Morecambe Offshore Windfarm: Generation Assets

Development Consent Order Documents

Volume 4

Environmental Benefit and Net Gain Statement

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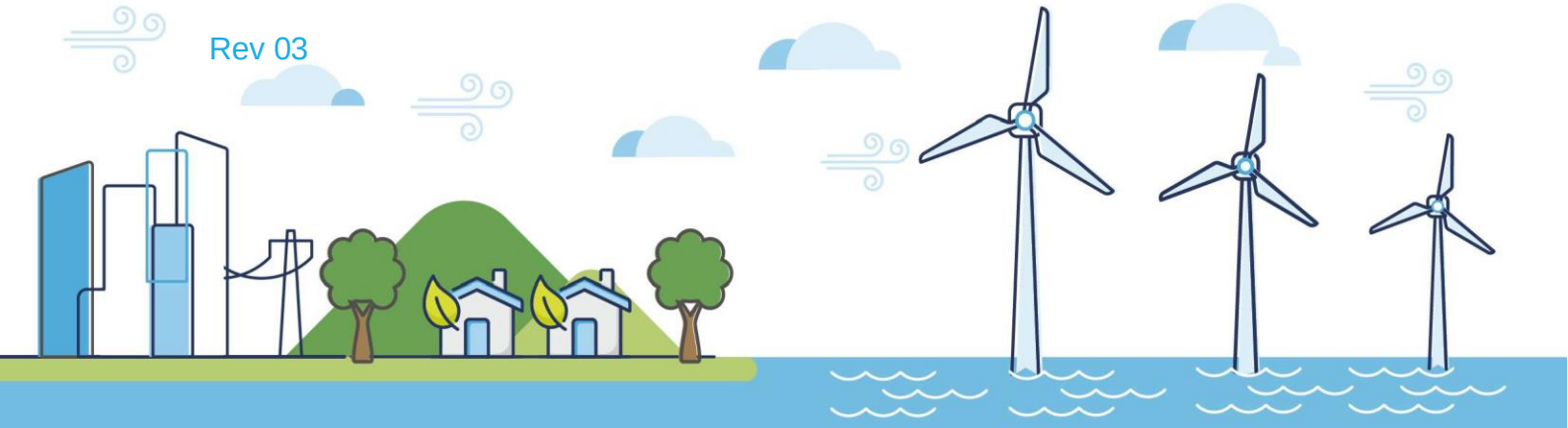
Rev 03



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Glossary of Acronyms

BNG	Biodiversity Net Gain
DCO	Development Consent Order
Defra	Department for Environment, Food and Rural Affairs
DESNZ	Department for Energy Security and Net Zero
HAT	Highest Astronomical Tide
CMS	Construction Method Statement
CSIP	Cable Specification and Installation Plan
HNDR	Holistic Network Design Review
EIA	Environmental Impact Assessment
ENCA	Enabling a Natural Capital Approach
ENG	Environmental Net Gain
EIP	Environmental Improvement Plan
ES	Environmental Statement
GES	Good Environmental Status
NAS	Noise Abatement Systems
INNS	Invasive Non-Native Species
SPA	Special Protected Area
IPMP	In Principal Monitoring Plan
MNG	Marine Net Gain
MCZ	Marine Conservation Zone
NGESO	National Grid Electricity System Operator
NPS	National Policy Statement
NSIP	Nationally Significant Infrastructure Project
NC	Natural Capital
RIAA	Report to Inform the Appropriate Assessment
OSP(s)	Offshore substation platform(s)
OTNR	Offshore Transmission Network Review
PEMP	Project Environmental Management Plan
PEIR	Preliminary Environmental Information Report
SoS	Secretary of State
UK	United Kingdom
WTG(s)	Wind turbine generator(s)

Glossary of Unit Terms

km	kilometre
km^2	square kilometre
M	metre
MW	Megawatt

Glossary of Terminology

Applicant	Morecambe Offshore Windfarm Ltd
Application	This refers to the Applicant's application for a Development Consent Order (DCO). An application consists of a series of documents and plans which are published on the Planning Inspectorate's (PINS) website.
Environmental Net Gain (ENG)	An approach to development that aims to leave the natural environment in a measurably better state than beforehand
Generation Assets (the Project)	Generation assets associated with the Morecambe Offshore Windfarm. This is infrastructure in connection with electricity production, namely the fixed foundation wind turbine generators (WTGs), inter-array cables, offshore substation platform(s) (OSP(s)) and possible platform link cables to connect OSP(s).
Inter-array cables	Cables which link the WTGs to each other and the OSP(s).
Greenhouse gas (GHG)	A greenhouse gas is a gas that traps heat in the atmosphere and causes the greenhouse effect.
Greenhouse effect	The greenhouse effect is the way that some of the heat from the sun is trapped close to the earth's surface by greenhouse gases.
Morgan and Morecambe Offshore Wind Farms: Transmission Assets	The transmission assets for the Morgan Offshore Wind Project Generation Assets and the Morecambe Offshore Windfarm. This includes the OSPs[1], interconnector cables, Morgan offshore booster station, offshore export cables, landfall site, onshore export cables, onshore substations, 400 kilovolts (kV) cables and associated grid connection infrastructure such as circuit breaker infrastructure. Also referred to in this Statement as the Transmission Assets, for ease of reading.
Offshore substation platform(s) (OSP(s))	A fixed structure located within the windfarm site, containing electrical equipment to aggregate the power from the WTGs and convert it into a more suitable form for export to shore.
Platform link cable	An electrical cable which links one or more OSPs.
Windfarm site	The area within which the WTGs, inter-array cables, OSP(s) and platform link cables will be present.
Wind turbine generator (WTG)	A fixed structure located within the windfarm site that converts the kinetic energy of wind into electrical energy.

[1]At the time of writing the Environmental Statement (ES), a decision had been taken that the offshore substation platforms (OSPs) would remain solely within the Generation Assets application and would not be included within the Development Consent Order (DCO) application for the Transmission Assets. This decision post-dated the Preliminary Environmental Information Report (PEIR) that was prepared for the Transmission Assets. The OSPs are still included in the description of the Transmission Assets for the purposes of this ES as the Cumulative Effects Assessment (CEA) carried out in respect of the Generation/Transmission Assets is based on the information available from the Transmission Assets PEIR.

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1 Introduction

1. This Environmental Benefit and Net Gain Statement forms part of a set of documents that supports the Development Consent Order (DCO) Application submitted by Morecambe Offshore Windfarm Ltd (the Applicant) for the Morecambe Offshore Windfarm Generation Assets (the Project).

