



codling
wind park



Environmental Impact Assessment Report

Volume 4

Appendix 22.1 Cumulative Effects Assessment



Table of contents

1	Introduction	8
2	CEA methodology	8
3	CEA impact screening	10
4	CEA ‘other development’ screening.....	12
5	Assessment of cumulative effects	20
6	CEA summary	23

List of tables

Table 1 Tiered structure for other development considered for CEA (modified from PINS Advice Note 17 (PINS, 2019))	10
Table 2 Screening of archaeological, architectural and cultural heritage impacts	10
Table 3 Summary of other development screened into the CEA for archaeology, architecture and cultural heritage	13

Abbreviations

Abbreviation	Term in Full
CEA	Cumulative effects assessment
CEMP	Construction Environmental Management Plan
CWP	Codling Wind Park
CWPL	Codling Wind Park Limited
DCC	Dublin City Council
EC	European Commission
EU	European Union
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EPA	Environmental Protection Agency
ESB	Electricity Supply Board
ESBN	ESB Networks
EU	European Union
MAC	Maritime Area Consent
O&M	Operations and maintenance
OTI	Onshore transmission infrastructure
OWF	Offshore wind farm
PINS	Planning Inspectorate
SIDS	Strategic Infrastructure Development

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.
EirGrid	State-owned electric power transmission system operator in Ireland and nominated Offshore Transmission Asset Owner
ESB Networks (ESBN)	Owner of the electricity distribution system in the Republic of Ireland, responsible for carrying out maintenance, repairs and construction on the grid.
ESBN network cables (previously the ESB grid connection)	Three onshore export cable circuits connecting the onshore substation to the proposed ESBN Poolbeg substation, which will then transfer the electricity onwards to the national grid.
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.
landfall	The point at which the offshore export cables are brought onshore and connected to the onshore export cables via the transition joint bays (TJB). For the CWP Project The landfall works include the installation of the offshore export cables within Dublin Bay out to approximately 4 km offshore, where water depths that are too shallow for conventional cable lay vessels to operate.
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.
onshore export cables	The cables which transport electricity generated by the WTGs from the TJBs at the landfall to the onshore substation.
onshore development area	The entire footprint of the OTI and associated temporary works that will form the onshore boundary for the planning application.
onshore transmission infrastructure (OTI)	The onshore transmission assets comprising the TJBs, onshore export cables and the onshore substation. The EIAR considers both permanent and temporary works associated with the OTI.
onshore substation	Site containing electrical equipment to enable connection to the national grid.

Glossary	Meaning
operations and maintenance (O&M) activities	Activities (e.g., monitoring, inspections, reactive repairs, planned maintenance) undertaken during the O&M phase of the CWP Project.
O&M phase	This is the period of time during which the CWP project will be operated and maintained.
planning application boundary	The area subject to the application for development consent, including all permanent and temporary works for the CWP Project.
Poolbeg 220kV substation	This is the ESNB substation that the ESNB network cables connect into, from the onshore substation. This substation will then transfer the electricity onwards to the national grid

APPENDIX 22.1 CUMULATIVE EFFECTS ASSESSMENT

1 Introduction

1. Codling Wind Park Limited (hereafter 'the Applicant') is proposing to develop the Codling Wind Park (CWP) Project, a proposed offshore wind farm (OWF) 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 archaeological, architectural and cultural heritage, which considers the residual effects presented in Chapter 22 archaeological, architectural and cultural heritage 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 22 archaeological, architectural and cultural heritage. 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. Stakeholder and regulator feedback received during the consultation process that is relevant to the archaeological, architectural and cultural heritage assessment is provided in Chapter 22 Onshore Archaeological, Architectural and Cultural Heritage. No feedback specific to the CEA for archaeological, architectural and cultural heritage has been received.

