offshore export cable circuits within the Caledonia South OECC which will be laid between the OSPs and the Landfall Site, located at Stake Ness to the west of Whitehills on the Aberdeenshire coast.

### 14.2.3 Alternatives Considered

#### 14.2.3.1

A number of alternatives have been considered throughout the design of Caledonia South with respect to boundaries and the design options considered. The site selection process was undertaken on an iterative basis and considered environmental, technical and planning considerations such as the presence of designated sites (e.g., Special Protection Areas and Special Areas of Conservation), potential conflicts with existing infrastructure and potential conflicts with planning policy. The Caledonia South Site and Caledonia South OECC presented in this EIAR have undergone a multi-stage appraisal process, as described in Volume 1, Chapter 6: Site Selection and Alternatives, to establish the Caledonia South boundary used in the impact assessment.

#### 14.2.3.2

The Caledonia South design presented in this EIAR has been determined through an iterative process to inform design parameters which included site-specific environmental surveys, optimisation and energy yield analysis. The Caledonia South OECC presented in this EIAR has been determined through a similar iterative site selection process, which has been informed by the location of the Landfall Site in addition to a number of geophysical and environmental survey works contracted in 2023.

#### 14.2.3.3

The refinement of the Caledonia South OECC and design of Caledonia South is ongoing and will be developed and further refined as Caledonia South progresses into the detailed design stage.



## 14.2.4 EIA Process and Design Envelope

- 14.2.4.1 Volume 4 of the EIAR provides an assessment of the potential environmental effects of Caledonia South. 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.
- 14.2.4.2 A Design Envelope (DE) approach has been adopted given Caledonia South is in the early stages of design development and information on the exact location of the OFTI and the methods that will be utilised during construction have not been confirmed. The DE identifies the main components of Caledonia South and a range of design parameters.
- 14.2.4.3 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 assessing against a worst-case assessment scenario, additional precaution is built into the assessment to provide extra confidence that any impacts that arise from the construction, operation and maintenance (O&M) and decommissioning of Caledonia South will not exceed the impacts stated within the EIAR. In employing the DE approach, the Applicant seeks to retain a level of flexibility in the design of Caledonia South within reasonable maximum extents and ranges.
- 14.2.4.4 The first outline design envelope of the Proposed Development (Offshore) (including Caledonia South) was presented within the Offshore Scoping Report (Volume 7, Appendix 2), submitted to MD-LOT in September 2022. Following submission of the Offshore Scoping Report, and as part of an iterative EIA process, the Applicant has refined Caledonia South 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.
- 14.2.4.5 By utilising the DE approach a robust impact assessment is achieved, with the likely significant environmental effects of Caledonia South no greater than those identified within the EIAR.
- 14.2.4.6 Potential impacts from the construction, O&M and decommissioning stages of Caledonia South 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.



- 14.2.4.7 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 9: Caledonia South Schedule of Mitigation details the embedded mitigation and secondary mitigation measures employed by each topic to avoid, reduce or minimise impacts.
- 14.2.4.8 Table 14-1 provides a summary of the residual effects anticipated as a result of Caledonia South. Through the application of embedded and secondary mitigation measures, all potential effects as a result of Caledonia South are predicted to be non-significant in EIA terms.
- 14.2.4.9 Potential significant visual effects resulting from Caledonia South were identified along the coastal area along a short section of the Aberdeenshire coast between approximately Portsoy and Gardenstown. These locations, which represent views from settlements and routes, constitute the outer limits of significant (borderline) visual effects on the Aberdeenshire coastline, with the significance being Moderate (Borderline). Receptors, which include people in settlements and recreational users along this section of coast may be significantly affected where there is visibility of the Caledonia South Site in Very Good or Excellent visibility conditions. These significant effects are represented by Viewpoint 17: Portsoy, Viewpoint 18: Macduff (viewpoint at Bi-Centennial monument near Macduff Parish Church) and Viewpoint 19: Gardenstown, Harbour Road as well as Banff and Whitehills include people in settlements and using routes along this closest 17km section of coast to the Caledonia South Site, with the highest significance being Moderate (Borderline).
- 14.2.4.10 Regarding embedded mitigation, a Design Statement will be secured as part of the Development Specification and Layout Plan (DSLPL) which will confirm that the final design and layout will be within the worst-case scenario assessed within the EIAR. The Applicant has also committed to install sensors which will reduce aviation lighting in the hours of darkness where the visibility rises above 5km, which will be secured within the Lighting and Marking Plan (LMP) (M-14).

