Code: UKCAL-CWF-CON-EIA-RPT-00001-1005

Volume 1 Overview Chapters

Chapter 5 Proposed Development Phasing

Caledonia Offshore Wind Farm Ltd

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

OW
OCEAN WINDS

Volume 1 Chapter 5 Proposed Development Phasing

Code	UKCAL-CWF-CON-EIA-RPT-00001-1005
Revision	Issued
Date	18 October 2024

Table of Contents

List of Tables

Acronyms and Abbreviations

HDD	Horizontal Directional Drilling
NETS	National Electricity Transmission System
OnTI	Onshore Transmission Infrastructure
OWF	Offshore Wind Farm
PPP	Planning Permission in Principle
SSEN-T	Scottish and Southern Electricity Networks Transmission
WTG	Wind Turbine Generator

5 Proposed Development Phasing

5.1 Introduction

5.1.1 Overview

5.1.1.1 In January 2022, as part of the ScotWind leasing round, Ocean Winds UK Limited. was successfully awarded an Option Agreement granting exclusive rights to develop an Offshore Wind Farm (OWF) within the NE4 Plan Option, which is located within the outer Moray Firth, off the north-east coast of Scotland.

5.1.1.2 Ocean Winds UK Limited. is progressing the proposals for this OWF, which has been named the Caledonia OWF, via the newly incorporated limited company of Caledonia Offshore Wind Farm Limited (the Applicant).

5.1.1.3 The Caledonia OWF comprises, Caledonia North and Caledonia South, collectively referred to as the Proposed Development (Offshore). The Onshore Transmission Infrastructure (OnTI) required to transfer the power from the Proposed Development (Offshore) to a connection to the National Electricity Transmission System (NETS) is referred to as the Proposed Development (Onshore). Collectively, the Proposed Development (Offshore) and Proposed Development (Onshore) are referred to in this Statement as the "Proposed Development".

5.1.1.4 As outlined in Volume 1, Chapter 2: Legislation and Policy there are four key drivers for the shift in energy production to low carbon sources in the UK and Scotland, including renewable energy, which are:

- The urgent need to tackle climate change;
- The need to secure energy, through the deployment of renewable electricity capacity;
- The need for new energy infrastructure; and
- The need to maximise economic opportunities of the transition to a low carbon economy.

5.1.1.5 This chapter of the EIAR sets out the Applicants' approach to a potential phased connection to the NETS and the objective of expediting and maximising the generation of low carbon renewable energy, in terms of the offshore and onshore construction programmes under which the Proposed Development could be delivered and how this is considered within the EIAR.

5.1.2 Need for Phasing

5.1.2.1 Phasing is required to accommodate a range of uncertainties which include:

- Time required to undertake procurement activities and to secure a route to market to reach Final Investment Decision;
- Variable lead times for different components and equipment and variable task durations dependent on the suppliers, technologies and methodologies selected;
- Variation in time between Caledonia North and Caledonia South due to different technologies, for example bottom-fixed foundations vs. floating foundations; and
- Changes in commencement of construction date to align with availability of a connection to the NETS following reinforcement works being carried out by Scottish and Southern Electricity Networks Transmission (SSEN-T).

5.2 Consents Strategy for Phasing

5.2.1 Proposed Development (Offshore)

5.2.1.1 As per Section 5.1.2, the Applicant has proposed a potential phased approach to offshore construction. As described within Volume 1, Chapter 3: Proposed Development Description (Offshore), the Proposed Development (Offshore) will have up to 140 Wind Turbine Generators (WTGs), delivered between Caledonia North and Caledonia South. Phasing has been designed to address uncertainties around precise timings of the delivery of Caledonia North and Caledonia South. Given there are two applications there are a range of scenarios for phasing which are covered by the assessment.

5.2.1.2 The Applicant is seeking the flexibility to construct either Caledonia North or Caledonia South in the first phase to deploy the most appropriate WTG turbine technology/foundation type (including the option for floating) thus improving deliverability. Further information on the potential construction scenarios of the Proposed Development (Offshore) is presented in Section 5.3.1.

5.2.2 Proposed Development (Onshore)

5.2.2.1 The approach to the consenting of the Proposed Development (Onshore) aligns with the phased offshore application strategy, and therefore considers two onshore construction phases to align with the delivery of the Caledonia North and Caledonia South offshore phases. Further information on the potential construction scenarios of the Proposed Development (Onshore) is presented in Section 5.3.2.

5.3 Phasing Assumptions

5.3.1 Offshore

5.3.1.1 A number of offshore construction scenarios have been accounted for within the EIAR. The scenarios include:

- Sequential – Phases 1 and 2 to be built one after another either immediately after each other or with a gap of up to five years between the two phases; and
- Concurrent[i] – Phase 1 being built at the same time as Phase 2.

5.3.1.2 Table 5-1 summarises the offshore construction scenarios and associated indicative timescales (also see Volume 1, Chapter 3: Proposed Development Description (Offshore) for indicative construction timelines).

