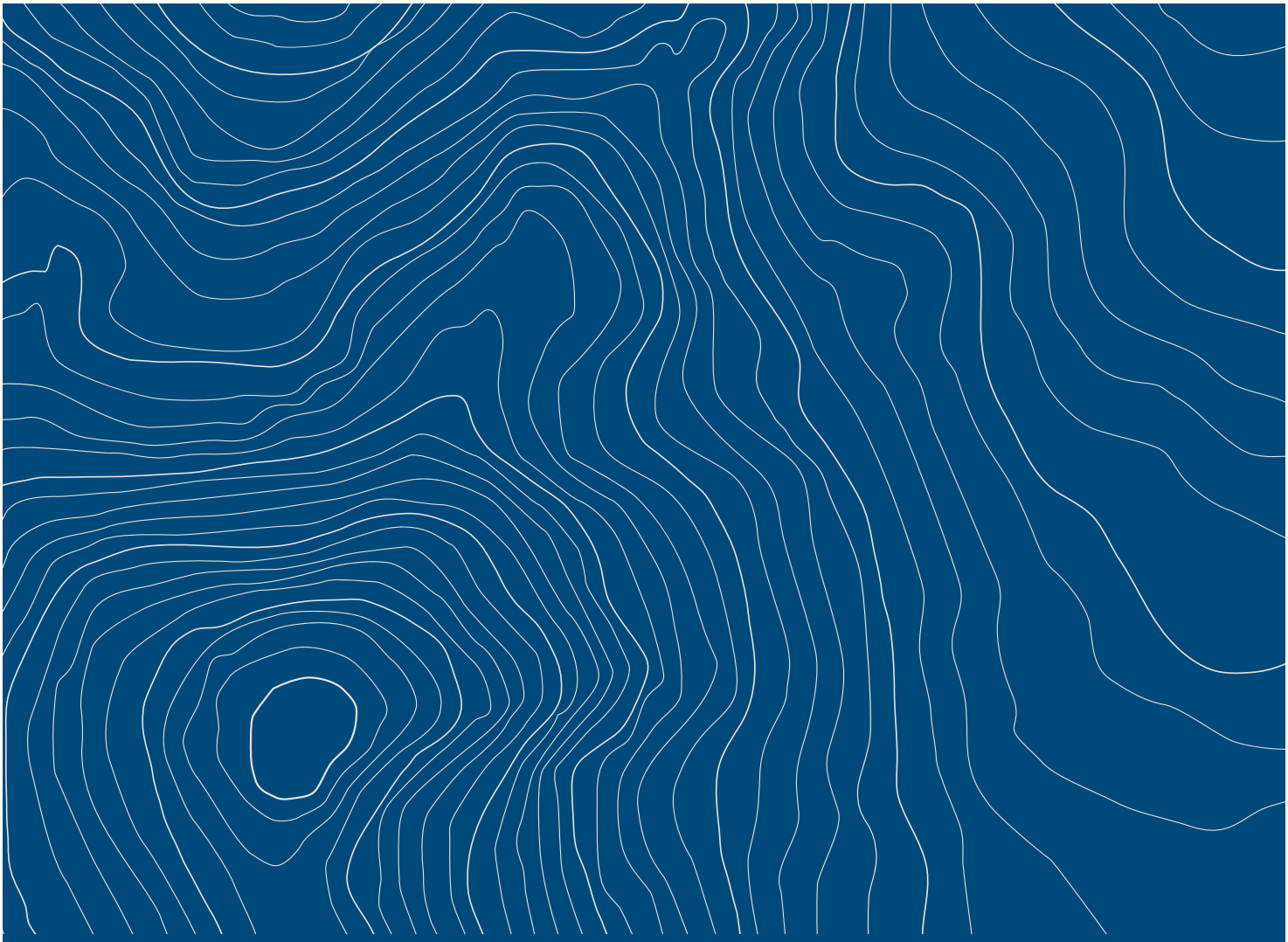

DublinArray
Generation for generations

EIAR Volume 8: Planning Stage Plans
Chapter 1: Interactions of the Environmental Factors

