MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Greenhouse Gas (GHG) Reduction Strategy

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Glossary

Term	Meaning
400 kV grid connection cables	Cables that will connect the proposed onshore substations to the existing National Grid Penwortham substation.
400 kV grid connection cable corridor	The corridor within which the 400 kV grid connection cables will be located.
Applicants	Morgan Offshore Wind Limited (Morgan OWL) and Morecambe Offshore Windfarm Ltd (Morecambe OWL).
Climate change	A change in global or regional climate patterns, in particular a change apparent from the mid to late 20th century onwards and attributed largely to the increased levels of atmospheric carbon dioxide produced by the use of fossil fuels.
Commitment	This term is used interchangeably with mitigation and enhancement measures. The purpose of commitments is to avoid, prevent, reduce or, if possible, offset significant adverse environmental effects. Primary and tertiary commitments are taken into account and embedded within the assessment set out in the ES. Secondary commitments are incorporated to reduce effects to environmentally acceptable levels following initial assessment.
Development Consent Order	An order made under the Planning Act 2008, as amended, granting development consent.
Environmental Product Declaration	An Environmental Product Declaration transparently reports objective, comparable and third party verified data about products and services' environmental performances from a lifecycle perspective. It is compliant with the ISO 14025 standard.
Generation Assets	The generation assets associated with the Morgan Offshore Wind Project and the Morecambe Offshore Windfarm include the offshore wind turbines, inter-array cables, offshore substation platforms and platform link (interconnector) cables to connect offshore substations.
Greenhouse gas	A gas that absorbs and emits radiant energy within the thermal infrared range, causing the greenhouse effect. Examples include carbon dioxide and methane.
Intertidal Infrastructure Area	The temporary and permanent areas between MLWS and MHWS.
Landfall	The area in which the offshore export cables make landfall (come on shore) and the transitional area between the offshore cabling and the onshore cabling. This term applies to the entire landfall area at Lytham St. Annes between Mean Low Water Springs and the transition joint bay inclusive of all construction works, including the offshore and onshore cable routes, intertidal working area and landfall compound(s).
Local Authority	A body empowered by law to exercise various statutory functions for a particular area of the United Kingdom. This includes County Councils, District Councils and County Borough Councils.
Maximum design scenario	The realistic worst case scenario, selected on a topic-specific and impact specific basis, from a range of potential parameters for the Transmission Assets.
Mean Low Water Springs	The height of mean low water during spring tides in a year.

Term	Meaning
Morecambe Offshore Windfarm: Transmission Assets	The offshore export cables, landfall and onshore infrastructure required to connect the Morecambe Offshore Windfarm to the National Grid.
Morgan and Morecambe Offshore Wind Farms: Transmission Assets	The offshore and onshore infrastructure connecting the Morgan Offshore Wind Project and the Morecambe Offshore Windfarm to the national grid. This includes the offshore export cables, landfall site, onshore export cables, onshore substations, 400 kV grid connection cables and associated grid connection infrastructure such as circuit breaker compounds. Also referred to in this report as the Transmission Assets, for ease of reading.
Morgan Offshore Wind Project: Transmission Assets	The offshore export cables, landfall and onshore infrastructure required to connect the Morgan Offshore Wind Project to the National Grid.
National Policy Statement(s)	The current national policy statements published by the Department for Energy Security and Net Zero in 2023 and adopted in 2024.
Nationally Determined Contribution	Nationally Determined Contributions are countries' self-defined national climate pledges under the Paris Agreement, detailing what they will do to help meet the global goal to limit global warming to 1.5°C above pre-industrial levels.
Offshore export cables	The cables which would bring electricity from the Generation Assets to the landfall.
Offshore export cable corridor	The corridor within which the offshore export cables will be located.
Offshore Permanent Infrastructure Area	The area within the Transmission Assets Offshore Order Limits (up to MLWS) where the permanent offshore electrical infrastructure (i.e. offshore export cables) will be located.
Onshore export cables	The cables which would bring electricity from the landfall to the onshore substations.
Onshore export cable corridor	The corridor within which the onshore export cables will be located.
Onshore substations	The onshore substations will include a substation for the Morgan Offshore Wind Project: Transmission Assets and a substation for the Morecambe Offshore Windfarm: Transmission Assets. These will each comprise a compound containing the electrical components for transforming the power supplied from the Generation Assets to 400 kV and to adjust the power quality and power factor, as required to meet the UK Grid Code for supply to the National Grid.
Order limits	The limits within which the Transmission Assets may be carried out.
Renewable energy	Energy from a source that is not depleted when used, such as wind or solar power.
Renewable Energy Guarantees of Origin	The scheme provides transparency to consumers about the proportion of electricity that suppliers source from renewable electricity. Certificates can be requested (called REGOs) which demonstrate electricity has been generated from renewable sources.
Substation	Part of an electrical transmission and distribution system. Substations transform voltage from high to low, or the reverse by means of electrical transformers.
Transmission Assets	See Morgan and Morecambe Offshore Wind Farms: Transmission Assets (above).