2.3 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 **Chapter 5 EIA Methodology, Appendix 5.1 CEA 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 Offshore Renewable Electricity Support Scheme (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 archaeological, architectural and cultural heritage 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 22 Archaeological, Architectural and Cultural Heritage** as slight or above are included in the CEA (i.e. those assessed as Not Significant 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 the recorded archaeological, architectural and cultural heritage resource as a result of construction and operational and maintenance phase impacts.

Table 2 Screening of archaeological, architectural and cultural heritage impacts

Impact	Potential for cumulative effect	Rationale
Construction		
Part A: Impact 1: Permanent loss or disturbance of archaeological features or deposits located within the onshore development area and within the zone of archaeological	Yes	If archaeological remains are identified during ground works, they will be preserved in situ or by record, as per the mitigation. If preserved by record, a slight residual impact remains due to the fact that the remains will be excavated rather than preserved in-situ. Cumulative

Impact	Potential for cumulative effect	Rationale
potential for block house and fort (RMP DU019-027, RPS 6794).		impacts may occur where this approach is undertaken as part of other developments in the surrounding landscape.
Part A: Impact 2: Permanent loss or disturbance of archaeological features or deposits located within the onshore development area and within the zone of archaeological potential for the Ballast Wall, including the Pigeon House harbour wall (RMP DU018-066/DU019-029, RPS 6797).	Yes	If archaeological remains are identified during ground works, they will be preserved by in situ or by record, as per the mitigation. If preserved by record, a slight residual impact remains, due to the fact that the remains will be excavated rather than preserved in-situ. Cumulative impacts may occur where this approach is undertaken as part of other developments in the surrounding landscape.
Part A: Impact 3: Permanent loss or disturbance of archaeological features or deposits that may survive beneath the current ground level within the onshore development area and outside of the designated zones of archaeological potential.	Yes	If archaeological remains are identified during ground works, they will be preserved in situ or by record, as per the mitigation. If preserved by record, a slight residual impact remains due to the fact that the remains will be excavated rather than preserved in-situ. Cumulative impacts may occur where this approach is undertaken as part of other developments in the surrounding landscape.
Part A: Impact 4: Temporary disturbance to the setting of recorded archaeological and built heritage sites, the Pigeon House Harbour Conservation Area and the DCIHR outfall works, during the construction phase.	Yes	Due to the nature of the construction process, which is a visually intrusive operation, it is not possible to mitigate indirect impacts on the setting of sensitive receptors, although the duration of the impact will be temporary and as such the residual impact is slight.
Part A: Impact 5: Temporary disturbance to the setting of the Dublin Port cultural heritage landscape, during the construction phase.	Yes	Due to the nature of the construction process, which is a visually intrusive operation, it is not possible to mitigate indirect impacts on the setting of sensitive receptors, although the duration of the impact will be temporary and as such the residual impact is slight.
Operation		
Part A: Impact 1: Long-term change to the setting of recorded archaeological and built heritage sites, the Pigeon House Harbour Conservation Area and the DCIHR outfall works, due to the presence of the onshore substation.	Yes	The residual impact in terms of setting is moderate and cumulative impacts may occur due to the development of other large-scale developments in the environment.

Impact	Potential for cumulative effect	Rationale
Part A: Impact 2: Long-term change to the setting of the Dublin Port cultural heritage landscape due to the presence of the onshore substation.	Yes	The residual impact is slight and cumulative impacts may occur due to the construction of other large-scale developments in the landscape.
Part B: Impact 1 Long-term change to the setting of archaeological, architectural and cultural heritage sites directly linked to the coast, within the ZTV from offshore infrastructure (Options A and B).	Yes	The residual impacts vary from imperceptible to moderate and cumulative impacts may occur due to the construction of other offshore infrastructure.
Decommissioning		
Impact 1: Impacts on the receiving environment due to the removal of the OTI.	No	Activities associated with decommissioning would result in the restoration of the receiving environment to current form (assuming no other developments have taken place). This would remove potential negative impacts on the settings of onshore archaeological, built heritage and cultural heritage sites

4 CEA 'other development' screening

20. The second step in the CEA for archaeological, architectural and cultural heritage 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 3**), 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 **Chapter 5 EIA Methodology, Appendix 5.1 CEA 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.

