Offshore Wind Power Limited

West of Orkney Windfarm Offshore EIA Report Addendum

Traffic and Transport Additional Information

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West of Orkney Windfarm

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XODUS

West of Orkney Windfarm

REVISIONS & APPROVALS

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Executive Summary

Offshore Wind Power Limited (OWPL) ('the Applicant') submitted an application for consent of the offshore elements of the West of Orkney Windfarm ('the offshore Project') in September 2023, supported by an Offshore Environmental Impact Assessment (EIA) Report ('the Offshore Application'). This document is an addendum to the Offshore EIA Report and provides the additional information in response to the Additional Information Request and has been prepared by Systra.

Following the review of the Offshore Application and upon receipt of representations from consultees, Marine Directorate – Licensing Operations Team (MD-LOT) issued Additional Information Requests to the Applicant on 8th February 2024 and 8th April 2024. The following key topics were relevant to traffic and transport:

- Provide confirmation that there will be no onshore traffic and transport impacts from the offshore works;
- If there will be onshore traffic and transport impacts from the offshore works then an assessment of the onshore effects of the construction, operation and maintenance and decommissioning of the offshore elements in relation to traffic and transport should be submitted; and
- A supporting Abnormal Loads Assessment must be undertaken considering the full extent of the proposed abnormal loads route, should there be a requirement to move abnormal loads on the trunk road network.

All major components of the offshore infrastructure will be delivered by marine transportation vessels either directly from the site of manufacture or fabrication to the offshore Project area, or via the marshalling construction and/or assembly ports. Although all major offshore components will be transported to site by sea, there will be onshore vehicular movements associated with the activities taking place at the construction and/or assembly ports (and the operations and maintenance port but to a lesser extent). An evaluation of traffic and transport impacts associated with the offshore Project has been conducted. The anticipated traffic generated by the offshore Project has been compared against the estimated baseline traffic. The exact ports to be used during the construction phase of the offshore Project were not known so a short list of ports and airports have been considered.

The construction phase of the offshore Project will result in a short term and temporary increase in traffic movements, including cars, vans and Heavy Goods Vehicles (HGVs) to and from the selected ports and airports. Other ports may be used to support the offshore Project construction, though this would be on an ad-hoc and infrequent basis. The majority of traffic movements will be dispersed on the road network and imperceptible from daily variations in traffic or existing travel patterns to established destinations which are already operating under existing planning consents. The increase in overall traffic volumes for construction traffic movements, particularly HGVs, is not considered to be significant in terms of the DfT and IEMA guidance. The road traffic generated by the offshore Project during the construction phase will not generate more than 30 HGV movements per hour and will not result in a 30% increase to baseline numbers. The greatest increase, assuming a worst case scenario, is estimated to be around 7-8% on the A859 at the Stornoway Deep Water Terminal, Lewis or on the A961 at the Scapa Flow Deep Water Quay, Orkney. It should be noted that neither of these roads are not trunk roads. Traffic increase on the trunk road network is not expected to be more than 2% at any location.

During both the construction and operations and maintenance stages of the offshore Project, it is not anticipated that any abnormal load deliveries associated with the major components for the offshore Project will be transported by road. As such an Abnormal Loads Assessment is not required.

The Additional Information has been shared with Transport Scotland, who have confirmed (by written letter date 1st July 2024) that there will be no objection to the Offshore Application subject to a condition to submit a Construction Traffic Management Plan (CTMP) prior to the commencement of the Project.

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1 INTRODUCTION

Offshore Wind Power Limited (OWPL) ('the Applicant') is proposing the development of the West of Orkney Windfarm ('the Project'), an Offshore Wind Farm (OWF), located at least 23 kilometres (km) from the north coast of Scotland and 28 km from the west coast of Hoy, Orkney.

The Applicant submitted an application for consent under Section 36 of the Electricity Act 1989 and Marine Licences under Part 4 of the Marine (Scotland) Act 2010 and the Marine and Coastal Access Act 2009 to Scottish Ministers in September 2023 ('the Offshore Application') for the offshore components of the Project seaward of Mean High Water Springs (MHWS) ('the offshore Project'). The offshore Project will consist of Wind Turbine Generators (WTGs) and all infrastructure required to transmit the power generated by the WTGs to shore.