Term	Meaning
Transmission Assets Order Limits	The area within which all components of the Transmission Assets will be located, including areas required on a temporary basis during construction and/or decommissioning.
Transmission Assets Order Limits: Offshore	The area within which all components of the Transmission Assets seaward of Mean Low Water Springs will be located, including areas required on a temporary basis during construction and/or decommissioning. Also referred to in this report as the Offshore Order Limits, for ease of reading.
Transmission Assets Order Limits: Onshore	The area within which all components of the Transmission Assets landward of Mean High Water Springs will be located, including areas required on a temporary basis during construction and/or decommissioning (such as construction compounds). Also referred to in this report as the Onshore Order Limits, for ease of reading.

Acronyms

Acronym	Meaning
ES	Environmental Statement
GHG	Greenhouse Gas
GWP	Global Warming Potential
HGV	Heavy Goods Vehicle
IPCC	Intergovernmental Panel on Climate Change
LCA	Life Cycle Assessment
NPS	National Policy Statement
REGO	Renewable Energy Guarantees of Origin
UK	United Kingdom
WBCSD	World Business Council for Sustainable Development
WRI	World Resources Institute

Units

Unit	Description
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
GW	Gigawatts
kg	Kilograms

Unit	Description
CO_2	Carbon dioxide
km	Kilometres
m	Metre
m^2	Square Metre
MVA	Megavolt amperes
MW	Megawatt
t	Tonnes

1 Greenhouse Gas (GHG) Reduction Strategy

1.1 Background

1.1.1 Introduction

1.1.1.1 This document forms the Greenhouse Gas (GHG) Reduction Strategy prepared for the Morgan and Morecambe Offshore Wind Farms: Transmission Assets (referred to hereafter as 'the Transmission Assets').

1.1.2 Project overview

1.1.2.1 The key components of the Transmission Assets include the following.

- Offshore:
  - offshore export cables: these export cables will bring the electricity generated by the Generation Assets to the landfall for onward transmission.
- Landfall:
  - landfall site: this is where the offshore export cables are jointed to the onshore export cables via the transition joint bays. This term applies to the entire area between Mean Low Water Springs (MLWS) and the transition joint bays.
- Onshore elements:
  - onshore export cables: these export cables will be jointed to the offshore export cables via the transition joint bays at the landfall site, and will bring the electricity generated by the Generation Assets to the onshore substations;
  - onshore substations: the two electrically separate onshore substations will contain the components for transforming the power supplied via the onshore export cables up to 400 kV; and
  - 400 kV grid connection cables: these export cables will bring the electricity generated by the Generation Assets from the two electrically separate onshore substations to the existing National Grid substation at Penwortham
  - environmental mitigation areas – temporary and/or permanent areas, including accesses identified to provide environmental mitigation only.
  - biodiversity benefit areas - temporary and/or permanent areas, including accesses identified to provide biodiversity benefit only.

1.1.2.2 Details of the activities and infrastructure associated with the Transmission Assets are set out in Volume 1, Chapter 3: Project description of the Environmental Statement (document reference F1.3).