1.1 Brief description of Project

2. The Applicant is promoting the development of the Project in the Eastern Irish Sea. The Project would consist of up to 35 wind turbine generators (WTGs) and will have a generating capacity greater than 100MW, and therefore is a Nationally Significant Infrastructure Project (NSIP), as defined by Section 15(3) of the Planning Act 2008, as amended. As such, there is a requirement to submit an Application for a DCO.

3. The Project relates only to the Generation Assets of the Morecambe Offshore Windfarm (including WTGs, inter-array cables, offshore substation platform(s) (OSP(s)), and possible platform link cables to connect OSP(s). A separate DCO application covers the Transmission Assets (which includes the onshore elements) associated with the Morecambe Offshore Windfarm and the Morgan Offshore Wind Project (another proposed windfarm to be located in the Irish Sea).

4. Both the Morecambe Offshore Windfarm and the Morgan Offshore Wind Project have been scoped into the Pathways to 2030 workstream, under the Offshore Transmission Network Review (OTNR). Under the OTNR, the National Grid Electricity System Operator is responsible for conducting a Holistic Network Design Review (HNDR) to assess options to improve the coordination of offshore wind generation connections and transmission networks. In July 2022, the UK Government published the Pathway to 2030 Holistic Network Design documents, which set out the approach to connecting 50GW of offshore wind to the UK electricity network (National Grid ESO, 2022). The output of this process concluded that the Morecambe Offshore Windfarm and the Morgan Offshore Wind Project should work collaboratively in connecting the windfarms to the National Grid at Penwortham in Lancashire. The Applicant was involved in this process and supports this decision.

5. A key focus of the Pathway to 2030 Holistic Network Design for coordinating offshore network is to minimise impact to the environment by sharing and coordinating transmission assets.

6. The Transmission Assets Project, which will enable export of electricity from both the Morecambe Offshore Windfarm and the Morgan Offshore Wind Project to the National Grid connection point, is subject to consent under a separate DCO Application. The Transmission Assets comprise offshore export cable corridors, their landfall arrangements, shared onshore export

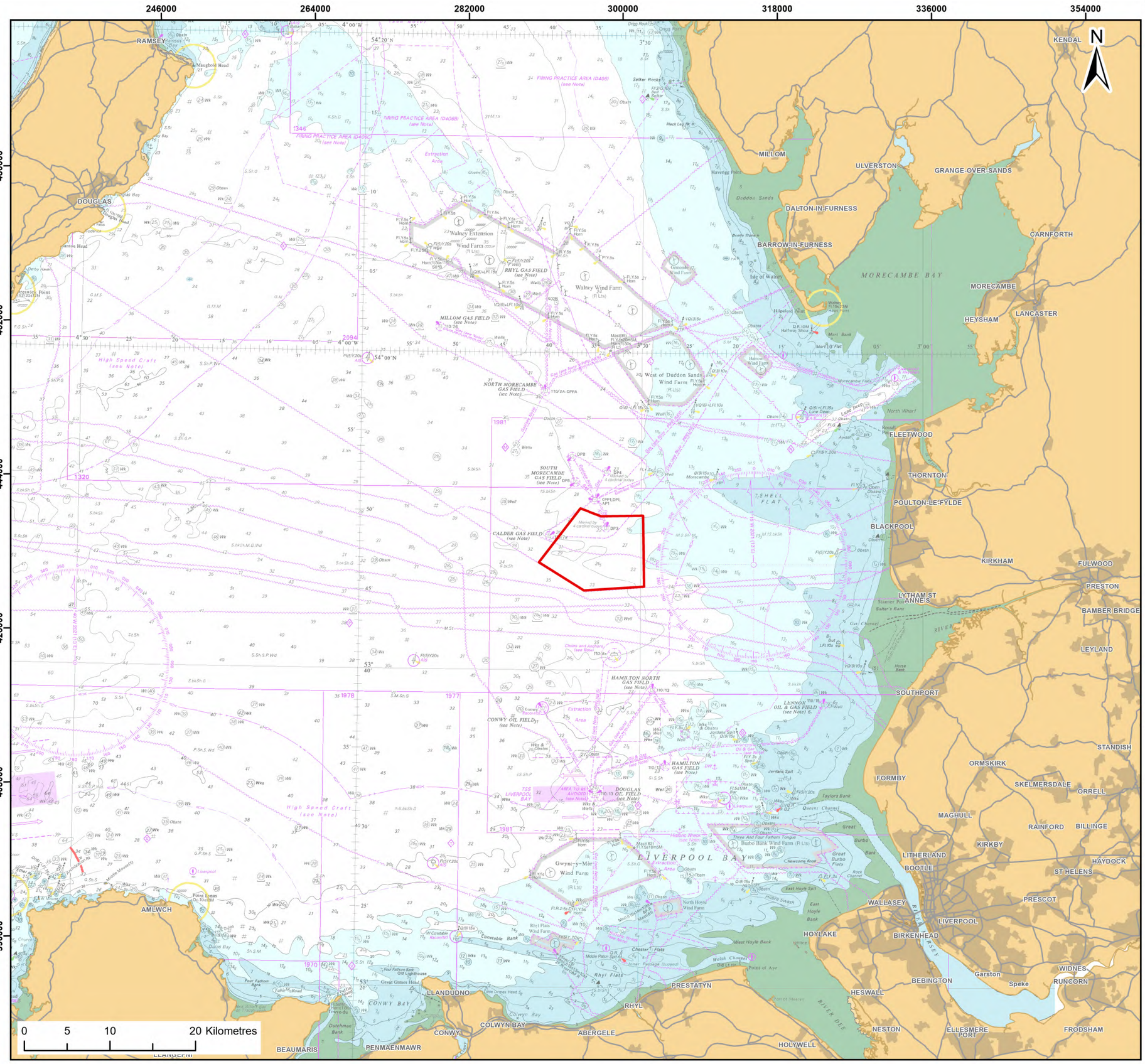
cable corridors to new onshore substation(s), and onward connection to the National Grid electricity transmission network at Penwortham, Lancashire. The coordination of the Project with other projects and the benefits that secures, are key to delivering on the stated “Coordination” objective (4) of the Project.

7. The windfarm site, containing the Generation Assets, covers 87km^2 and is approximately 30km from the Lancashire coast (**Figure 1.1**).

1.2 Purpose of the document

8. This Environmental Benefit and Net Gain Statement sets out and addresses the legislative and policy requirements for the provision of environmental net gain relevant to the Project. The Statement describes how environmental net gain has been considered across the Project in accordance with the Overarching National Policy Statement (NPS) for Energy (EN-1), legislation and the Project’s Planet Positive project design principle to enhance the environment and its biodiversity where possible (set out in the Design Statement (Document Reference 4.3)). This statement also sets out the proposed environmental net gains using an avoid, minimise and mitigate approach through design the Applicant is pursuing to deliver as part of the Project.

