



codling
wind park



Environmental Impact Assessment Report

Volume 4

Appendix 17.1 Cumulative Effects Assessment



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Abbreviations

Abbreviation	Term in Full
ABWP	Arklow Bank Wind Park
ATC	Air Traffic Control
CEA	Cumulative Effects Assessment
CWP	Codling Wind Park
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EPA	Environmental Protection Agency
EU	European Union
IAA	Irish Aviation Authority
IFP	Instrument Flight Procedure
MAC	Marine Area Consent
OSS	Offshore substation structure
OWF	Offshore wind farm
PINS	Planning Inspectorate
SID	Strategic infrastructure development
TMZ	Transponder Mandatory Zone
WTG	Wind turbine generator

Definitions

Glossary	Meaning
the Applicant	The developer, Codling Wind Park Limited (CWPL).
array site	The red line boundary area within which the wind turbine generators (WTGs), inter-array cables (IACs) and the Offshore Substation Structures (OSSs) are proposed.
Codling Wind Park (CWP) Project	The proposed development as a whole is referred to as the Codling Wind Park (CWP) Project, comprising of the offshore infrastructure, the onshore infrastructure and any associated temporary works.
Codling Wind Park Limited (CWPL)	A joint venture between Fred. Olsen Seawind (FOS) and Électricité de France (EDF) Renewables, established to develop the CWP Project.
Dublin Array Offshore Wind Farm (OWF) export cable crossing zone	A defined zone within the OECC within which the Dublin Array OWF export cables and the CWP Project export cables are anticipated to cross.
Environmental Impact Assessment (EIA)	A systematic means of assessing the likely significant effects of a proposed project, undertaken in accordance with the EIA Directive and the relevant Irish legislation.
Environmental Impact Assessment Report (EIAR)	The report prepared by the Applicant to describe the findings of the EIA for the CWP Project.
Maritime Area Consent (MAC)	A Maritime Area Consent (MAC) provides State authorisation for a prospective developer to undertake a maritime usage and occupy a specified part of the maritime area. A MAC is required to be in place before planning consent can be sought.
offshore substation structure (OSS)	A fixed structure located within the array site, containing electrical equipment to aggregate the power from the wind turbine generators and convert it into a more suitable form for export to shore.
OSS monopile foundation	This is the bottom fixed structure piled to the seabed supporting the OSS Topside. It consists of a monopile and a transition piece. It can include systems such as electrical, SCADA, cathodic protection, safety and mechanical equipment.
wind turbine generator	All the components of a wind turbine, including the tower, nacelle and rotor.

APPENDIX 17.1 CUMULATIVE EFFECTS ASSESSMENT

1 Introduction

1. Codling Wind Park Limited (hereafter 'the Applicant') is proposing to develop the Codling Wind Park (CWP) Project, which is located in the Irish sea approximately 13–22 km off the east coast of Ireland, at County Wicklow.
2. The Environmental Impact Assessment Report (EIAR) for the CWP Project provides the decision-maker, stakeholders and all interested parties with the environmental information required to develop an informed view of any likely significant effects resulting from the CWP Project, as required by the European Union (EU) Directive 2011/92/EU, as amended by Directive 2014/52/EU (the EIA Directive). These provisions are transposed into Irish legislation in Part X of the Planning and Development Act 2000, as amended, and in Part 10 of the Planning and Development Regulations 2001, as amended.
3. A fundamental component of the EIA is to consider and assess the potential for cumulative effects of the project with other projects, plans and activities (hereafter referred to as 'other development').
4. The Environmental Protection Agency (EPA) Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, 2022) defines cumulative effects as:

"The addition of many minor or insignificant effects, including effects of other projects, to create larger, more significant effects.

While a single activity may itself result in a minor impact, it may, when combined with other impacts (minor or insignificant), result in a cumulative impact that is collectively significant. For example, effects on traffic due to an individual industrial project may be acceptable; however, it may be necessary to assess the cumulative effects taking account of traffic generated by other permitted or planned projects."