1.1.2.3 The purpose of the Transmission Assets is to connect the Morgan Offshore Wind Project: Generation Assets and Morecambe Offshore Windfarm: Generation Assets (referred to collectively as the 'Generation Assets') to the

National Grid. The Generation Assets are each subject to separate applications for development consent. Further details are provided in Volume 1, Chapter 2: Policy and legislation context.

1.1.3 Purpose of the GHG Reduction Strategy and executive summary

1.1.3.1 This document outlines how the Transmission Project has sought to minimise and offset emissions where appropriate in line with the requirements of National Policy Statement (NPS) EN 1 (DESNZ, 2023) which states:

'*Steps taken to minimise and offset emissions should be set out in a GHG Reduction Strategy, secured under the Development Consent Order. The GHG Reduction Strategy should consider the creation and preservation of carbon stores and sinks including through woodland creation, hedgerow creation and restoration, peatland restoration and through other natural habitats*' [Paragraph 5.3.7 of NPS EN-1].

1.1.3.2 The projects have made a commitment (CoT42 set out within Volume 1, Annex 5.3: Commitments register of the ES (document reference F1.5.3)). It states:

'A Greenhouse Gas (GHG) Reduction Strategy has been prepared and submitted with the application for development consent. The GHG Reduction Strategy outlines options to reduce construction-related emissions.'

1.1.4 Emissions assessment

1.1.4.1 As part of the ES, an assessment of emissions associated with the construction, operation and maintenance, and decommissioning stages of the Transmission Assets has been completed and reported within Volume 4, Chapter 1: Climate change of the ES (document reference F4.1). Due to the nature of the Transmission Assets, i.e., onshore and offshore infrastructure constructed to transport generated electricity from the Generation Assets to the grid, the gross GHG emissions total is dominated by embodied carbon emissions associated largely with the construction stage.

1.1.4.2 This GHG Reduction Strategy considers the emissions reported within the ES, and outlines possible emission reduction measures. Focus will be placed on elements that contribute the greatest amount to project emissions.

1.1.4.3 The purpose of the Transmission Assets is to connect the Generation Assets to the national grid, contributing to:

- the United Kingdom (UK) Government's ambition to deliver 50 GW of offshore wind by 2030;
- securing our energy supply; and
- the UK's response to the climate change crisis.

1.1.4.4 As detailed at **paragraph 1.1.2.3**, the Generation Assets will be consented separately. Therefore, the focus of this Strategy is to minimise emissions resulting from the Transmission Assets.

1.1.4.5 However, given its purpose, the infrastructure for the Transmission Assets would never operate in isolation from the respective Generation Assets related to each offshore wind farm. As such, the whole project assessment for the Transmission Assets with the Generation Assets on the global atmospheric mass of carbon dioxide (CO_2) has been considered within section 1.11 of Volume 4, Chapter 1: Climate change of the ES (document reference F4.1).

1.1.5 Scope

1.1.5.1 The GHGs considered in this strategy are those in the 'Kyoto basket' of global warming gases expressed as their CO_2-equivalent (CO_2e) global warming potential (GWP), listed within Annex A of the Kyoto Protocol (an international treaty to limit and reduce GHGs). This is denoted by CO_2e units in emissions factors and calculation results. GWPs used are typically the 100-year factors in the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (IPCC, 2013) or as otherwise defined for national reporting under the United Nations Framework Convention on Climate Change.

1.1.5.2 The GHG Reduction Strategy illustrates the design considerations made by the Projects to date to reduce GHG emissions, along with further potential opportunities which can be considered through the next stages of the project lifecycle.

1.1.6 Structure of this document

1.1.6.1 **Section 1.2** of this document sets out the standards and guidance that have been used to inform the preparation of this GHG Reduction Strategy.

1.1.6.2 **Section 1.3** of this document reviews the calculated emissions associated with the construction, operation and maintenance, and decommissioning phases of the Transmission Assets.