9. The specific requirement for this statement is in EN-1, which notes, ‘Applications for development consent should be accompanied by a statement demonstrating how opportunities for delivering wider environmental net gains have been considered, and where appropriate, incorporated into proposals as part of good design (including any relevant operational aspects) of the project.’



Legend:

Morecambe Offshore Windfarm Site

Report:
Morecambe Offshore Windfarm: Generation Assets Environmental Benefit and Net Gain Statement

Title:
Morecambe Offshore Windfarm location

Figure:	Drawing No:
1.1	PC1165-RHD-ES-OF-DG-Z-0143

Revision:	Date:	Drawn:	Checked:	Size:	Scale:
P01	18/04/2024	JH	SB	A3	1:450,000

Co-ordinate system: WGS 1984 UTM Zone 30N

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1.3 Legislative context

1.3.1 Overview

10. This section sets out the planning policy requirements and legislation that the Applicant considers are relevant to the provision of environmental benefits and net gain.

1.3.2 National Policy Statements EN-1 and EN-3

11. The Overarching National Policy Statement (NPS) for Energy (EN-1) and NPS for Renewable Energy Infrastructure (EN-3) set out the government's policy for NSIPs to consider biodiversity and environmental net gain.

12. The EN-1 explains the approach to environmental net gain in paragraph 4.6.1, 'Environmental net gain is an approach to development that aims to leave the natural environment in a measurably better state than beforehand. Projects should therefore not only avoid, mitigate and compensate harms, following the mitigation hierarchy, but also consider whether there are opportunities for enhancements.'

13. Paragraph 4.6.3 of EN-1 sets out that biodiversity net gain only applies to terrestrial and intertidal components of projects, '…biodiversity net gain policy in England only applies to terrestrial and intertidal components of projects, recognising principles for marine net gain are currently being rolled out by Government...'.

14. However, EN-1 encourages onshore and offshore energy NSIP proposals to '…seek opportunities to contribute to and enhance the natural environment by providing net gains for biodiversity, and the wider environment where possible.' (paragraph 4.6.6).

15. The relevant EN-1 and EN-5 policies for biodiversity and environmental net gain are set out in **Table 1.1.**

Table 1.1 National Policy Statement guidance relevant to ENG

National Policy Statement	Paragraph	Text	Where addressed
Overarching NPS for Energy (EN-1)	4.6.1	Environmental net gain is an approach to development that aims to leave the natural environment in a measurably better state than beforehand. Projects should therefore not only avoid, mitigate and compensate harms, following the mitigation hierarchy, but also consider whether there are opportunities for enhancements.	Chapter 4 Site Selection and Assessment of Alternatives of the Environmental Statement (ES) (Document Reference 5.1.4) and Design Statement (Document Reference 4.3.4) highlights the approach taken to avoid and minimise impacts. The Schedule of Mitigation (Document Reference 5.5) details the mitigations identified through the Environmental Impact Assessment (EIA) process, for each of the ES technical chapters and how these have been secured. Environmental benefits and opportunities for environmental enhancement undertaken by the Applicant have been considered throughout the EIA and design process and are described in **Section 2**.
	4.6.3	Currently, biodiversity net gain policy in England only applies to terrestrial and intertidal components of projects. Principles for Marine Net Gain are currently being rolled out by the Government, who will provide guidance in due course. There are provisions in the Environment Act 2021 to allow Marine Net Gain to be made mandatory for NSIPs in the future.	As an offshore project, the Applicant's position on Marine Net Gain (MNG) is set out in **Section 2.2**.
	4.6.6	Energy NSIP proposals, whether onshore or offshore, should seek opportunities to contribute to and enhance the natural environment by providing net gains for biodiversity, and the wider environment where possible.	As noted in paragraph 4.6.3 of EN-1 above, biodiversity net gain policy only applies to terrestrial and intertidal components of projects and there are no provisions for marine net gain. The entirely offshore Project has sought to avoid, minimise and mitigate impacts to the environment through good design where possible, in accordance with the EIA Regulation. Opportunities

National Policy Statement	Paragraph	Text	Where addressed
			for environmental enhancement undertaken by the Applicant are described in **Section 2**.
	4.6.13	In addition to delivering biodiversity net gain, developments may also deliver wider environmental gains and benefits to communities relevant to the local area, and to national policy priorities, such as: ▪ Reductions in GHG emissions ▪ Reduced flood risk ▪ Improvements to air or water quality ▪ Climate adaptation ▪ Landscape enhancement ▪ Increased access to natural greenspace ▪ The enhancement, expansion or provision of trees and woodlands The scope of potential gains will be dependent on the type, scale and location of specific projects. Applicants should look for a holistic approach to delivering wider environmental gains and benefits, through the use of nature-based solutions and Green Infrastructure.	The Project would make a significant contribution to the achievement of both the national renewable energy targets and to the United Kingdom (UK's) contribution to global efforts to reduce the effects of climate change, by reducing the UK's GHG emissions from power generation (as detailed in Chapter 21 Climate Change (Document Reference 5.1.21). This contribution to reducing climate change effects will have enhanced environmental benefits. Further opportunities for environmental enhancement undertaken by the Applicant are described in **Section 2**.
	4.6.15	Applications for development consent should be accompanied by a statement demonstrating how opportunities for delivering wider environmental net gains have been considered, and where appropriate, incorporated into proposals as part of good design (including any relevant operational aspects) of the project.	This document satisfies the requirements of paragraph 4.6.15.
	4.6.16	Applicants should make use of available guidance and tools for measuring natural capital assets and	As stated by the Joint Nature Conservation Committee 'The 25 Year Environment Plan' (25

National Policy Statement	Paragraph	Text	Where addressed
		ecosystem services, such as the Natural Capital Committee's 'How to Do it: natural capital workbook', the government's guidance on Enabling a Natural Capital Approach (ENCA), and other tools that aim to enable wider benefits for people and nature.	YEP) places a strong emphasis on the execution of a natural capital approach to achieve its environmental, economic and social targets. It stresses that the value of nature cannot always be quantified or given a monetary value, nor does it need to be, and as such affirms that the natural capital approach is a tool to aid in decision-making. The plan recognises that marine ecosystems do not adhere to territory boundaries and that healthy ecosystems are required to maintain the flow of benefits derived from them. It therefore states the need to work with bordering and international countries to protect natural assets and secure natural capital. Furthering the 25 YEP, the Environmental Improvement Plan (EIP) 2023 reiterates that human health and prosperity rely on "thriving ecosystems".' The Project demonstrates how the aim to maintain healthy ecosystems and enable wider benefits for people and nature through this Environmental Benefit and Net Gain Statement. It is noted that the Environmental Benefits From Nature Tool largely considers terrestrial habitats. Marine habitats included are coastal (at some distance from the windfarm site) or features not present in the windfarm site (biogenic reef and seagrass beds). The comprehensive EIA undertaken for the Project includes assessment of natural assets and systems noting the Enabling Natural Capital