Table 3 Summary of other development screened into the CEA for archaeology, architecture and cultural heritage

Development	Distance from the array site (km)	Distance from the onshore development area	Tier	Included in the CEA (Yes/No)	Rationale
Pembroke Beach DAC / Becbay Ltd & Fabrizio Developments Ltd Redevelopment of former glass bottle site CEA- 0333, CEA-0339, CEA-0387, CEA-1354 and CEA-3003 Planning Ref.: 3406/22, 4121/21, 3270/19, 3207/21 AND 3062/24	32.7km	1km	1	Yes	Included as the projects have the potential to impact on previously unrecorded archaeological remains (Impact 3).
ESB Dublin Bay Power Station / OCGT, BESS and Flexible Thermal Generation CEA-1327, CEA-1341 and CEA-1342 Planning Ref.: 3074/23, 3646/20 and 3647/20	0 km	1km	Yes	Yes	Included as the projects have the potential to impact on previously unrecorded archaeological remains (Impact 3).
ESB Poolbeg Generating Station / Battery Energy	31km	1km	Yes	Yes	Included as the projects have the potential to impact on previously unrecorded archaeological remains and

Development	Distance from the array site (km)	Distance from the onshore development area	Tier	Included in the CEA (Yes/No)	Rationale
Storage System (BESS), Flexible Thermal Generation, Open Cycle Gas Turbine (OCGT) and Substation CEA-1336, CEA-1337, CEA-1338 and CEA-1346 Planning Ref: 3625/20, 3624/20, 3137/23 and 4057/23.					any remains associated with Pigeon House Fort (RMP DU019-027) (Impacts 1 and 3)
Dublin Port Company MP2 Project CEA-1323 and CEA-1328 Planning Ref.: FS006893 and ABP-304888-19	31.6km	1km	No	No	Not included as EIAR for this project does not predict any significant visual impact on cultural heritage receptors or the heritage landscape of Dublin Port.
E D & F Man Liquid Products Ireland Limited New Storage Tank CEA-1344 Planning Ref: 2804/19	30km	1	1	No	No cultural heritage impacts have been identified as part of this project and no mitigation will take place during construction. As such it is screened out from cumulative assessment.
Dublin Port Company Bridge over existing	31km	0.3km	1	No	The installation of a bridge over the cooling water channel

Development	Distance from the array site (km)	Distance from the onshore development area	Tier	Included in the CEA (Yes/No)	Rationale
cooling water channel (superseded by CWP project proposals) CEA-1339 Planning Ref.: 3711/18					into the onshore substation is included as part of the OTI. The location mirrors that of this proposed bridge development. In the event that the CWP Project proceeds, this proposed bridge development would be superseded by the CWP Project proposals. Therefore the project is screened out from further assessment.
Hammond Lane Metal Company Ltd. CEA-1340 Construction of 2-storey building and non-ferrous metals recovery facility. Planning Ref: 2130/18	31km	0.56km	1	No	No cultural heritage impacts have been identified as part of this project and no mitigation will take place during construction. As such it is screened out from cumulative assessment.
Dublin Port Company 3FM Project CEA-1348) Planning Ref.: N/A	32.6km	0km	1	Yes	Included as the project has the potential to impact on previously unrecorded archaeological remains (Impact 3).
Minister for Public Expenditure and Reform	33.6km	0	1	No	No cultural heritage impacts have been identified as part of this project and no mitigation