1.1.6.3 **Section 1.4** of this document outlines the work undertaken so far to minimise GHG emissions and further reduction opportunities to reduce emissions through subsequent stages of the project lifecycle.

1.2 Guidance and standards

1.2.1 Overview

1.2.1.1 The following standards and guidance have been used to inform the preparation of this GHG Reduction Strategy:

- PAS 2080 – Carbon Management in Buildings and Infrastructure (BSI, 2023); and
- Institute of Environmental Management and Assessment (IEMA) Guide: Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance (IEMA, 2022).

1.2.2 PAS 2080

1.2.2.1 There are multiple technical requirements in the PAS 2080:2023 technical standard when considering GHG reduction in infrastructure projects. Key considerations include:

- following the PAS 2080 carbon reduction hierarchy;
- implementing a carbon management process to help an organisation meet the requirements of PAS 2080 when delivering assets and/or programmes of work;
- quantifying, assessing and reporting a scheme's carbon emissions to inform scheme development and overall asset management;
- engaging with other value chain members, as early as possible, in a collaborative way to identify whole life low carbon solutions, including the selection of relevant low carbon materials and products, innovative design solutions and construction methods;
- defining the specific carbon management actions to be undertaken, and the key strategies and approaches to implement the culture and behaviour changes necessary for delivering carbon reduction, specifically:
  - collaborative working across the value chain;
  - implementing the carbon reduction hierarchy when identifying potential opportunities to reduce carbon; and
  - raising major carbon challenges to design development and construction planning, where key carbon risks are identified.

1.2.2.2 This GHG Reduction Strategy follows a data collection and analysis methodology which adheres to the requirements of the PAS 2080 standard. The Strategy assesses carbon use for the whole lifecycle of the project and promotes embodied carbon management and aspirations to achieving carbon reductions.

1.2.3 IEMA guidance on greenhouse gas emissions and evaluating their significance

1.2.3.1 The ability to effect change to achieve GHG emissions reduction for the project naturally reduces over time. This makes it important that the emissions reduction measures are considered from the outset or at the earliest practical point.

1.2.3.2 The need to ensure that GHG mitigation measures are implemented does not end at the pre-application Environmental Impact Assessment (EIA) stage, but extends after consent has been granted for the proposed project, in addition to throughout the project lifetime.

1.2.3.3 The IEMA GHG Management Hierarchy provides a structure set out as eliminate, reduce, substitute and compensate.

1.3 Calculated emissions

1.3.1 Overview

1.3.1.1 An assessment of emissions associated with the Transmission Assets has been completed and reported within Volume 4, Chapter 1: Climate change of the ES (document reference F4.1), considering a maximum design scenario that represents a conservative assessment of associated emissions. Such emissions represent a business-as-usual scenario with no emissions reduction measures.

1.3.1.2 GHG emissions caused by an activity are often categorised into 'scope 1', 'scope 2' or 'scope 3' emissions, following the guidance of the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) Greenhouse Gas Protocol suite of guidance documents (WRI and WBCSD, 2004) where:

- Scope 1 emissions: direct GHG emissions from sources owned or controlled by the Applicant, e.g., from combustion of fuel at an installation.
- Scope 2 emissions: caused indirectly by consumption of purchased energy, e.g., from generating electricity supplied through the national grid to an installation.
- Scope 3 emissions: all other indirect emissions occurring as a consequence of the activities of the Applicant, e.g., in the upstream extraction, processing and transport of materials consumed or the use of sold products or services.

1.3.1.3 Emissions associated with the construction, operation and maintenance, and decommissioning phases are detailed within **sections 1.3.2, 1.3.3,** and **1.3.4** below. Each stage of a project can be attributed to the following life cycle analysis (LCA) stages, which have been referenced throughout the sections below.

- Materials and construction: LCA stages A1-A5.
- Operation and maintenance: LCA stages B1-B5.
- Decommissioning: LCA stages C1-C4.