5. This appendix presents the findings of the Cumulative Effects Assessment (CEA) for aviation, military and radar, which considers the residual effects presented in **Chapter 17 Aviation, Military and Radar** alongside the potential effects of other proposed and reasonably foreseeable development. Cumulative effects are considered in this document across the construction and operation and maintenance phases of the CWP Project.
6. The detail and scope of the decommissioning works for the CWP Project will be determined by the relevant legislation and guidance at the time of decommissioning. Project alone impacts during the decommissioning phase of the CWP Project are assessed in **Chapter 17 Aviation, Military and Radar**. It is anticipated that the impacts will be no greater than those identified for the construction phase, and therefore no separate assessment of cumulative impacts during the decommissioning phase is presented within this CEA.

2 CEA methodology

2.1 Guidance

7. This section summarises the approach to the assessment of cumulative effects for the CWP Project. Further details on the approach to the CEA is provided in **Appendix 5.1 Cumulative Effects Assessment Methodology**.

8. The principal guidance document that has informed the approach to the CEA is the Planning Inspectorate (PINS) for England 'Advice Note 17: Cumulative Effects Assessment' (PINS, 2019), which provides a four-stage process for the assessment of cumulative effects which has been applied here.
9. This guidance has been applied for a number of both offshore wind farm (OWF) and non-OWF projects in the UK, and is considered to provide developers with a structured approach to assessing cumulative effects. The guidance is also regularly applied in Ireland for large-scale projects, noting that there is no single, industry standard approach to CEA in Ireland which often varies between projects.
10. In developing the CEA methodology, EPA Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, 2022) and Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions (European Commission, 1999) has also been considered.

2.2 Consultation

11. There were no consultation responses relevant to the CEA for aviation, military and radar.

2.2.1 Identification of 'other development'

12. Stage 1 of the process involved establishing the long list of other development with the potential to result in cumulative effects with the CWP Project. This included all projects that result in a comparative effect that is not intrinsically considered as part of the existing environment and is not limited to other OWF projects.
13. The long list of other development (presented in **Appendix 5.1 Cumulative Effects Assessment Methodology**) was then subject to additional screening criteria to establish a short list of other development for each topic. It should be noted that the approach to the CEA attempts to incorporate an appropriate level of pragmatism. Only projects which are well described and sufficiently advanced, with sufficient detail available with which to undertake a meaningful and robust assessment, have been screened into the CEA.
14. In accordance with PINS Advice Note 17, each development considered alongside the CWP Project as part of the CEA has been assigned to a tier, reflecting their current status in the planning and development process.
15. The purpose of the tiered approach is to give consideration to the level of certainty that a cumulative project will be built and therefore contribute to cumulative effects. For example, there can be greater certainty that other development approved and under construction are likely to contribute to cumulative effects, whereas other development at early phases of development (i.e., pre-planning) are less likely to proceed to construction and contribute to cumulative effects. Furthermore, sufficient detail about these projects is unlikely to be available with which to undertake a detailed cumulative assessment.
16. The proposed tiering structure is presented in **Table 1** and described in more detail in **Appendix 5.1 Cumulative Effects Assessment Methodology**. The tiers are listed in descending order of level of detail likely to be available (and, correspondingly, certainty of effects arising).

Table 1 Tiered structure for other development considered for CEA (modified from PINS Advice Note 17 (PINS, 2019))

Tier	Description
Tier 1	<ul style="list-style-type: none"> Under construction; Permitted applications, but not yet implemented; Offshore applications submitted six months or more in advance of the CWP Project planning application, but not yet determined; and Onshore applications submitted six months or more in advance of the CWP Project planning application, but not yet determined.
Tier 2a	<ul style="list-style-type: none"> Offshore projects in receipt of a Maritime Area Consent (MAC) and an ORESS contract.
Tier 2b	<ul style="list-style-type: none"> Offshore projects in receipt of a Maritime Area Consent (MAC); Offshore projects in the public domain where an EIA scoping report has been issued; and Onshore projects in the public domain where an EIA scoping report has been issued.
Tier 3	<ul style="list-style-type: none"> Projects in the public domain where an EIA scoping report has not been issued; and Projects that have been identified in the relevant development plans and programmes, which set the framework for future development consents / approvals, where such development is reasonably likely to come forward.