National Policy Statement	Paragraph	Text	Where addressed
			Approach guidance lists marine as one of the 'broad habitat types'. The EIA also facilitates the natural capital approach in identifying natural resources (as done in the EIA baseline), identify threats and opportunities to natural capital (the assessment of effects in the EIA) and considers the available options and opportunities to make improvements (site selection, Project design refinement, development of mitigation and consideration of opportunities for enhancement).
	4.6.3	The Secretary of State should give appropriate weight to environmental and biodiversity net gain, although any weight given to gains provided to meet a legal requirement (for example under the Environment Act 2021) is likely to be limited.	As mentioned above and in the NPS, there is limited application of marine net gain for offshore projects and no requirement for projects to provide marine net gain. Terrestrial biodiversity net gain opportunities have been captured as part of the Transmission Assets project DCO Application, which is delivering a coordinated approach to transmission assets with the Morgan Offshore Wind project. The Applicant has however outlined its approach to environmental net gain opportunities in this Statement in addition to its approach to good design through avoid, minimise and mitigate, throughout the ES.
NPS for Renewable Energy	2.8.73	Applicants should include details on how avoidance has been achieved, good design principles have been followed and provide proposals for mitigation. If the development is in English and Welsh waters, they should also demonstrate that they have considered	The approach to avoid, minimise and mitigate through good design is set out in Section 2 of this document. It is also reflected through the ES, the Design Statement (Document Reference 4.1) and

National Policy Statement	Paragraph	Text	Where addressed
Infrastructure (EN-3)		how their proposals can contribute towards environmental net gain. Further information is provided in Sections 4.3, and 4.5 to 4.7 of EN-1.	the Schedule of Mitigation (Document Reference 5.5).
	2.8.102 (Biodiversity and ecological conservation)	Applicants need to consider environmental and biodiversity net gain as set out in Section 4.6 of EN-1 and the Environment Act 2021.	As mentioned above and in the NPS, there is limited application of marine net gain for offshore projects and no requirement for projects to provide marine net gain. Terrestrial biodiversity net gain opportunities have been captured as part of the Transmission Assets project DCO Application, which is delivering a coordinated approach to transmission assets with the Morgan Offshore Wind project. Opportunities for environmental enhancement undertaken by the Applicant are described in **Section 2.**
	2.8.103	Applicants should assess the potential of their proposed development to have net positive effects on marine ecology and biodiversity, as well as negative effects.	The Applicant has assessed the potential net positive and negative effects to ecology in its ES. The Applicant has sought to avoid, minimise and mitigate the Project's effects through good design. The Project has a net positive benefit on the climate by reducing carbon dioxide emissions in the UK over its lifetime. The Schedule of mitigation minimises negative effects (Document Reference 5.5).
	2.10.128	In England, proposed enhancements should take account of the above factors and as set out in Sections 4.6 and 5.4 of EN-1 aim to achieve environmental and biodiversity net gain in line with the ambition set out in the Environmental Improvement Plan and any relevant	The Project supports the overarching goal of the Environmental Improvement Plan of reducing greenhouse gases. As mentioned above and in the NPS, there is limited application of marine net gain for offshore projects and no requirement for projects to provide

National Policy Statement	Paragraph	Text	Where addressed
		measures and targets, including statutory targets set under the Environment Act or elsewhere.	marine net gain. Terrestrial biodiversity net gain opportunities have been captured as part of the Transmission Assets project DCO Application, which is delivering a coordinated approach to transmission assets with the Morgan Offshore Wind project. Opportunities for environmental enhancement undertaken by the Applicant are described in **Section 2.**

1.3.3 The North West Inshore and North West Offshore Marine Plan

16. The North West Inshore and North West Offshore Marine Plan (NWMP) (HM Government, 2021) has been prepared by the Marine Management Organisation (MMO) for the purposes of section 51 of the Marine and Coastal Access Act (MCAA) 2009.

17. The NWMP introduces a strategic approach to planning within the English inshore and offshore waters between the Solway Firth and River Dee. It provides a clear, evidence-based approach to inform decision-making by marine users and regulators on where, when or how activities might take place within the north west inshore and north west offshore marine plan areas.

18. The PA 2008 provides that in deciding the application the Secretary of State must have regard to the appropriate marine policy documents if applicable. The NWMP is the relevant marine policy document to the Project.

19. A full assessment of the relevant NWMP policies is set out in the Marine Plan Policy Review (Document Reference 4.7).

20. The NWMP notes how net gain for offshore development is not sufficiently advanced and so there are limited policies related to net gain in the NWMP. '*Work to consider how net gain might be delivered in the marine area is in progress but not sufficiently well advanced to include in this marine plan at this time.*'

21. Biodiversity conservation, enhancement and restoration forms part of the vision for the NWMP. The NWMP includes policies that are supportive of offshore wind energy. Policy NW-REN-1 states that '*Proposals that enable the provision of renewable energy technologies and associated supply chains, will be supported*' and policy NW-REW-3 states '*Proposals for the installation of infrastructure to generate offshore renewable energy, inside areas of identified potential and subject to relevant assessments, will be supported*.'

22. The NW MP includes policies of relevance to ENG, which are set out in **Table 1.2**.

Table 1.2 North West Marine Plan policies relevant to ENG

Policy	Text	Where addressed
NW-FISH-3	Proposals that enhance essential fish habitat, including spawning, nursery and feeding grounds, and migratory routes, should be supported.	The Project ES outlines how impacts have been avoided, minimised and mitigated (as detailed in

Policy	Text	Where addressed
NW-BIO-1	Proposals that enhance the distribution of priority habitats and priority species will be supported.	**Section 2.1**). This includes the Underwater Sound Management Strategy (UWSMS) in regard to considerations of fish. Opportunities for environmental enhancement undertaken by the Applicant are described in **Section** Error! Reference source not found.**2.2.2**.
NW-CC-1	Proposals that conserve, restore or enhance habitats that provide flood defence or carbon sequestration will be supported.	
NW-MPA-2	Proposals that enhance a marine protected area's ability to adapt to climate change, enhancing the resilience of the marine protected area network, will be supported.	The Project is sited outside of any marine protected area. Opportunities for environmental enhancement undertaken by the Applicant are described in **Section 2.2.2**Error! Reference source not found., noting the contribution the Project would make to decarbonisation.
NW-BIO-2	Proposals that enhance or facilitate native species or habitat adaptation or connectivity, or native species migration, will be supported.	The Project ES outlines how impacts have been avoided, minimised and mitigated (as detailed in **Section 2.1**). Opportunities for environmental enhancement, including monitoring for non-native species, undertaken by the Applicant are described in **Section 2.2.2**.**Section** Error! Reference source not found..

