codling wind park

Environmental Impact Assessment Report

Volume 4

Appendix 7.1 Cumulative Effects Assessment


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Abbreviations

Abbreviation	Term in Full
CEA	Cumulative Effects Assessment
CWP	Codling Wind Park
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EPA	Environmental Protection Agency
EU	European Union
GES	Good Environmental Status
MAC	Maritime Area Consent
MSFD	Marine Strategy Framework Directive
NISA	North Irish Sea Array
OECC	Offshore export cable corridor
ORESS	Offshore Renewable Energy Support Scheme
OWF	Offshore wind farm
PINS	Planning Inspectorate
SAC	Special Area of Conservation
SID	Strategic Infrastructure Development
SSC	Suspended sediment concentrations
WFD	Water Framework Directive
WTG	Wind turbine generator

Definitions

Glossary	Meaning
the Applicant	The developer, Codling Wind Park Limited (CWPL).
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.
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.

APPENDIX 7.1 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 marine water quality, which considers the residual effects presented in **Chapter 7 Marine Water Quality** 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 7 Marine Water Quality**. 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's '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 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 marine water quality.

2.3 Identification of 'other development'

12. Stage 1 of the process involved establishing the longlist 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 longlist of other development (presented in **Chapter 5**, **Appendix 5.1**) was then subject to additional screening criteria to establish a shortlist 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	• 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. • Onshore applications submitted six months or more in advance of the CWP Project planning application, but not yet determined.
Tier 2a	• Offshore projects in receipt of a Maritime Area Consent (MAC) and an Offshore Renewable Energy Support Scheme (ORESS) contract.
Tier 2b	• Other offshore projects in receipt of a MAC. • Offshore Projects in the public domain where an EIA scoping report has been issued. • Onshore Projects in the public domain where an EIA scoping report has been issued.
Tier 3	• Projects in the public domain where an EIA scoping report has not been issued. • 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 marine water quality 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. In summary, **Table 2** shows that there is the potential for cumulative effects on marine water quality as a result of all potential impacts assessed in **Chapter 7 Marine Water Quality,** other than accidental pollution events which had a Negligible magnitude for all receptors, as primary mitigation measures will reduce to as low as is reasonably practical any route to impact.

Table 2 Potential impacts scoped into the assessment.

Impact	Potential for cumulative effect	Rationale
Construction		
Direct temporary disturbance resulting in temporary increases in SSC	Yes	Potential cumulative impact exists Screened in.
Direct disturbance resulting in resuspension of contaminated sediments	Yes	Potential cumulative impact exists Screened in.
Accidental pollution events	No	No potential for cumulative impacts, as primary mitigation measures minimise the route to impact, meaning the magnitude of the effect of this impact was assessed as

Impact	Potential for cumulative effect	Rationale
		Negligible for all receptors and the resulting effect was not significant. Therefore, there is no potential for significant cumulative impacts from accidental pollution events.
Operation		
Direct temporary disturbance resulting in temporary increases in SSC	Yes	Potential cumulative impact exists – screened in.
Direct disturbance resulting in resuspension of contaminated sediments	Yes	Potential cumulative impact exists – screened in.
Accidental pollution events	No	No potential for cumulative impacts, as primary mitigation measures minimise the route to impact, meaning the magnitude of the effect of this impact was assessed as Negligible for all receptors and the resulting effect was not significant. Therefore, there is no potential for significant cumulative impacts from accidental pollution events.
Decommissioning		
Direct temporary disturbance resulting in temporary increases in SSC	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 7 Marine Water Quality**. 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.	
Direct disturbance resulting in resuspension of contaminated sediments		
Accidental pollution events		

4 CEA 'other development' screening

19. The second step in the CEA for marine water quality 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 offshore development area and a rationale for including or excluding from the assessment.

20. The other developments included in the table below are taken from the longlist of other development (presented in **Appendix 5.1**). 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 shortlist.