## 14.2.6 Summary of Effects

Table 14-1: Summary of Residual Effects for Caledonia South.

Chapter	Construction Stage Effects	O&M Stage Effects	Decommissioning Stage Effects
2. Marine and Coastal Processes	No residual significant effects identified	No residual significant effects identified	No residual significant effects identified
3. Marine Water and Sediment Quality	No residual significant effects identified	No residual significant effects identified	No residual significant effects identified
4. Benthic Subtidal and Intertidal Ecology	No residual significant effects identified	No residual significant effects identified	No residual significant effects identified
5. Fish and Shellfish Ecology	No residual significant effects identified	No residual significant effects identified	No residual significant effects identified
6. Offshore Ornithology	No residual significant effects identified	No residual significant effects identified	No residual significant effects identified
7. Marine Mammals	No residual significant effects identified	No residual significant effects identified	No residual significant effects identified
8. Commercial Fisheries	No residual significant effects identified	No residual significant effects identified	No residual significant effects identified
9. Shipping and Navigation	No residual significant effects identified	No residual significant effects identified	No residual significant effects identified
10. Marine Archaeology and Cultural Heritage	No residual significant effects identified	No residual significant effects identified	No residual significant effects identified
11. Military and Civil Aviation	No residual significant effects identified	No residual significant effects identified	No residual significant effects identified
12. Seascape, Landscape and Visual Assessment	Potential significant effects identified	Potential significant effects identified	Potential significant effects identified
13. Other Human Activities	No residual significant effects identified	No residual significant effects identified	No residual significant effects identified

## 14.2.7 Management Plans

14.2.7.1 A range of post consent plans will be developed as the design of Caledonia South evolves and these will be in accordance with the Marine Licence conditions assigned. A number of Outline/Draft Management Plans and supplementary assessments in support of the Marine Licence applications have been prepared including:

- Volume 7, Appendix 12: Caledonia South Outline Offshore Environmental Management Plan;
- Volume 7, Appendix 14: Caledonia South Draft Marine Mammal Mitigation Protocol;
- Volume 7, Appendix 16: Caledonia South Outline Offshore Decommissioning Plan; and
- Volume 7, Appendix 18: Caledonia South Outline Fisheries Management and Mitigation Strategy.

## 14.3 Next Steps

14.3.1.1 Upon the submission and acceptance of the EIAR and supporting Section 36 and Marine Licence applications for Caledonia South, the subsequent key steps are:

- **Notifications and further consultation with relevant parties:** MD-LOT will advise the Applicant of the publicity requirements and guide the Applicant to the relevant public notice template, with a complete draft to be sent to MD-LOT for approval at least two weeks in advance. MD-LOT will also advise the Applicant to publish a public notice in the Edinburgh Gazette and any other publications that will come to the attention of those likely to be affected by Caledonia South. MD-LOT will also publish the notice on the Marine Directorate website. The Applicant will supply MD-LOT with copies of these adverts as published.
- **Determination and notification of decision:** MD-LOT, or Scottish Ministers (taking account of recommendations by MD-LOT), will determine whether consent should be granted based on the environmental information provided within the EIAR and supporting documentation as well as any additional information, any Appropriate Assessment, and representations from the public and statutory and non-statutory consultees. If successful in obtaining consent, a decision notice will be issued by Scottish Ministers outlining the conditions to which the decision is subject. A notice will also be published on the Applicant's application website, in the Edinburgh Gazette and a newspaper circulating in the locality in which Caledonia South is sited.

- **Post-consent and Approval of Matters Specified in Conditions stage application:** The Applicant (or other legal entity progressing with the development of Caledonia South) will continue to refine and finalise the DE during the post-consent stage. All relevant Marine Licence conditions will be discharged and/or complied within the timeframe specified and in consultation with stakeholders and relevant parties.

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