Policy	Text	Where addressed
NW-BIO-3	Proposals that conserve, restore or enhance coastal habitats, where important in their own right and/or for ecosystem functioning and provision of ecosystem services, will be supported.	The Project ES outlines how impacts have been avoided, minimised and mitigated (as detailed in **Section 2.1**). Opportunities for environmental enhancement undertaken by the Applicant, including sand dune restoration, are described in **Section 2.2.2**.**Section** Error! Reference source not found..

1.3.4 Environment Act 2021

23. The Environment Act 2021 sets out a legal framework for terrestrial projects seeking consent under the Town and Country Planning Act 1990 to achieve a specified level of environmental net gain to their projects and plans. However, these requirements are not yet in place for terrestrial NSIPs, or any marine projects.

24. In the case of marine projects, including marine NSIPs (such as the Project), there is no proposed implementation date for marine net gain requirements, or clarity on whether marine net gain will be mandatory and how it could be delivered. Whilst there are no requirements for marine net gain, Schedule 15 of the Environment Act does include a power for the Secretary of State (SoS) to make regulations to introduce marine net gain requirements in the future.

25. It is recognised that the Department for Environment, Food and Rural Affairs (Defra) has recently published the results of a 'first principles' public consultation on the concepts of marine net gain, including definition, scope, potential interventions and issues around additionality.

26. Given the current timescale of the ongoing government consultation, it is unknown whether there will be any formalisation of the requirement for the delivery of marine net gain within the DCO determination timeframe of the Project. However, the Applicant is committed to engaging positively with ENG initiatives, as set out in **Section 2**.

1.3.5 A Green Future: Our 25 Year Plan to Improve the Environment and Environmental Improvement Plan 2023

27. The Government has set 13 legally binding targets for England under the Environment Act 2021, covering the areas of: biodiversity; air quality; water;

resource efficiency and waste reduction; tree and woodland cover; and Marine Protected Areas. Meeting the legally binding targets will be a shared endeavour that will require a whole of government approach to delivery. The Secretary of State has regard to the ambitions, goals and targets set out in the Government's Environmental Improvement Plan 2023 for improving the natural environment and heritage. This includes having regard to the achievement of statutory targets set under the Environment Act.

28. In the 25 Year Environment Plan, the government set out its vision for a quarter of-a-century action to help the natural world regain and retain good health. A commitment to review the plan every five years was set into law in the Environment Act 2021. The Environmental Improvement Plan was published in 2023, which reinforces/revises the intent of the 25 Year Environment Plan and sets out a plan to deliver on its framework and vision.

29. The government's policy for biodiversity in England is set out in the Environmental Improvement Plan 2023, the National Pollinator Strategy and the UK Marine Strategy. The aim is to halt overall biodiversity loss in England by 2030 and then reverse loss by 2042, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people. This aim needs to be viewed in the context of the challenge presented by climate change. Healthy, naturally functioning ecosystems and coherent ecological networks will be more resilient and adaptable to climate change effects. Failure to address this challenge will result in significant adverse impact on biodiversity and the ecosystem services it provides.

30. Paragraph 5.4.34 of EN-1 requires NSIPs to consider the Environmental Improvement Plan 2023 when considering reasonable opportunities to maximise the restoration, creation, and enhancement of wider biodiversity, and the protection and restoration of the ability of habitats (paragraph 5.4.33), '*Consideration should be given to improvements to, and impacts on, habitats and species in, around and beyond developments, for wider ecosystem services and natural capital benefits, beyond those under protection and identified as being of principal importance. This may include considerations and opportunities identified through Local Nature Recovery Strategies, and national goals and targets set through the Environment Act 2021 and the Environmental Improvement Plan 2023*.'

31. The Environmental Improvement Plan 2023 identifies offshore wind as a critical government priority which will support the UK's transition to net zero and help ensure our future energy security. The Plan notes offshore wind needs to be delivered alongside protection of the ocean and support for its recovery.

32. In particular, the Environmental Improvement Plan 2023 notes the UK Government are implementing a package of measures to enable faster

consenting of offshore wind developments while maintaining high levels of environmental protection.

33. The Project supports the delivery of the Environmental Improvement Plan 2023, specifically through Goal 7: Mitigating and adapting to climate change, and net zero by reducing UK greenhouse gas emissions as detailed in ES Chapter 21 Climate Change (Document Reference 5.1.21).

34. The Project has incorporated other environmental benefits as part of good design which are outlined in this Statement in **Section 2** below.

1.3.6 The Marine Strategy Framework Directive

35. The UK Marine Strategy provides the framework for delivering marine policy at the UK level and sets out how we will achieve the vision of clean, healthy, safe, productive and biologically diverse oceans and seas.

36. The UK Marine Strategy consists of a simple three stage framework for achieving good environmental status (GES) in our seas. Achieving GES is about protecting the marine environment, preventing its deterioration and restoring it where practical, while allowing sustainable use of marine resources.

37. Paragraph 2.8.109 of EN-3 brings the UK Marine Strategy into the NSIP framework by requiring Applicants to have regard to duties in relation to GES of marine waters and marine protected area targets in England. The Project site is outside of any MPA, and as such there are no direct effects on the seabed of any MPA. The Project site is adjacent to Liverpool Bay Special Protection Area (SPA), and other designated sites in the vicinity of the Project include Shell Flat and Lune Deep Special Area of Conservation (SAC), North Anglesey Marine SAC, Fylde Marine Conservation Zone (MCZ) and West of Walney MCZ.

38. The concept of 'good environmental status' is defined by the Marine Strategy Framework Directive through eleven 'Descriptors'. The Applicant has had regard to Good Environmental Status, in line with these Descriptors, throughout the assessments undertaken in the ES, Marine Conservation Zone Assessment (MCZA) (Document Reference 4.13) and Report to Inform the Appropriate Assessment (RIAA) (Document Reference 4.9). This is detailed below against each descriptor, where relevant:

- Descriptor 1: Marine biodiversity - "*Biological diversity is maintained. The quality and occurrence of habitats and the distribution and abundance of species are in line with prevailing physiographic, geographic and climatic conditions*"

  The Project ES, MCZA and RIAA outlines how through the avoid, mitigate and compensate approach that biological diversity is maintained as further set out in **Table Table** 2.1.