3 CEA impact screening

17. The first step in the CEA for aviation, military and radar is the identification of which residual impacts assessed for the CWP Project alone have the potential for a cumulative impact with other development (described as 'impact screening'). This screening exercise is set out in **Table 2** below.
18. Only potential impacts assessed in **Chapter 17 Aviation, Military and Radar** as **negligible** or above are included in the CEA (i.e., those assessed as 'imperceptible' are not taken forward as there is no potential for them to contribute to a cumulative effect).
19. In summary, **Table 2** shows that there is the potential for cumulative effects on aviation, military and radar as a result of potential impacts on ATC radar.

Table 2 Impacts screened in / out of CEA

Impact	Potential for cumulative effect	Rationale
Construction		
Potential impact on Dublin Airport Instrument Flight Procedures (IFPs) due to presence of wind turbines.	No	IFP assessment carried out by ASAP S.R.O. (Appendix 17.3 Codling Wind Park Dublin Airport Special Aeronautical Study) concluded no impact on Dublin Airport IFPs. Significance of the residual effect predicted to be negligible. Screened out as no physical effect-receptor pathway.

Impact	Potential for cumulative effect	Rationale
Potential impact on low flying (including IRCG SAR helicopter operations) due to presence of obstacles (cranes, stationary wind turbines, offshore substation structure (OSSs)).	No	Adoption of primary mitigation measures reduces the magnitude of effect to low with significance of the residual effect predicted to be negligible. Screened out as no physical effect-receptor pathway.
Operation		
Potential impact on Dublin Airport Air Traffic Control (ATC) radar due to presence of wind turbines.	Yes	Collaboration with the Phase 1 Working Group and bilateral discussions with the Irish Aviation Authority (IAA) indicated no impediment to coexistence between the proposed development and aviation operations at Dublin Airport, inclusive of ATC radar operations. Significance of the residual effect predicted to be negligible . Screened in due to possible interaction.
Potential impact on Met Eireann Dublin Airport meteorological radar due to presence of wind turbines.	No	Minimal effect on the meteorological radar at Dublin Airport is anticipated and significance of the residual effect is predicted to be minor . Screened out as no physical effect-receptor pathway.
Decommissioning		
The effects of decommissioning activities are expected to be the same as or similar to the effects from the construction phase.		
Potential impact on Dublin Airport Instrument Flight Procedures (IFPs) due to presence of wind turbines.	The detail and scope of the decommissioning works for the CWP Project will be determined by the relevant legislation and guidance at the time of decommissioning. Project alone impacts during the decommissioning phase of the CWP Project are assessed in Chapter 17 Aviation, Military and Radar . It is anticipated that the impacts will be no greater than those identified for the construction phase, and therefore no separate assessment of cumulative impacts during the decommissioning phase is presented within this CEA.	
Potential impact on low flying (including IRCG SAR helicopter operations) due to presence of obstacles (cranes, stationary wind turbines, offshore substation structure (OSSs)).		

4 CEA 'other development' screening

20. The second step in the CEA for aviation, military and radar is the identification of the other development that may result in cumulative effects for inclusion in the CEA (described as 'project screening'). This information is set out in **Table 3** below, together with a consideration of the relevant details of each development, including the tier (see **Table 1**), proximity to the CWP Project development area and a rationale for including or excluding from the assessment.

21. The other development included in the table below are taken from the long list of other development (presented in **Appendix 5.1 Cumulative Effects Assessment Methodology**). Information gathering for the other development screened in at Stage 2 of the CEA, along with a greater understanding of the potential effects of the CWP Project, has enabled further refinement of the short list.
22. In summary, the following other developments will be assessed for potential cumulative effects with the CWP Project in relation to aviation, military and radar, specifically in relation to the potential impact on Dublin Airport Air Traffic Control (ATC) radar due to presence of wind turbines.
 - GE Energy – Arklow Bank Phase 1 OWF (CEA-0003);
 - Sure Partners Limited / SSE Renewables – Arklow Bank OWF Phase 2; (CEA-0004)
 - Dublin Array OWF (CEA-0037) Planning Ref: MAC-003 and 004, 2022-MAC-005; and
 - Statkraft Ireland – North Irish Sea Array OWF (CEA-0094) Planning Ref: 2022-MAC-005.