21. In summary, the following other development will be assessed for potential cumulative effects with the CWP Project in relation to marine water quality:

- Sure Partners Limited / SSE Renewables – Arklow Bank OWF Phase 2 (CEA-0004 / CEA-2752 / CEA-2753);
- Ivernia Energy – Banba Wind OWF (CEA-0008 / CEA-2746);
- SSE Renewables – Setanta Wind Park (formally Braymore Point) (CEA-2742);
- RWE Renewables – Dublin Array OWF (CEA-0037);
- Dublin Port Capital – Dredging project (CEA-0192);
- Dublin Port Company – MP2 Project (CEA-1323 / CEA-1328);
- Dublin Port Company – Site investigations (CEA-2727);
- Dublin Port Dredge Disposal (CEA-0206:0210);
- Hibernian Wind Power – Kilmichael Point (CEA-2756);
- Tethra – Lir Offshore Array (CEA-2745);
- Drogheda Port – Maintenance dredging (CEA-2712);
- MaresConnect Ltd – Interconnector (CEA-1359 / 2749);
- Statkraft Ireland – North Irish Sea Array OFW (CEA-0094 / CEA-2751);
- Rockabill Cable Systems Ltd – Telecoms cable (CEA-2732);
- Wicklow Sea Wind OFW – Site investigations(CEA-2724);
- Codling Wind Park Limited OWF (CEA-2748);
- Eirgrid Plc – Interconnector (CEA-0196);
- America Europe Connect Ltd – Fibreoptic cable (CEA-0195);
- Sunrise Wind Limited – Site investigations (CEA-2744);
- Microsoft Ireland Ltd – Geophysical and site investigation surveys, Portmarnock (CEA-2829);
- Microsoft Ireland Ltd – Geophysical and site investigation surveys, Dublin Port (CEA-2991);
- Kish Offshore Wind Limited and Bray Offshore Wind Limited – Capital and maintenance dredging (CEA-2979);
- Iarnród Éireann – Geotechnical and geophysical site investigation (CEA-2993); and
- Dublin City Council – Environmental survey for proposed Point Bridge and Tom Clarke Widening Project (CEA-2996).

Table 3 Summary of other development screened into the CEA for marine water quality

Development	Distance from the array site (km)	Distance from the export cable corridor	Tier	Included in the CEA (Yes/No)	Rationale
Codling Wind Park Limited OWF CEA-2748 Planning Ref: FS007546	0	0	1	Yes	Site investigations Potential cumulative impact exists – screened in
Sure Partners Limited / SSE Renewables Arklow Bank OWF Phase 2 CEA-0004 / CEA-2752 / CEA-2753 Planning Ref: 2022-MAC-002	9.788	9.9	2a	Yes	Site investigations Offshore wind farm installation Potential cumulative impact exists – screened in
Ivernia Energy Banba Wind OWF CEA-0008 / CEA-2746 Planning Ref: FS007283	0	0	2b	Yes	Site investigations Potential cumulative impact exists – screened in
SSE Renewables Setanta Wind Park (formally Braymore Point) CEA-2742 Planning Ref: FS006973	53	27	2b	Yes	Site investigations Potential cumulative impact exists – screened in
RWE Renewables Dublin Array OWF CEA-0037 Planning Ref: 2022-MAC-003 and 004	2.781	2	2a	Yes	Offshore wind development Potential cumulative impact exists – screened in

Development	Distance from the array site (km)	Distance from the export cable corridor	Tier	Included in the CEA (Yes/No)	Rationale
Dublin Port Capital Dredging project CEA-0192 Planning Ref: FS007164, S0004-02, S0004-03, S0033-01, S0004-01, S0024-02	31.5	0.5	1	Yes	Dredge and disposal works Potential cumulative impact exists – screened in
Dublin Port Dredge disposal CEA-0206:0210 Planning Ref: S0004-02, S0004-03, S0033-01, S0004-01, S0024-02	31.5	0.5	1	Yes	Dredge disposal works Potential cumulative impact exists – screened in
Dublin Port Company Site investigations CEA-2727 Planning Ref: FS006497	29	0.2	1	Yes	Site investigations Potential cumulative impact exists – screened in
Hibernian Wind Power Kilmichael Point CEA-2756 Planning Ref: FS006788	25	34.5	2b	Yes	Site investigations Potential cumulative impact exists – screened in
Tethra Lir Offshore Array CEA-2745 Planning Ref: FS007392	48	37	2b	Yes	Site investigations Potential cumulative impact exists – screened in