Specifically an assessment of effects on marine biodiversity (including identification of appropriate mitigation), including the prevailing physiographic, geographic and climatic conditions, has been undertaken in Chapter 7 Marine Geology, Oceanography and Physical Processes (Document Reference 5.1.7), Chapter 8 Marine Sediment and Water Quality (Document Reference 5.1.8) Chapter 9 Benthic Ecology (Document Reference 5.1.9), Chapter 10 Fish and Shellfish Ecology (Document Reference 5.1.10), Chapter 11 Marine Mammals (Document Reference 5.1.11), Chapter 12 Offshore Ornithology (Document Reference 5.1.12), Chapter 13 Commercial Fisheries (Document Reference 5.1.13), the Report to Inform the Appropriate Assessment (Document Reference 4.9) and the Marine Conservation Zone Assessment (Document Reference 5.1.13).

- Descriptor 2: Non-indigenous species – "*Non-indigenous species introduced by human activities are at levels that do not adversely alter the ecosystems*"

  An assessment of the risk of Invasive Non-Native Species (INNS) introduction is considered in Sections 9.6.3.4 and 9.6.5.5 of Chapter 9 Benthic Ecology (Document Reference 5.1.9). The outline PEMP (Document Reference 6.2) and the draft DCO (Document Reference 3.1) also secure good practice measures to minimise the spread of INNS as outlined in the Project Environmental Management Plan (Document Reference 6.2).

- Descriptor 3: Commercial fish and shellfish - "*Populations of all commercially exploited fish and shellfish are within safe biological limits, exhibiting a population age and size distribution that is indicative of a healthy stock*"

  An assessment of impacts on commercial fish, and identification of mitigation, have been addressed in Chapter 13 Commercial Fisheries (Document Reference 5.1.13) and on shellfish in Chapter 10 Fish and Shellfish Ecology (Document Reference 5.1.10).

- Descriptor 4: Food webs - "*All elements of the marine food webs, to the extent that they are known, occur at normal abundance and diversity and levels capable of ensuring the long-term abundance of the species and the retention of their full reproductive capacity"*

  An assessment of effects to prey species as a result of the Project has been addressed in Chapter 10 Fish and Shellfish Ecology (Document Reference 5.1.10), Chapter 11 Marine Mammals (Document Reference 5.1.11), Chapter 12 Offshore Ornithology (Document Reference 5.1.12), MCZA (Document Reference 4.19) and the RIAA (Document Reference 4.9).

  These assessments were informed by Chapter 7 Marine Geology, Oceanography and Physical Processes (Document Reference 5.1.7), Chapter 8 Marine Sediment and Water Quality (Document Reference 5.1.8) and Chapter 9 Benthic Ecology (Document Reference 5.1.9).

- Descriptor 6: Seabed integrity - "*Sea-floor integrity is at a level that ensures that the structure and functions of the ecosystems are safeguarded and benthic ecosystems, in particular, are not adversely affected*"

  An assessment of impacts on seabed integrity, including the benthic environment, has been addressed in Chapter 7 Marine Geology, Oceanography and Physical Processes (Document Reference 5.1.7) and Chapter 9 Benthic Ecology (Document Reference 5.1.9).

- Descriptor 7: Hydrographical conditions - "*Permanent alteration of hydrographical conditions does not adversely affect marine ecosystems*"

  An assessment of impacts on the hydrographical conditions within the windfarm site and beyond have been addressed in Chapter 7 Marine Geology, Oceanography and Physical Processes (Document Reference 5.1.7).

- Descriptor 8: Contaminants - "*Concentrations of contaminants are at levels not giving rise to pollution effects*"

  An assessment of impacts on concentrations of contaminants from the Project have been addressed in Chapter 8 Marine Sediment and Water Quality (Document Reference 5.1.8). Mitigations are detailed in the outline PEMP (Document Reference 6.2).

- Descriptor 9: Contaminants in seafood - "*Contaminants in fish and other seafood for human consumption do not exceed levels established by Union legislation or other relevant standards*"

  The remobilisation of contaminated sediments during the construction and operation and maintenance phases of the Project was scoped out. A justification is provided in Section 10.6 of Chapter 10 Fish and Shellfish Ecology (Document Reference 5.1.10). Therefore, this is not considered a relevant Descriptor for the Project.

- Descriptor 10: Marine litter - "*Properties and quantities of marine litter do not cause harm to the coastal and marine environment*"

  Environmental management control, including waste management, is detailed in the outline Project Environmental Management Plan (PEMP) (Document Reference 6.2)

- Descriptor 11: Energy, including underwater noise - "*Introduction of energy, including underwater noise, is at levels that do not adversely affect the marine environment*"

  The assessment of effects of underwater noise and vibration on the benthic environment during the operation and maintenance phase is provided in Section 9.6.4.7 of Chapter 9 Benthic Ecology (Document Reference 5.1.9)
  The assessment of effects of underwater noise on fish and shellfish ecology has been addressed in Section 10.6.2-10.6.4 and Section 10.7 of Chapter 10 Fish and Shellfish Ecology (Document Reference 5.1.10). The assessment of effects of underwater noise on marine mammals has been

addressed in Section 11.6.3-11.5.6 and Section 11.7 of Chapter 11 Marine Mammals (Document Reference 5.1.11The assessment of noise on these receptors was informed by Appendix 11.1 Underwater Noise Assessment (Document Reference 5.1.11.1).

Mitigations are secured in the MMMP (Document Reference 6.5) and UWSMS (Document Reference 9.32)

- Climate change - Although not a specific Descriptor set out by the Marine Strategy, climate change is listed as its impacts are of concern for all marine regions. An assessment of impacts on climate change from the Project have been addressed in Chapter 21 Climate Change (Document Reference 5.1.21).

1.3.7 Nationally Significant Infrastructure: action plan for reforms to the planning process

39. The Applicant notes the Nationally Significant Infrastructure: action plan for reforms to the planning process (Ministry of Housing, Communities and Local Government, formally the Department for Levelling Up, Housing and Communities, 2023), published in February 2023, proposed to incorporate biodiversity net gain requirements for all terrestrial NSIPs from November 2025 and develop an approach for marine net gain.

40. However, until this is progressed, the position for NSIPs in England remains unchanged with no current requirements to quantify biodiversity losses and gains through use of a metric. It is recognised that a complementary marine net gain system is under development and Defra has consulted on the principles of marine net gain in English waters (Defra, 2022). The consultation responses confirmed strong support from a wide range of stakeholders for the principles of marine net gain and therefore the government will continue to develop the details of the relevant policy required (Defra, 2023a). Defra will be required to consult again before any policy can be implemented.