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Dublin Array Offshore Wind Farm

Environmental Impact Assessment Report

Volume 8, Chapter 1: Interactions of the Environmental Factors

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Tables

Acronyms

Term	Definition
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EPA	Environmental Protection Agency

1 Interactions of the Environmental Factors

1.1 Introduction

1.1.1 In line with the Environmental Protection Agency (EPA) Guidelines on Environmental Impact Assessment Reports (EIAR) (2022), this chapter of the Environmental Impact Assessment Report (EIAR) for the Dublin Array Offshore Wind Farm (Dublin Array) summarises the interactions between various environmental factors associated with the proposed development. The purpose of this chapter is to provide an understanding of how different environmental components influence one another and to identify any potential cumulative or synergistic effects that may arise from these interactions. The full analysis as to the potential for interactions is set out within the relevant EIAR chapters.

1.1.2 In particular, the potential for interactions has been assessed in the following assessment chapters within Volume 3 for the offshore infrastructure, and Volume 5 for the onshore infrastructure:

- Volume 3 Offshore Assessment Chapters:
  - Marine Geology, Oceanography and Physical Processes;
  - Marine Water and Sediment Quality;
  - Benthic Subtidal and Intertidal Ecology;
  - Fish and Shellfish Ecology;
  - Marine Mammals;
  - Offshore and Intertidal Ornithology;
  - Bats in the Offshore Environment;
  - Nature Conservation;
  - Commercial Fisheries;
  - Shipping and Navigation;
  - Marine Infrastructure and Other Users;
  - Aviation and Radar;
  - Marine Archaeology;
  - Cultural Heritage Settings Assessment (Terrestrial Archaeology and Monuments);

- Seascape, Landscape and Visual Impact Assessment;
- Noise and Vibration (Terrestrial Receptors);
- Socio-Economics, Tourism, Recreation and Land Use;
- Climate Change;
- Major Accidents and Disasters; and
- Offshore Assessment – Operations and Maintenance Base.

- Volume 5 Onshore Assessment Chapters:
  - Biodiversity;
  - Land, Soils and Geology;
  - Water (Hydrology, Hydrogeology and Flood Risk);
  - Noise and Vibration;
  - Traffic and Transport;
  - Landscape and Visual;
  - Archaeology Cultural Heritage;
  - Human Health;
  - Air Quality; and
  - Material Assets.

1.2 Legislation

1.2.1 Article 3(1) of the EIA Directive (Directive 2011/92/EU, as amended by Directive 2014/52/EU) states that an Environmental Impact Assessment (EIA) should identify, describe, and assesses the direct and indirect significant effects of a project on a range of environmental factors, including population and human health, biodiversity, land, soil, water, air, climate, material assets, cultural heritage, and landscape. Article 3(1) also mandates the consideration of the interaction between these factors, ensuring that environmental effects are assessed holistically rather than in isolation.

1.2.2 The EPA Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (2022) reinforce this requirement by emphasising the need for a systematic approach to identifying and assessing environmental interactions. The guidelines highlight that significant environmental effects often arise not just from individual impacts, but from the cumulative or combined effects of multiple factors.

1.3 Impact Assessment Methodology

1.3.1 Each chapter in Volume 3 and Volume 5 assesses the direct, indirect, and inter-related effects of Dublin Array on individual environmental factors. For example, the installation of turbine foundations offshore has the potential to impact both marine water quality and marine biodiversity. The Marine Water and Sediment Quality chapter assesses the potential for sediment disturbance and changes in turbidity, while the Marine Mammals chapter evaluates how these changes could affect sensitive marine species. The inter-related effects have been identified and analysed through collaboration between environmental specialists and are presented in the respective chapters.

1.3.2 The relevant interactions between environmental factors are presented in Table 1. The effects matrices outline the factors in the left-hand column that have the potential to influence those listed across the top row. A tick (✓) signifies an identified interaction between two factors, while a hyphen (–) indicates that no interaction is expected.