1.3.1.4 As the Transmission Assets is currently in the relatively early stages of design and development, data related to specific metrics for site-specific design details (including the onshore substations and export cables) are currently unavailable. As such, emissions associated with the Transmission Assets have been calculated via a range of methodologies, including published benchmark carbon intensities and LCA literature, and the application of material or fuel emission intensities to material or fuel quantities. Detailed methodology for the assessment of emissions resulting from the Transmission Assets can be found within Volume 4, Annex 1.1: Greenhouse gas assessment of the ES (document reference F4.1.1).

1.3.2 Construction

1.3.2.1 The maximum estimated GHG emissions anticipated to arise from the consumption of materials and fuels to construct the Transmission Assets are presented in **Table 1.1**. These values are presented in Volume 4, Annex 1.1 and Volume 4, Chapter 1 of the ES (document reference F4.1.1). Additional details on the data, calculations and methodology can be sought from both these documents.

Table 1.1: Estimated construction stage Transmission Assets GHG emissions

LCA Stage	Item	Transmission Assets emissions (tCO_2e)	Percentage contribution to construction-stage emissions for the project
A1-A5	Offshore export cables	30,704	13%
	Offshore export cable protection	11,808	5%
	Landfall (trenchless installation)	26,501	12%
	Onshore substation plant	4,336	2%
	Onshore substation housing buildings	16,732	7%
	Onshore export cable corridor (incl. the associated cable ducting, cable crossings, joint bays, and link boxes)	63,005	27%
	400 kV grid connection cable corridor (incl. the associated cable ducting, cable crossings, joint bays, and link boxes)	24,593	11%
	Transition joint bays	949	<1%
	Helicopter movements	16	<1%
	Vessel movements	6,006	3%
	Traffic movements	45,296	20%
	Land use change	negligible	n/a
	Total	**229,947**	

1.3.2.2 Emissions arising from embodied carbon associated with the materials used to construct the Transmission Assets have been assessed to comprise the majority of construction stage GHG emissions arising from the Transmission Assets. Emissions resulting from the use of fuel (i.e., from helicopter, vessel and traffic movements) have also been assessed as contribution to construction phase emissions.

1.3.2.3 Specifically, emissions associated with the following items comprise the largest contributors to construction stage emissions.

- Onshore export cable corridor (incl. the associated cable ducting, cable crossings, joint bays and link boxes) comprise 27% of construction stage emissions.
- Onshore vehicle movements, comprising 20% of construction stage emissions.
- Offshore export cables comprising 12% of construction stage emissions.

1.3.2.4 These elements are the key emissions sources that should be focussed on when looking to implement GHG reductions, as these have the greatest potential to impact construction phase emissions. Reduction opportunities are further outlined within **section 1.4**.

1.3.2.5 The impact of the construction of the Transmission Assets on existing land use has also been addressed within Volume 4, Chapter 1: Climate change of the ES (document reference F4.1). This accounts for the onshore and offshore habitat and land use change within the Transmission Assets onshore infrastructure area and offshore infrastructure area associated with excavation works, buildings, construction of access roads, installation of onshore and offshore cables and construction compounds. Key consideration has been given to land with high carbon stock such as woodland and peat, and the potential for its disturbance by construction activities.

1.3.2.6 As is detailed within the baseline section (section 6.7) of Volume 3, Chapter 6: Land use and recreation of the ES (document reference F3.6), there was potential for peat to the east and west of Huck Lane, however, surveys conducted in 2024 conclude that the potential peat land is categorised as organic carbon and not peat. Furthermore the desk based assessment (Volume 3, Annex 5.4 of the ES) for the historic environment has stipulated that any buried peat would not be below 2 m and as such, not disturbed by any construction activity. Emissions arising from changing land use have not been considered further.

1.3.3 Operation and maintenance

1.3.3.1 The maximum estimated GHG emissions that are anticipated to arise from the replacement and maintenance of materials and consumption of fuels throughout the operational lifetime of the Transmission Assets (which has been assumed to be 35 years for the purpose of the climate change assessment) are presented in **Table 1.2**. These values are presented in Volume 4, Annex 1.1 (document reference F4.1.1) and Volume 4, Chapter 1 of the ES (document reference F4.1). Additional details on the data, calculations and methodology can be sought from both these documents.