Development	Distance from the array site (km)	Distance from the export cable corridor	Tier	Included in the CEA (Yes/No)	Rationale
Drogheda Port Maintenance dredging CEA-2712 Planning Ref: FS006425	67	36	1	Yes	Port and harbour works including dredging Potential cumulative impact exists – screened in
MaresConnect Ltd Interconnector CEA-1359 / CEA-2749 Planning Ref: FS007635	30	9.5	1	Yes	Site investigations Subsea cable development Potential cumulative impact exists – screened in
Dublin Port Company MP2 Project CEA-1323 / CEA-1328 Planning Ref: FS 006893 / ABP-304888-19	31.6	0	1	Yes	Port development works (including dredging) Potential cumulative impact exists – screened in
Dublin Port Company 3FM Project CEA-1348	31.6	0	1	No	Onshore building work only. Assume suitable mitigation applied to ensure no impact on marine water quality
Statkraft Ireland North Irish Sea Array OFW CEA-0094 / CEA-2751 Planning Ref: FS007031 / 2022-MAC-005 and FS007358	40	22.5	2a	Yes	Site investigations Offshore wind farm development Potential cumulative impact exists – screened in
Rockabill Cable Systems Ltd Telecoms cable	42	17	1	Yes	Site investigations Installation of subsea cable

Development	Distance from the array site (km)	Distance from the export cable corridor	Tier	Included in the CEA (Yes/No)	Rationale
CEA-2732 Planning Ref: FS006842					Potential cumulative impact exists – screened in
Wicklow Sea Wind OFW CEA-2724 Planning Ref: FS007163	2	11.9	2b	Yes	Site investigation work only Potential cumulative impact exists – screened in
Eirgrid Plc Interconnector CEA-0196 Planning Ref: FS004527	22	20	1	Yes	Site investigations Subsea cable installation Potential cumulative impact exists – screened in
America Europe Connect Ltd Fibreoptic cable CEA-0195 Planning Ref: FS006631	41	10	1	Yes	Site investigations Potential cumulative impact exists – screened in
Sunrise Wind Limited Site investigations CEA-2744 Planning Ref: FS007151	0	2	1	Yes	Site investigations Potential cumulative impact exists – screened in
Microsoft Ireland Ltd Geophysical and site investigation surveys, Portmarnock CEA-2829	34	8	1	Yes	Site investigations Potential cumulative impact exists – screened in
Microsoft Ireland Ltd	30	0	1	Yes	Site investigations

Development	Distance from the array site (km)	Distance from the export cable corridor	Tier	Included in the CEA (Yes/No)	Rationale
Geophysical and site investigation surveys, Dublin Port CEA-2991					Potential cumulative impact exists – screened in
Kish Offshore Wind Limited and Bray Offshore Wind Limited Capital and maintenance dredging CEA-2979	23	10	3	Yes	Site investigations Potential cumulative impact exists – screened in
Iarnród Éireann Geotechnical and geophysical site investigation CEA-2993	2	28	1	Yes	Site investigations Potential cumulative impact exists – screened in
Dublin City Council Environmental survey for proposed Point Bridge and Tom Clarke Widening Project CEA-2996	1.5	34	1	Yes	Site investigations Potential cumulative impact exists – screened in

5 Assessment of cumulative effects

5.1.1 Cumulative Impact 1: Direct temporary disturbance resulting in temporary increases in SSC

22. This impact relates to seabed preparation for foundations and cables, jack-up and anchoring operations, and cable installation. Temporary increases in SSC have the potential to impact marine water quality within and outside of the offshore development area. The representative scenario is based upon the dredging / disposal and trenching works that will take place as part of the CWP Project. The greatest predicted impacts can be summarised as follows.

Dredging and dredge disposal

23. Suspended sediment plumes created during dredge disposal operations are predicted to enhance SSC levels in the near field (i.e. to the point of release) and far field (i.e. up to c. 10 km from the point of release).

24. The predicted transport of sediment plumes and subsequent deposition during dredge disposal activities within the offshore development area can be summarised as follows.

25. Modelled representative scenarios of dredge disposal activities within the array site indicated the predominant direction of travel for SSC plumes is eastward (away from shore). In one scenario, a maximum transient increase in SSC of 150 mg/L was predicted to travel a maximum of up to 4 km over c. 10 days. In another scenario, a maximum increase of 100 mg/L was predicted to travel up to 6 km over c. 15 days. Modelled representative scenarios of dredge disposal activities within the OECC predicted: a maximum transient increase in SSC of 80 mg/L, travelling up to 4 km. A final scenario predicted a maximum increase in SSC of 50 mg/L, travelling a maximum of 5 km southeastward.

Trenching

26. A consequence of cable installation will be the liberation of sediment into suspension within the water column, just above the seabed. Jetting results in greater sediment suspension, introducing the potential for distribution of greater volumes of material over a larger spatial area than other cable-laying techniques which may be employed during construction and thus is assessed as the representative scenario. This method involves fluidising the material to form a narrow trench into which the cable is laid.