Development	Distance from the array site (km)	Distance from the onshore development area	Tier	Included in the CEA (Yes/No)	Rationale
Brexit Infrastructure at Dublin Port CEA-0284 Planning Ref.: ABP-307352-20					will take place during construction. As such it is screened out from cumulative assessment.
Pembroke Beach DAC Two-storey extension of the Irishtown Stadium CEA-0334 Planning Ref: 2858/18	33.3km	0.7km	1	No	No cultural heritage impacts have been identified as part of this project and no mitigation will take place during construction. As such it is screened out from cumulative assessment.
Dublin Port Company Port terminal redevelopment CEA-0382 and 0383 Planning Refs: 4507/18 and 4508/18	33km	1km	1	No	No cultural heritage impacts have been identified as part of these projects and no mitigation will take place during construction. As such it is screened out from cumulative assessment.
Kilsaran Concrete Continuation of use of an existing concrete batching plant (CEA-1343) Planning Ref: 3469/22	30km	0km	1	No	No EIA or Environmental Report has been produced for the development. The application is for the continuation of use of an existing concrete batching plant. The plant is already in operation and will not change. There is therefore no potential

Development	Distance from the array site (km)	Distance from the onshore development area	Tier	Included in the CEA (Yes/No)	Rationale
					for significant cumulative impacts with the CWP Project.
Codema - Dublin's Energy Agency Dublin District Heating System Project (DDHS) CEA-1347 Panning Ref: N/a	31.5km	0km	No	Yes	It is understood that this project will be located on a site within the Poolbeg peninsula, potentially in proximity to Construction Compound A. However, no plans have been submitted for this project, but it remains possible that ground disturbances associated with the scheme may impact previously unrecorded archaeological remains and as such the project has been screened in for cumulative impacts (Impact 3).
EirGrid Plc Powering Up Dublin CEA-1371 Planning ref: N/a	-	0km	No	Yes	Works are required to upgrade Dublin City's electricity infrastructure. This includes the installation of 50 km of cables across the city. This will include underground cable routes, some of which will link to the Poolbeg ESB Poolbeg Generating Station. Final route technologies have not yet been confirmed and the

Development	Distance from the array site (km)	Distance from the onshore development area	Tier	Included in the CEA (Yes/No)	Rationale
					project has not yet been submitted for planning consent It remains possible that ground disturbances associated with the scheme may impact previously unrecorded archaeological remains and as such the project has been screened in for cumulative impacts (Impact 3).
Sure Partners Limited / SSE Renewables Arklow Bank OWF Phase 2 CEA-0004 Planning ref: 2022-MAC-002	9.78km	9.9km from the export cable corridor	2a	Yes	The WTG array for this development is located c. 9.78km south of the CWP WTG and as such there is the potential for cumulative impacts from offshore infrastructure on onshore cultural heritage assets.
RWE Renewables Dublin Array OWF CEA-0037 Planning ref: 2022-MAC-003 and 004	2.7km	2km from the export cable corridor	-	Yes	The WTG array for this development is located directly to the north of the CWP WTG layout and as such there is the potential for cumulative impacts from offshore infrastructure on onshore cultural heritage assets.
Statkraft Ireland	40.7km	23km from the export cable corridor	1a	Yes	The WTG array for this development is located c. 40.7km north of the CWP

Development	Distance from the array site (km)	Distance from the onshore development area	Tier	Included in the CEA (Yes/No)	Rationale
North Irish Sea Array OWF CEA-0094 Planning ref: N/a					WTG and as such there is the potential for cumulative impacts from offshore infrastructure on onshore cultural heritage assets.
Ecocem Ireland Limited Construction of plant CEA-3002 Planning Ref.: 3041/24	32 km	0 km	1	Yes	Construction of silos, compressor room, cooling room, pump room, retaining walls, new fencing, new gates, revision of car park layout and also includes for retention for silos, lab and offices at existing Ecocem facility within the Poolbeg Peninsula. Included as the project has the potential to impact on previously unrecorded archaeological remains (Impact 3).