Interactions Matrix

EIA factor interacting with:	Marine Geology, Oceanography and Physical Processes	Marine Water and Sediment Quality	Benthic Subtidal and Intertidal Ecology	Fish and Shellfish Ecology	Marine Mammals	Offshore and Intertidal Ornithology	Bats in the Offshore Environment	Nature Conservation	Commercial Fisheries	Shipping and Navigation	Marine Infrastructure and Other Users	Aviation and Radar	Marine Archaeology	Cultural Heritage Settings Assessment (Terrestrial Archaeology and Monuments)	Seascape, Landscape and Visual Impact Assessment	Noise and Vibration (Terrestrial Receptors)	Socio-Economics, Tourism, Recreation and Land Use	Climate Change	Major Accidents and Disasters	Offshore Assessment - Operations and Maintenance Base (interactions are in the corresponding offshore EIAR chapters)	Biodiversity	Land, Soils and Geology	Water (Hydrology, Hydrogeology and Flood	Noise and Vibration	Traffic nad Transport	Landscape and Visual	Archaeology and Cultural Heritage	Human Health	Air Quality	Material Assets
Marine Geology, Oceanography and Physical Processes		-	✓	-	-	-	-	✓	-	-	✓	-	✓	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-	-	-
Marine Water and Sediment Quality	✓		-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	✓	-	-	-	✓	✓	-	-	-	-	-	-	-
Benthic Subtidal and Intertidal Ecology	✓	✓		-	-	-	-	✓	-	-	-	-	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-	-	-
Fish and Shellfish Ecology	✓	✓	✓		✓	✓	-	✓	✓	-	-	-	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-	-	-
Marine Mammals	✓	✓	-	✓		-	-	✓	-	-	-	-	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-	-	-
Offshore and Intertidal Ornithology	-	-	✓	✓	-		-	✓	-	-	-	-	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-	-	-
Bats in the Offshore Environment	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-	-	-
Nature Conservation	✓	✓	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Fisheries	-	-	-	✓	-	-	-	-		✓	-	-	-	-	-	-	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
Shipping and Navigation	-	-	-	-	✓	-	-	-	✓		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Marine Infrastructure and Other Users	✓	✓	-	-	-	-	-	-	-	✓		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓
Aviation and Radar	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Marine Archaeology	✓	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	✓	-	-	-	-	-	-	-	-	✓	-	-	-
Cultural Heritage Settings Assessment (Terrestrial Archaeology and Monuments)	-	-	-	-	-	-	-	-	-	-	-	-	-		✓	-	-	-	-	-	-	-	-	-	-	-	✓	-	-	-
Seascape, Landscape and Visual Impact Assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	✓		-	✓	✓	-	-	-	-	-	-	-	✓	-	-	-	-
Noise and Vibration (Terrestrial Receptors)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	✓	-	-	-	✓	-	-
Socio-Economics, Tourism, Recreation and Land Use	-	-	-	-	-	-	-	-	✓	-	-	-	-	-	✓	-		-	-	-	-	-	-	-	-	✓	-	✓	-	-
Climate Change	-	-	-	-	-	-	-	-	✓	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	✓	-	-
Major Accidents and Disasters	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	✓	-	-
Offshore Assessment - Operations and Maintenance Base (interactions are in the corresponding offshore EIAR chapters)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
Biodiversity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	-	-		-	✓	✓			-	-	✓	-
Land, Soils and Geology	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	✓	-	-	-		✓	-	-	-	-	✓	✓	-
Water (Hydrology, Hydrogeology and Flood Risk)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	-	-	✓	✓		-	-	-	-	✓	✓	-
Noise and Vibration	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	-	-	-	-	✓	-	-		✓	-	-	✓	-	-
Traffic and Transport	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	-	-	-	-	-	✓		-	-	✓	✓	✓
Landscape and Visual	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	-	✓	-	-	-	-	-	-	-	-		-	-	-	-
Archaeology Cultural Heritage	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓		-	-	-
Human Health	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	-	-	-	✓	-	✓	-	-	-		✓	-
Air Quality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	-	-	-	✓	-	-	✓	-	-	✓		-
Material Assets	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-	-	-	

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