5.3.1.3 Within the Caledonia OWF assessment (Volume 2), the split of infrastructure between Caledonia North and Caledonia South is assessed on a chapter-by-chapter basis to ensure the worst-case assessment assumes highest magnitude of impact from offshore wind infrastructure is located in the area of the site that is most sensitive for that receptor. The assessments also consider whether the construction of the two phases either sequentially (immediately one after the other, or with a gap of up to five years) or concurrently would present a worst-case with regards to that receptor.

[i] The offshore concurrent scenario assumes simultaneous construction of Caledonia North and Caledonia South which considers programme efficiencies.

Table 5-1 Offshore Construction Scenarios

Scenario	Overview	Indicative Timescale	Description
Sequential	Phase 1 Gap Phase 2	**Phase 1:** 3.5 years **Gap:** Up to 5 years **Phase 2**: 3.5 years	Only the offshore infrastructure required for Phase 1 will be constructed/installed, with separate construction/installation delivered in Phase 2. This could include a gap between the two phases of up to five years.
Concurrent	Phase 1 and 2 in Parallel	**Both phases**: 3.5 years	The concurrent scenario represents two construction phases over the same period.

5.3.2 Onshore

5.3.2.1 The two onshore phases will be brought forward either in two distinct phases (*sequential*) or both phases at the same time (*concurrent*). The Applicant is also exploring the feasibility of undertaking targeted enabling works for Phase 2 at Phase 1. The *enabling* scenario has been included in the assessment (where it is deemed to be material) to ensure it has been assessed should it be possible and the Applicant chooses to implement it.

5.3.2.2 Table 5-2 summarises these onshore construction scenarios and associated indicative timescales.

Table 5-2 Proposed Development (Onshore) Construction Scenarios

Scenario	Overview	Indicative Timescale	Description
Sequential	Phase 1 Gap Phase 2	**Phase 1:** 3.5 years **Gap:** Up to 5 years **Phase 2**: 3.5 years	Only the Onshore Transmission Infrastructure (OnTI) required for Phase 1 of capacity will be delivered in one phase (e.g., 2 x Onshore Export Cable Circuits, 1 x Onshore Substation, 1 x Grid Connection Cable Circuits) with the same again delivered in the second phase.
Concurrent	Phase 1 and 2 in Parallel	**Both phases**: 5 years	The concurrent scenario represents a single construction phase for the full project capacity.

Scenario	Overview	Indicative Timescale	Description
Enabling	Phase 1 + Enabling Works for Phase 2 Gap Phase 2	**Phase 1**: 3.5 years **Gap**: Up to 5 years **Phase 2**: 2.5 years	Enabling activities for the second phase undertaken during Phase 1 may include Horizontal Directional Drilling (HDD) at landfall, trenching of cable corridor for the full four circuits, laying of conduits and enabling works for substation two (including the creation of the substation platform for the Phase 2 Substation). Phase 2 activities will include the cable pull at landfall HDD, installation of haul road and cable pull, joint and test along the onshore cable route, and construction and electrical commissioning of the Phase 2 Substation.

5.3.2.3 The OnTI outlined in Table 5-2 will be consented through a single Planning Permission in Principle (PPP) Application under the Town and Country Planning (Scotland) Act 1997 (as amended). The PPP application is being sought for both phases of onshore construction works. The details of the potential phases will be included within a Phasing Plan submitted with the PPP application. Approval of Matters Specified in Consent applications will be submitted for each phase as it progresses through detailed design.

5.3.3 Approach to Assessment

5.3.3.1 To ensure the Proposed Development's need for phasing, is balanced with the ability to assess the likely significant effects on the environment, each technical topic within the EIAR considers the construction scenario which would give rise to the greatest potential impact. This worst-case scenario is presented in each technical chapter of Volumes 2 to 6, with clear justification for why it has been selected as the worst case for that topic assessment.

5.4 Summary

5.4.1.1 The Applicant seeks to expedite and maximise the delivery of low carbon renewable energy while accounting for a phased connection to the NETS.

5.4.1.2 At the time of application, the Applicant anticipates that the Proposed Development is likely to be delivered in two phases. However precise timings of connection dates to the NETS remain uncertain which has justified the need for the Applicant to test realistic scenarios for phased delivery of the Proposed Development.

5.4.1.3 The Applicant is seeking the flexibility to deliver either Caledonia North or Caledonia South within the first phase, allowing the most appropriate WTG technology/foundation type to be deployed to deliver that capacity. Similarly, the second phase could be delivered through either Caledonia North or Caledonia South.

5.4.1.4 The approach to the consenting of the Proposed Development (Onshore) aligns with the phased offshore application strategy, and therefore considers two onshore construction phases to align with the delivery of the Caledonia North and Caledonia South offshore phases.

5.4.1.5 Each technical topic presented within this EIAR has determined the worst case construction programme and phasing scenario relevant to the assessments undertaken for a robust assessment of the potential environmental impact of the Proposed Development.

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

www.caledoniaoffshorewind.com

OCEAN WINDS