5 Assessment of cumulative effects

5.1 Construction phase

5.1.1 Cumulative Impact 1: Permanent loss or disturbance of archaeological features or deposits located within the onshore development area and within the zone of archaeological potential for block house and fort (RMP DU019-027, RPS 6794)

22. ESB - Poolbeg Generating Station / Battery Energy Storage System (BESS), Flexible Thermal Generation, Open Cycle Gas Turbine (OCGT) and Substation (CEA-1336, CEA-1337, CEA-1338 & CEA-1346). These developments would include a small corner of the zone of archaeological potential surrounding Pigeon House Fort (RMP DU019-027). Archaeological mitigation for these developments includes monitoring of ground works and as such any archaeological remains that are identified will be preserved by record. No further mitigation is required as the cumulative impact of the ESB Poolbeg Generating Station developments is no greater than the residual impact of the CWP Project (slight negative).

5.1.2 Cumulative Impact 2: Permanent loss or disturbance of archaeological features or deposits located within the onshore development area and within the zone of archaeological potential for the Ballast Wall, including the Pigeon House harbour wall (RMP DU018-066/DU019-029, RPS 6797)

23. No cumulative impacts identified as no other screened in developments will affect these cultural heritage assets.

5.1.3 Cumulative Impact 3: Permanent loss or disturbance of archaeological features or deposits that may survive beneath the current ground level within the onshore development area and outside of the designated zones of archaeological potential

24. Pembroke Beach DAC / Becbay Ltd & Fabrizia Developments Ltd. - Redevelopment of former glass bottle site (CEA- 0333, CEA-0339, CEA-0387 and CEA-1354). Archaeological mitigation for these projects includes monitoring of ground works and as such any archaeological remains that are identified will be preserved by record. No further mitigation is required as the cumulative impact is no greater than the residual impact of the CWP Project (slight negative).
25. ESB - Dublin Bay Power Station / OCGT, BESS and Flexible Thermal Generation (CEA-1327, CEA-1341 & CEA-1342). Archaeological mitigation for these projects includes monitoring of ground works and as such any archaeological remains that are identified will be preserved by record. No further mitigation is required as the cumulative impact is no greater than the residual impact of the CWP Project (slight negative).
26. ESB - Poolbeg Generating Station / Battery Energy Storage System (BESS), Flexible Thermal Generation, Open Cycle Gas Turbine (OCGT) and Substation (CEA-1336, CEA-1337, CEA-1338 & CEA-1346). Archaeological mitigation for these projects includes monitoring of ground works and as such any archaeological remains that are identified will be preserved by record. No further mitigation is required as the cumulative impact is no greater than the residual impact of the CWP Project (slight negative).

27. Dublin Port Company 3FM Project (CEA-1348). DPC intends to bring forward the 3FM project for planning consent, the third and final strategic infrastructure development (SID) project needed to deliver the capacity objectives of the Dublin Port Masterplan 2040, and to provide additional infrastructure within the port. A waterside turning circle and Lift on-Lift Off terminal are among the development proposed and these would be located adjacent to the onshore substation site. The 3FM project is concentrated on Dublin Port lands across the Poolbeg Peninsula with a construction programme that will span over a decade and that will coincide that of the CWP Project.
28. This development was not submitted for planning at the time of writing this assessment and a meaningful assessment could not be undertaken. However, it is likely that there will be archaeological mitigation for this project, including monitoring of ground works and as such any archaeological remains that are identified will be preserved by record. No further mitigation is required as the cumulative impact is no greater than the residual impact of the proposed CWP development (slight negative).
29. CEA-1347 Dublin District Heating System Project (DDHS). It is likely that there will be archaeological mitigation for this project, including monitoring of ground works and as such any archaeological remains that are identified will be preserved by record. No further mitigation is required as the cumulative impact is no greater than the residual impact of the proposed CWP development (slight negative).
30. CEA-1371 EirGrid Plc Powering Up Dublin Cables linking substations at North Wall and Poolbeg; Finglas and North Wall; Poolbeg and Carrickmines; and two cables linking Inchicore and Poolbeg (to be replaced). It is likely that there will be archaeological mitigation for this project, including monitoring of ground works and as such any archaeological remains that are identified will be preserved by record. No further mitigation is required as the cumulative impact is no greater than the residual impact of the proposed CWP development (slight negative).
31. CEA-3002 Ecocem Ireland Limited plant development. Planning permission is to be confirmed but it is likely that there will be archaeological mitigation for this project, including monitoring of ground works and as such any archaeological remains that are identified will be preserved by record. No further mitigation is required as the cumulative impact is no greater than the residual impact of the proposed CWP development (slight negative).