Table 1.2: Estimated operation and maintenance stage Transmission Assets GHG emissions

LCA Stage	Item	Transmission Assets emissions (tCO_2e)	Percentage contribution to construction-stage emissions
B1-B5	Export cable replacement	7,283	9%
	Vessel movements	69,117	90%

LCA Stage	Item	Transmission Assets emissions (tCO_2e)	Percentage contribution to construction-stage emissions
	Helicopter movements	456	1%
	Land use change	Negligible	n/a
	Total	**76,856**	

1.3.3.2 Emissions arising from fuel use by vessel movements have been assessed to comprise the majority of operation and maintenance stage GHG emissions arising from the Transmission Assets (90% of all operation and maintenance phase emissions). As such, this is the key emissions source that should be focussed on when looking to implement GHG reductions.

1.3.3.3 Further reduction measures should also be identified for material replacement of the export cables, which comprises 9% of operation and maintenance phase emissions. Emissions reduction measures are outlined within **section 1.4**, and are closely linked to those detailed for the construction phase given the similarity in emissions sources.

1.3.4 Decommissioning

1.3.4.1 The maximum estimated GHG emissions anticipated to arise from the decommissioning stage of the Transmission Assets are presented in **Table Table 1.3**.

1.3.4.2 Volume 4, Chapter 1 of the ES states that throughout the decommissioning process, it is anticipated that the existing baseline environment, which is not currently believed to be a significant carbon store, would be restored.

Table 1.3: Estimated operation and maintenance stage Transmission Assets GHG emissions

LCA Stage	Item	Transmission Assets emissions (tCO_2e)	Percentage contribution to construction-stage emissions
C1-C4	Vessel and traffic movements	51,318	100%
	Land use change	Negligible	n/a
	Total	**51,318**	

1.4 Reductions opportunities

1.4.1 Overview

1.4.1.1 As outlined within **section 1.2.3**, GHG reduction opportunities identified below follow the GHG management hierarchy (i.e., eliminate, reduce, substitute, and compensate). Priority should be given to emissions removal, followed by carbon and energy reductions (through the optimisation of project design), and then to substitution measures (through the procurement of low carbon products and engaging with suppliers with a low carbon footprint). Finally, having considered and implemented the above steps, offsetting is recommended as a final point of emissions reduction.

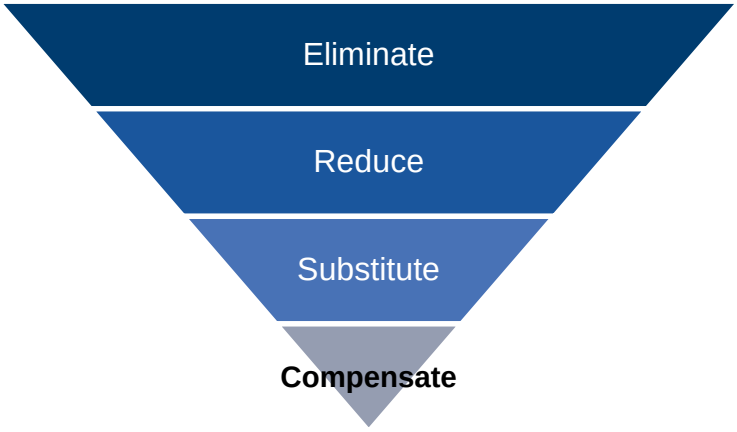

Figure 1: IEMA and PAS 2080 GHG Management Hierarchy

1.4.2 Measures incorporated into the Project design

1.4.2.1 To date, the Applicants have undertaken work which seeks to minimise GHG emissions, as far as practicable. Measures which have been incorporated into the design to avoid or prevent GHG emissions include but are not limited to the following.