27. Based upon the representative scenario, the predicted transport of sediment plumes generated during cable installation activities across the array site indicates the finest sediments will potentially be transported eastward up to 10 km at an increase of 20 mg/L. Maximum SSC values of up to 40 mg/L were predicted to be transported up to 4 km eastward. However, these plumes are transient, rapidly decreasing as sand-sized sediments deposit to the bed and finer sediments are dispersed.

28. The predicted transport of sediment plumes generated during cable installation activities across the OECC were for a maximum increase in SSC of 50 mg/L being transported for up to 7 km eastward and southward, and a maximum increase in SSC of 80 mg/L being transported for < 1 km eastward.

29. Enhanced SSC and the predicted deposition thickness would not discernible above natural variation observed during storm events, with SSCs predicted, in the representative scenario, to reduce to baseline levels within c. 15 days following trenching operations.

30. When this impact was assessed for the CWP Project alone, the impact was assessed as imperceptible to slight / not significant for all water quality receptors, which is not significant in EIA terms.

31. Of the relevant projects, three are offshore wind farm developments of similar scale, two are subsea cable developments (MaresConnect Ltd and Eigrid Plc) and four include dredge and disposal activities. The other offshore wind farm developments are; Arklow Bank, Dublin Array and North Irish Sea Array, the dredge and disposal projects are the dredge and / or disposal projects in Dublin Port and one in Drogheda Port (**Table 3**). Therefore, the impacts are likely to be similar to those predicted for the CWP Project. It was concluded for the CWP Project that, of all the modelled scenarios, the maximum increase in SSC will be 150 mg/L and the maximum duration before reducing to background levels is 15 days. As it is highly unlikely that the impacts from all projects will be occurring simultaneously, the short duration of increased levels of SSC and rapid redistribution of sediments ensures there will not be change in magnitude, and therefore significance, of the predicted impact from the cumulative impact of other developments. However, even if multiple developments all undertook activities concurrently, there would still be a rapid settlement of sediments and the return to background SSC conditions predicted. Considering any increase in SSC arising from any or all developments will be short term, there will not be a change in the magnitude, and therefore significance, of the predicted impact.

32. Of the other projects, 19 are site investigation works and there are onshore building works at Dublin Port (**Table 3**). These projects will impact a much smaller area as they do not involve dredge disposal or large-scale sediment disturbance. While activities will have the likelihood of increasing SSC, the combination of smaller areas and highly dynamic marine environments ensures there will not be a change in the magnitude, and therefore significance, of the predicted impact.

33. Therefore, it is concluded that the magnitude of the impact will not be increased by the identified 'other' developments. As such, it is concluded that for the CWP Project and Tier 1 projects that the effect of increased SSC will be **Not Significant.** The same conclusion is drawn for the CWP Project and Tier 1 projects combined with Tier 2a and Tier 2b projects. There are no Tier 3 projects of relevance, or for which there is adequate information to undertake a meaningful assessment. As such, there are anticipated to be no significant cumulative effects of CWP with Tier 3 projects; the same conclusion being drawn for Tier 1, Tier 2a, Tier 2b and Tier 3 combined.

5.1.2 Cumulative Impact 2: Direct disturbance resulting in resuspension of contaminated sediments

34. Remobilisation of contaminated sediments can occur when such sediments are disturbed and enter the water column and are transported and redeposited elsewhere. As such, the area over which this may apply, and the marine water quality receptors, are considered analogous to that described above for direct disturbance resulting in temporary increases in SSC.

35. In the CWP Project baseline site-specific survey, contaminated sediment results showed low levels of chemical contaminants at stations sampled within the CWP Project area. The majority of contaminants levels at sampled stations were below the Irish lower action level (AL) and Cefas AL1 (**Appendix 8.3 Benthic Baseline Report**).

36. When this impact was assessed for the CWP Project alone the impact was assessed as imperceptible to not significant for all water quality receptors, which is not significant in EIA terms.

37. Contaminated sediment levels in and around other relevant Tier 2a and Tier 2b offshore wind farm projects are likely to be of the same low levels as found at the CWP Project, although higher levels

may exist in the coastal project areas, as the main source of contaminants to the Irish Sea is largely from riverine discharges (Cefas, 2005).