41. Given the current timescale of the ongoing government consultation, it is assumed to be unlikely that there will be any formalisation of the requirement for the delivery of biodiversity net gain for offshore NSIPs within the DCO determination timeframe of Morecambe Generation Assets. However, the Applicant is committed to engaging positively with this concept as it becomes stipulated in policy and guidance is made available.

1.3.8 Summary

42. The policies identified above do not provide any statutory requirement to provide ENG or BNG in the marine environment. Due to the entirely offshore nature of the Project, terrestrial BNG requirements do not apply and are proposed to be delivered as part of the coordinated Transmission Assets

project DCO application. However, although the Project is not delivering quantitative net gain measures, it would deliver a range of measures to provide environmental benefit, in accordance with the approach set out in NPS EN-1 and the NWMP. This is in addition to the wider climate benefits of the Project to achieve net zero by 2050 through a reduction in carbon dioxide emissions. Further information is provided in **Section** Error! Reference source not found. below.

2 Biodiversity Benefits

43. The Project has sought to deliver environmental net benefit throughout its planning and development as set out in **Section 2.1** below, and is open to providing additional biodiversity benefit in the post-consent Phase (**Section 0**).

2.1 Application of the mitigation hierarchy and environmental benefit

44. **Table** Table 2.1 sets out the approach that has been applied by the Project, in accordance with NPS EN-1 and the North West Marine Plan. The table also provides information on where additional information can be found within the application documents.

Table 2.1 The Projects approach to mitigation and environmental benefit

Step	Project application	Further information
Avoid	Key design decisions that have been made by the Applicant as a result of the site selection, design and assessment studies, consultation process and feedback received, include: ▪ The windfarm site has been located outside of any environmental designation ▪ The location and extent of the windfarm boundary has been designed to take account of exclusion zones and operations of existing oil and gas infrastructure to successfully coexist with other marine users ▪ The windfarm site area has been reduced using design studies and information from detailed shipping and navigation assessments (including a cumulative regional assessment)	Details of the site selection process can be found in ES Chapter 4 – Site Selection and Assessment of Alternatives (Document Reference 5.1.4) Information on designated sites can be found in the Report to Inform an Appropriate Assessment (RIAA; Document Reference 4.9) and the Marine Conservation Zone Assessment (Document Reference 4.13).

Step	Project application	Further information
	▪ The windfarm site refinement reduces underwater noise impact ranges to the west. Further, piling (if used) would not be undertaken at more than one location at any time by the Project (i.e. no concurrent piling), to reduce underwater noise impacts ▪ The location of the site provides opportunity to avoid sandwaves and minimise associated seabed preparation (due to seabed bathymetry) ▪ Minimum WTG rotor clearance above sea level has been increased from 22m to 25m above HAT to reduce impacts to ornithological receptors ▪ The size of the largest WTG in the application has been reduced, resulting in a reduction in blade tip height ▪ The maximum number of WTGs has been reduced from 40 to 35, reducing the number of foundations potentially interacting with the seabed	
Minimise	The Project has sought to minimise effects on designated sites, habitats and species as far as possible. Measures include: • Development (post-consent) and adherence to an Offshore Construction Method Statement (CMS) which includes a Cable Specification and Installation Plan (CSIP). The CSIP will include cable burial where possible (and backfilling to promote biological recovery) and cable protection to reduce effects of electromagnetic fields and thermal emissions to benthic ecology • Development (post-consent) and adherence to an Offshore CMS, which will include details of scour protection management, to	Further details are available: The draft DCO secures the measures such as the CMS, PEMP, MMMP, UWSMS and air gap. Chapter 6 EIA methodology (Document Reference 5.1.6) outlines how both embedded mitigation in the design of the project and additional mitigation is developed through the EIA process. All proposed mitigation measures are in the Schedule of Mitigation (Document Reference 4.9) Details of how effects have been minimised for ecological topics are in Chapter 5 Project Description (Document Reference 5.1.5) of the Environmental Statement , Chapter 7: Physical processes of

Step	Project application	Further information
	be used around offshore structures and foundations to reduce scour as much as is practical. • Development (post-consent) and adherence to an Offshore CMS which includes a CSIP which requires that material arising from drilling and/or sandwave clearance will be deposited in close proximity to the works and within the licensed disposal area applied for (which is the Project array area) • Development and adherence to an Project Environmental Management Plan (PEMP) which includes a Marine Pollution Contingency Plan to minimise and manage the risk of marine pollution events • Development of and adherence to a MMMP that requires implementation of piling soft start and ramp-up measures to minimise underwater noise effects on marine mammals • Development of and adherence to an Underwater sound management strategy that includes consideration of Noise Abatement Systems (NAS) as part of mitigation options to minimise underwater noise effects on marine mammals and fish • The Applicant has committed to a minimum lower blade tip height (air gap) of 25 m above Highest Astronomical Tide (HAT) to reduce collision risk effects to birds • Development of and adherence to an PEMP that will include measures to avoid and minimise routes that could disturb rafting birds and marine mammals from transiting vessels.	the Environmental Statement (Document Reference 5.1.9), Chapter 9: Benthic subtidal ecology of the Environmental Statement (Document Reference 5.1.9), Chapter 10: Fish and shellfish ecology of the Environmental Statement (Document Reference 5.1.10), Chapter 11: Marine mammals of the Environmental Statement (Document Reference 5.1.11), and Chapter 12: Offshore ornithology of the Environmental Statement (Document Reference 5.1.12).

Step	Project application	Further information
	• Commitment to microsite around sensitive benthic (Annex I reef) features if found to be present	
Mitigate/restore	As part of the Environmental Impact Assessment process, mitigation has been proposed to reduce the potential adverse impacts of the Project.	Details of all proposed mitigation measures are summarised in the Schedule of Mitigation (Document Reference 5.5)
Compensation and environment benefit **a) on site** **b) off-site**	It is noted that the Applicant has provided 'without prejudice' off-site compensation proposals for lesser black-backed gull from Morecambe Bay and Duddon Estuary SPA and Ribble and Alt Estuaries SPA, and red-throated diver from Liverpool Bay SPA. In the event that the Secretary of State deems that one or both of these measures are required, it is expected that they would deliver over-compensation (i.e. net benefit) for any predicted loss. The Applicant is open to considering (post consent) voluntary opportunities for marine biodiversity benefit and will continue to engage with stakeholders to identify possible opportunities.	Details of proposed 'without prejudice' compensation is provided in Habitats Regulations Assessment Without Prejudice Derogation Case (Document Reference 9.3) (lesser black-backed gull) and Habitats Regulations Assessment Without Prejudice Derogation Case – for Liverpool Bay / Bar Lerpwl SPA (Document Reference 9.37) Information on potential additional measures is provided in **Section 2.2.2**.