Table 3 Summary of other development screened into the CEA for aviation, military and radar

Development	Distance from the array site (km)	Distance from the export cable corridor (km)	Tier	Included in the CEA (Yes / No)	Rationale
GE Energy Arklow Bank Phase 1 OWF (CEA-0003)	21.37	31	1	No	Screened out as no conceptual or physical effect-receptor pathway
Sure Partners Limited / SSE Renewables Arklow Bank Phase 2 OWF (CEA-0004) Planning Ref: 2022-MAC-002	9.8	9.9	2b	Yes	Includes the presence of nearby developments which have the potential to interfere with PSR systems.
RWE Renewables Dublin Array OWF (CEA-0037) Planning Ref: MAC-003 and 004 2022-MAC-005	2.8	2	2a	Yes	Includes the presence of nearby developments which have the potential to interfere with PSR systems.
Statkraft Ireland North Irish Sea Array OWF (CEA-0094) Planning Ref: 2022-MAC-005	45	27	2a	Yes	Includes the presence of nearby developments which have the potential to interfere with PSR systems.

5 Assessment of cumulative effects

23. It has been assessed that limited specific cumulative effects on aviation stakeholders will be created by the proposed development.
24. Tier 1: no assessment of cumulative effects is required due to a lack of relevant Tier 1 projects for which adequate information is available to undertake a meaningful assessment. It is understood that GE Energy Arklow Bank Phase 1 OWF will undergo decommissioning in parallel with the development of Arklow 2, which is in turn anticipated to be over a similar timescale to the CWP project, and as such there is no meaningful pathway for a cumulative effect. There is therefore no significant cumulative effect.
25. Tier 1 and Tier 2a: the magnitude for the project alone is considered to be negligible for the representative scenario. In terms of the cumulative impact, the magnitude of Dublin Array and NISA is similarly anticipated to be negligible as they will require similar mitigation measures to those identified for the CWP project alone, such as an appropriate LMP, ERCoP, and informing IAA of the final design option and associated design detail brought forward which is a requirement of the relevant guidance; this also aligns with anticipated ability to co-exist as voiced during consultation with IAA. The sensitivity of the aviation radar receptor remains high, as per **Chapter 17 Aviation, Military and Radar**, and the magnitude of the impact is assessed as negligible. Therefore, an effect of significance of negligible is predicted, which is not significant in EIA terms.
26. Tier 1, Tier 2a and Tier 2b: the magnitude for the project alone is considered to be negligible for the representative scenario. In terms of the cumulative impact, the magnitude of Dublin Array, NISA and Arklow Bank Phase 2 is similarly anticipated to be negligible as they will require similar mitigation measures to those identified for the CWP project alone, such as an appropriate LMP, ERCoP and informing IAA of the final design option and associated design detail brought forward which is a requirement of the relevant guidance; this also aligns with the anticipated ability to coexist as voiced during consultation with IAA. The sensitivity of the aviation radar receptor remains high, as per **Chapter 17 Aviation, Military and Radar**, and the magnitude of the impact is assessed as negligible. Therefore, an effect of significance of negligible is predicted, which is not significant in EIA terms.
27. Tier 1, Tier 2a, Tier 2b and Tier 3: no further assessment of cumulative effects is required due to a lack of relevant Tier 3 projects for which adequate information is available to undertake a meaningful assessment.

6 CEA summary

28. This CEA, which supports **Chapter 17 Aviation, Military and Radar**, has assessed the potential cumulative effects on aviation, military and radar from the construction and operation and maintenance phases of the CWP Project alongside other development.
29. In summary, the CEA for aviation, military and radar does not identify any significant cumulative effects resulting from the CWP Project alongside other development.