38. The other projects include 18 site investigation projects, Dublin Port Company's MP2 Project, jetty development and Grand Canal stormwater outfall extension and new terminal building, all of which sit within Tier 1. These will impact a much smaller area due to the nature of the projects and do not involve dredge disposal. While activities will have the likelihood of increasing SSC and deposition, the likely increase in remobilisation of contaminated sediments, given the requirements to mitigate where elevated levels of contamination are present, combined with smaller areas and highly dynamic marine environments ensures there will not be a change in the magnitude, and therefore significance, of the predicted impact.

39. Given the low levels of sediment deposition expected to occur as a result of temporary disturbance (most modelled scenarios show sediment deposition of < 5 cm, with one scenario predicting sediment deposition of c. 6 cm), and the low levels of contaminated sediments present in the Irish Sea (**Appendix 7.3** demonstrates that the chemical status for water bodies in the Liffey and Dublin Bay catchment, where known, are at good chemical status for 2016–2021), it is concluded that the magnitude, and therefore significance, of the impact will not be increased by the identified 'other' developments.

40. Therefore, it is concluded that the significance of the impact will not be increased by the identified other developments. As such, it is concluded that for the CWP Project and Tier 1 projects that the effect of the remobilisation of contaminated sediments will be **Not Significant**. The same conclusion is drawn for the CWP Project and Tier 1 projects combined with Tier 2a and Tier 2b projects. There are no Tier 3 projects of relevance, or for which there is adequate information to undertake a meaningful assessment. As such, there are anticipated to be no significant cumulative effects with CWP cumulatively with Tier 3 projects; the same conclusion being drawn for Tier 1, Tier 2a, Tier 2b and Tier 3 combined.

5.2 Operation and maintenance

5.2.1 Cumulative Impact 3: Direct temporary disturbance resulting in temporary increases in SSC

41. Only those developments, such as OWFs (Arklow Bank, Dublin Array and North Irish Sea Array) or cables (MaresConnect Ltd and Eigrid Plc), which require operational maintenance, have the potential to contribute to this cumulative effect. The scale of operational works that may increase SSC across all developments will be significantly reduced compared to construction, which for the other offshore wind projects will consist of annual WTG maintenance and cable inspections. Only operations requiring large component repair or replacement at OWFs are anticipated to result in increases in SSC, which would be local to the repair site and short in duration. Cable repairs, reburial or maintenance are not likely to be required for any project, though any required reburial will utilise similar methodology to installation but will only be required in discrete sections. As such, it is considered that the impact across all screened-in projects will remain localised, and considerably lower than that during construction. The magnitude, and therefore significance, is not considered to increase, based upon the cumulative assessment over that determined for the project alone.

42. As such, it is concluded that for the CWP Project and Tier 1 projects the effect of direct temporary disturbance resulting in temporary increases in SSC will be **Not Significant.** The same conclusion is drawn for the CWP Project and Tier 1 projects combined with Tier 2a and Tier 2b projects. There are no Tier 3 project of relevance, or for which there is adequate information to undertake a meaningful assessment. As such, there are anticipated to be **no significant** cumulative effects with CWP

cumulatively with Tier 3 projects; the same conclusion being drawn for Tier 1, Tier 2a, Tier 2b and Tier 3 combined.

5.2.2 Cumulative Impact 4: Direct disturbance resulting in resuspension of contaminated sediments

43. This impact is related to the cumulative impact of temporary increases in SSC during the operational phase. As such, it is considered that the impact across all screened in projects will remain localised, and considerably lower than that during construction. The magnitude, and therefore significance, is not considered to increase based upon the cumulative assessment over that determined for the project alone.

44. As such, it is concluded that for the CWP Project and Tier 1 projects the effect of direct disturbance resulting in resuspension of contaminated sediments will be **Not Significant.** The same conclusion is drawn for the CWP Project and Tier 1 projects combined with Tier 2a and Tier 2b projects. There are no Tier 3 projects of relevance, or for which there is adequate information to undertake a meaningful assessment. As such there are anticipated to be no significant cumulative effects with CWP cumulatively with Tier 3 projects; the same conclusion being drawn for Tier 1, Tier 2a, Tier 2b and Tier 3 combined.

6 CEA summary

45. This CEA, which supports **Chapter 7 Marine Water Quality**, has assessed the potential cumulative effects on marine water quality from the construction and operation and maintenance phases of the CWP Project alongside other development.

46. In summary, the CEA for marine water quality does not identify any significant cumulative effects resulting from the CWP Project alongside relevant other developments.

7 References

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