2.2 Marine biodiversity benefit

45. NPS EN-1 states: 'Currently biodiversity net gain policy in England only applies to terrestrial and intertidal components of projects. Principles for Marine Net Gain are currently being rolled out by the Government, who will provide guidance in due course. There are provisions in the Environment Act 2021 to allow Marine Net Gain to be made mandatory for NSIPs in the future... Energy NSIP proposals, whether onshore or offshore, should seek opportunities to contribute to and enhance the natural environment by providing net gains for biodiversity, and the wider environment where possible.'

46. Whilst there is no legislative requirement to deliver net benefits for biodiversity in the offshore environment, the Applicant will consider emerging policy and guidance from Defra and Natural England as it becomes available. The Applicant will consider the opportunities for marine biodiversity benefit measures listed below, and these opportunities will be discussed with Natural England and other stakeholders, where appropriate, as the Project progresses into the post consent phase. The Applicant also awaits future policy updates and guidance from Defra and Natural England which may influence opportunities for wider marine biodiversity benefit opportunities such as the Marine Recovery Fund (MRF) and development of the marine habitat metric.

2.2.1 Mitigation

47. A range of mitigation measures are proposed by the Applicant during all phases of the development, as set out in the Schedule of Mitigation (Document Reference 5.5) and noted in **Table** Table 2.1.

2.2.2 Additional marine biodiversity benefit

48. In line with government initiated reviews (NGESO, 2022; 2024) to improve the coordination of offshore wind generation connections and transmission networks, the Morecambe Offshore Windfarm and the Morgan Offshore Wind Project (another proposed windfarm to be located in the Irish Sea) will both connect their windfarms to the National Grid electricity transmission network at Penwortham in Lancashire. Given this shared onshore grid connection location, the Morecambe Offshore Windfarm and Morgan Offshore Wind project are working collaboratively to deliver the Transmission Assets associated with both projects and are jointly seeking a single DCO for the Transmission Assets for both projects. This collaboration and co-location between projects has been undertaken with the reduction of environmental and local community impacts in mind, including the design adopting shared offshore and onshore export cable corridors. The coordinated approach also negates the need for each project having separate landfall locations and onshore cable routes, with the associated environmental and local community impacts that individual grid connections would incur at each location.

49. The Transmission Assets for the Project together with the Morgan Offshore Wind Project includes both offshore and onshore components. As such, the approach to terrestrial BNG is considered in the DCO application for the Transmission Assets.

50. In addition to biodiversity benefit, the Project would deliver a range of wider environmental benefits (i.e. ENG), including:

- Renewable energy, carbon savings and contribution to combat climate change (see **Chapter 2 Need for the Project** of the ES (Document

Reference 5.1.2) and **Chapter 21 Climate Change** (Document Reference 5.1.21) as well as the Planning Development Consent and Need Statement (Document Reference 4.8) for further detail)

- Economic and employment benefits (see **Chapter 2 Need for the Project** of the ES (Document Reference 5.1.2) and **Chapter 20 Socio-economics Tourism and Recreation** (Document Reference 5.1.20) for further detail)
- Wider societal public health benefits (**see Chapter 2 Need for the Project** of the ES (Document Reference 5.1.2), **Chapter 19 Human Health** (Document Reference 5.1.19) and **Chapter 20 Socio-economics Tourism and Recreation** (Document Reference 5.1.20) for further detail)

51. Opportunities to enhance benefits are being undertaken by the Applicant as part of the development of the Project; for example, employment benefits are being planned with opportunities for enhancement via the development of an Outline Skills and Employment Plan (Document Reference 6.11).

52. The Applicant is also seeking opportunities to provide benefit to the environment and local communities where feasible and in line with Project objectives. These initiatives are separate, and additional to, compensation plans being considered under the Habitat Regulation Assessment. For example, the Applicant has been involved in the Fylde Sand Dunes Project, participating in a volunteer day led by The Wildlife Trust and the Environment Agency, when donated Christmas trees were strategically placed in front of existing sand dunes in order to trap wind-blown and tidal sand to create the start of new dune ecosystems along the coast. This scheme provides numerous environmental and ecological benefits, such as providing suitable habitat for flora and fauna of international and national importance and these dunes also serve as an effective soft sea defense for the local community. Other opportunities within the design of the Project or as part of existing restoration projects are being explored, which will be considered further post-consent in terms of the level of benefit delivered, feasibility, cost and alignment with the Project objectives.

53. There may also be opportunities to develop or enhance projects to increase the productivity of breeding seabirds, this includes extending projects (or utilising those not required) identified through identified compensation measures through the HRA process.

54. Furthermore, the Applicant is supportive in the role that can be played through environmental monitoring and is seeking opportunities regarding the contribution that can be made in this respect. For example, whilst no significant effects due to Invasive Non-Native Species (INNS) have been identified, the Applicant has committed to monitoring Project infrastructure for INNS (as detailed in the In Principal Monitoring Plan (IPMP) Document Reference 6.4) to further aid the understanding of INNS risk management and

presence in the Irish Sea. In addition, by submitting the data from pre-application monitoring and surveys to the Marine Environmental Data and Information Network (with a commitment made also through the IPMP to share data post consent), the Applicant is contributing to the publicly available scientific evidence base for the Eastern Irish Sea. For example, making ornithological and marine mammal aerial survey data publicly available will help update the models for other local offshore windfarms and provides important information on bird and marine mammal presence in the area to support conservation efforts.

55. The design of the project will be finalised post consent, noting there are opportunities to build in designed to enhance biodiversity such as the design of foundation design, cable and scour protection.

56. As stated above, the Applicant is open to exploring the feasibility of providing additional biodiversity enhancement measures through the delivery of the Project. Examples of such measures could include:

- Monitoring proposals as outlined in the IPMP to develop knowledge on ecological features
- Opportunities to increase the productivity of breeding seabirds
- Opportunies through design such as cable protection designed to enhance biodiversity and foundations and scour protection to enhance biodiversity

57. The Applicant will also continue to monitor development of the MRF, and in particular any levy or contribution-based mechanisms to deliver strategic marine net gain. The Applicant will consult with stakeholders on this matter as appropriate and has held meetings with DEFRA both pre Application and during examination.

58. The Applicant will continue to explore these opportunities as the Project is progressed, and will collaborate with stakeholders as appropriate.

3 Conclusion

59. This document presents the measures being explored through the development of the Project associated with net environmental benefits, including marine biodiversity benefits. These, and other, ENG measures will be considered and developed further in consultation with relevant stakeholders post-consent.

4 References

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