5.1.4 Cumulative Impact 4: Temporary disturbance to the setting of recorded archaeological and built heritage sites, the Pigeon House Harbour Conservation Area and the DCIHR outfall works, during the construction phase

32. Dublin Port Company 3FM Project (CEA-1348) (description detailed above). This development was not submitted for planning at the time of writing this assessment and a meaningful assessment could not be undertaken.

5.1.5 Cumulative Impact 5: Temporary disturbance to the setting of the Dublin Port cultural heritage landscape during the construction phase

33. Dublin Port Company 3FM Project (CEA-1348) (description detailed above). This development was not submitted for planning at the time of writing this assessment and a meaningful assessment could not be undertaken.

5.2 Operation and maintenance

5.2.1 Cumulative Impact 1: Long-term change to the setting of recorded archaeological and built heritage sites, the Pigeon House Harbour Conservation Area and the DCIHR outfall works, due to the presence of the onshore substation

34. Dublin Port Company 3FM Project (CEA-1348) (description detailed above). This development was not submitted for planning at the time of writing this assessment and a meaningful assessment could not be undertaken.

5.2.2 Cumulative Impact 2: Long-term change to the setting of the Dublin Port cultural heritage landscape due to the presence of the onshore substation

35. Dublin Port Company 3FM Project (CEA-1348) (description detailed above). This development was not submitted for planning at the time of writing this assessment and a meaningful assessment could not be undertaken.

5.2.3 Cumulative Impact 3: Long-term change to the setting of archaeological, architectural and cultural heritage sites directly linked to the coast, within the ZTV from offshore infrastructure (WTG Options A and B)

36. CEA-0004 Arklow Bank Phase 2 100 turbines. Cumulative photomontages have been presented within **Chapter 15 Seascape, Landscape and Visual Impact Assessment**. These have been examined in relation to the proposed CWP development and the proposed Arklow Bank Phase 2 development. No cumulative impacts have been identified in relation to coastal cultural heritage receptors, where slight or moderate effects are predicted. Those sites where impacts are predicted to be not significant or less have been screened out of the cumulative assessment.
37. CEA-0037 Dublin Array OWF 45-61 turbines. Cumulative photomontages have been presented within **Chapter 15 Seascape, Landscape and Visual Impact Assessment**. These have been examined in relation to the proposed CWP development and the proposed Dublin Array OWF. No cumulative impacts have been identified in relation to coastal cultural heritage receptors, where slight or moderate effects are predicted. Those sites where impacts are predicted to be not significant or less have been screened out of the cumulative assessment. The Dublin Array will be closer to a number of cultural heritage receptors (CHVP 4, 5, 19, 20, 28) and in these instances, it is expected that the presence of the CWP Project would be slightly reduced on these receptors overall.
38. CEA-0094 North Irish Sea Array OWF 30-36 turbines. Cumulative photomontages have been presented within **Chapter 15 Seascape, Landscape and Visual Impact Assessment**. These have been examined in relation to the proposed CWP development and the proposed North Irish Sea Array OWF development. No cumulative impacts have been identified in relation to coastal cultural heritage receptors, where slight or moderate effects are predicted. Those sites where impacts are predicted to be not significant or less have been screened out of the cumulative assessment.

6 CEA summary

39. This CEA, which supports **Chapter 22 Archaeology, Architecture and Cultural Heritage** has assessed the potential cumulative effects on the archaeological, architectural and cultural heritage resource, from the construction and operation and maintenance phases of the CWP Project alongside other development.
40. In summary, the CEA for archaeological, architectural and cultural heritage resource does not identify any significant cumulative effects resulting from the CWP Project alongside other developments.