- During the route planning and site selection process, the Applicants established principles which guided the onshore infrastructure selection and refinement process. These principles included "*cable routes should be as straight and as direct as possible"* which in turn reduces the materials required and subsequently the GHG emissions associated with them.
- The project has been designed to include a series of temporary compounds along the onshore export cable corridor and the 400kV grid connection cable corridor, as well as at the onshore substation. The siting and design of these will allow the storage of equipment and materials on site, resulting in reduced construction traffic and plant travel. This, in turn, will reduce the traffic movements and associated emissions.

1.4.2.2 Measures are also included in various management plans including but not limited to the following.

- The Applicants are committed to additional planting to further screen the onshore substations, providing areas of environment mitigation and biodiversity benefit. An Outline Landscape Management Plan accompanies the application for development consent (document reference J2). The Outline Landscape Management Plan includes an illustrative landscape strategy plan that identifies areas of landscape mitigation planting at the onshore substation sites. The mitigation planting will be designed to include a mix of faster growing 'nurse' species and slower growing 'core' species. The core species will comprise a mix of preferred native, canopy species that will outlive the nurse species and characterise the woodland structure over the longer term. The additional vegetation planting is likely provide carbon sequestration benefits.
- An Outline Site Waste Management Plan (SWMP) has been developed as part of the Outline CoCP and forms part of the DCO application (document reference J1.6), which will be updated post-consent, and will be maintained during the construction process phases to record the movement of waste from the construction areas. Waste from the construction of the Transmission Assets will be managed in accordance with the principles of the waste hierarchy (i.e., avoid, reduce, reuse, recycle, recover and disposal).

1.4.3 Further reduction opportunities

1.4.3.1 Emissions are mitigated by applying the carbon reduction hierarchy set out above in **section 1.4.1**. Those opportunities at the top of the hierarchy have a greater potential to reduce emissions and are prioritised where practicable. The following reduction opportunities will be considered through subsequent stages of the project lifecycle, where feasible and practicable. with the aim of reducing emissions associated with the Transmission Assets:

Eliminate:

1.4.3.2 Explore alternative lower carbon options to deliver the project objectives, as part of the series of measures outlined in **section 1.4.2**.

Reduce/Substitute:

1.4.3.3 Where practicable, the project teams will be offered carbon management training, covering the carbon management principles. Such training would raise awareness and engagement within project design teams, upskilling and empowering team members to seek carbon reductions during project design and procurement.

1.4.3.4 Apply low carbon solutions (including technologies, materials, and products) to minimise resource consumption during the construction, operation, decommissioning phases of the Project.

1.4.3.5 Seek to procure materials locally, where possible, to minimise transportation emissions.

1.4.3.6 Construct efficiently using techniques (e.g., during construction and operation) that reduce resource consumption over the life cycle of the project.

1.4.3.7 Circular economy considerations would be explored during detailed design stage. Opportunities for potential re-use and recycling of all material assets and waste will be promoted and material use will be managed in order to maximise the re-use of materials associated with the Project.

1.4.3.8 Vehicle movements will be managed through the Construction Traffic Management Plan (document reference: J5), which has the potential to keep emissions as low as possible.

Compensate

1.4.3.9 As outlined in **paragraph 1.4.1.1**, offsetting is recommended as a final point of emissions reduction following the implementation of all other measures to reduce absolute emissions arising from the construction, operation and maintenance, and decommissioning of the Transmission Assets, as outlined above.

1.4.3.10 The nature of the Transmission Assets enables the renewable energy generated by the Morgan Offshore Wind Project and the Morecambe Offshore Windfarm to be transmitted to the UK grid, contributing to national electricity decarbonisation. By facilitating the expansion of renewable energy supply, the Transmission Assets would assist the UK Government target of achieving a fully decarbonisation power system by 2035 and aim to become net zero by 2050.

1.4.3.11 The assessment of emissions arising from the Generation Assets, alongside the Transmission Assets (see Volume 4, Chapter 1 of the ES (document reference F4.1, section 1.13) identifies that the magnitude of calculated avoided emissions over the life-time of the Generation Assets results in significant avoided emissions, which exceed emissions arising from the construction, operation and maintenance, and decommissioning of the Transmission Assets.

1.5 References

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