In accordance with relevant EIA Regulations[1], an Offshore Environmental Impact Assessment (EIA) Report was submitted to Marine Directorate – Licensing Operations Team (MD-LOT) as part of the Applicant's Offshore Application. Following the review of the Offshore Application, and upon receipt of representations from consultees, MD-LOT issued Additional Information Requests to the Applicant on 8th February 2024 and 8th April 2024, requesting the following information in relation to traffic and transport:

- Provide confirmation that there will be no onshore traffic and transport impacts from the offshore works;
- If there will be onshore traffic and transport impacts from the offshore works then an assessment of the onshore effects of the construction, operation and maintenance and decommissioning of the offshore elements in relation to traffic and transport should be submitted; and
- A supporting Abnormal Loads Assessment must be undertaken considering the full extent of the proposed abnormal loads route, should there be a requirement to move abnormal loads on the trunk road network.

Consultation has been carried out following the submission of the Offshore Application and in the process of development of this Additional Information document. Systra consulted with Transport Scotland on the scope of the work to be undertaken. The findings of the work were then shared with Transport Scotland in July 2024.

This document is an addendum to the Offshore EIA Report and provides the additional information in response to the Additional Information Request and has been prepared by Systra.

[1] *The relevant EIA Regulations include the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017, the Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017, and the Marine Works (Environmental Impact Assessment) Regulations 2007.*

2 STRUCTURE OF THIS DOCUMENT

This document has been structured as follows:

- Section 3 – summary of the Additional Information Request and other relevant specific clarification points from consultees;
- Section 4 – additional information;
- Section 5 - summary and conclusions;
- Section 6 – references; and
- Section 7 – acronyms.

3 REQUEST FOR ADDITIONAL INFORMATION

MD-LOT requested that further information be submitted in line with Transport Scotland's responses to the Offshore EIA Report. A summary of the key points raised by Transport Scotland and MD-LOT in relation to Traffic and Transport are presented in Table 3-1, along with a response where suitable or cross references where further information has been provided within this document.

Table 3-1 MD-LOT and Transport Scotland request for Additional Information relevant to traffic and transport

REQUEST	RESPONSE
Provide confirmation that there will be no onshore traffic and transport impacts from the offshore works; **If there will be onshore traffic and transport impacts from the offshore works then an assessment of the onshore effects of the construction, operation and maintenance and decommissioning of the offshore elements in relation to traffic and transport should be submitted.**	All major components will be delivered by marine transportation vessels either directly from the site of manufacture or fabrication to the offshore Project area, or via the marshalling construction and/or assembly ports. Although all major offshore components will be transported to site by sea, there will be onshore vehicular movements associated with the activities taking place at the construction and/or assembly ports (and the operations and maintenance port but to a lesser extent). These movements have been considered within an evaluation of traffic and transport impacts associated with the offshore Project within section 4. The majority of traffic movements will be dispersed on the road network and imperceptible from daily variations in traffic or existing travel patterns to established destinations which are already operating under existing planning consents. The increase in overall traffic volumes for construction traffic movements, particularly HGVs, is not considered to be significant in terms of the DfT and IEMA guidance see section 4.5.
A supporting Abnormal Loads Assessment must be undertaken considering the full extent of the proposed abnormal loads route, should there be a requirement to move abnormal loads on the trunk road network.	During both the construction and operation and maintenance stages of the offshore Project, it is not anticipated that any abnormal load deliveries associated with the major components for the offshore Project will be transported by road. As such an Abnormal Loads Assessment is not required.
Advisory notes were also provided by Transport Scotland regarding requirements relating to works within the trunk road boundary	These advisory notes on works within the trunk road boundary are acknowledged and will be considered.

4 ADDITIONAL INFORMATION

4.1 Overview

This section provides an evaluation of traffic and transport impacts associated with the offshore Project, as per the request made by MD-LOT within the Additional Information Request and in order to address Transport Scotland's comments on the Offshore Application (Table 3-1). The overall objective is to set out the indicative people and vehicle movements associated with the offshore Project and set out any potential mitigation measures required resulting from the construction of the offshore Project.

Major offshore Project components will be transported by sea from their point of fabrication to offshore installation locations (within the offshore Project area) either directly or via a marshalling/assembly port. They will not be transported by road. As such, there is no requirement to consider any road traffic movements associated with delivery of WTGs, fixed-bottom foundations, subsea cables, or Offshore Substation Platforms (OSPs). Whilst the major components will be delivered by sea there will be road traffic movements arising from the installation of these components.

This evaluation does not consider any works associated with the construction of the onshore Project, which are not relevant to the Offshore Application. The onshore Project (i.e. the onshore components of the Project landward of Mean Low Water Springs (MLWS)) is subject to a separate planning application for Planning Permission in Principle, where traffic and transport matters have been agreed in full. This evaluation also does not consider the Operation and Maintenance stage of the development as the impact of this stage is anticipated to be lesser than the construction stage.

Given the nature of the offshore construction works, the primary focus is on the movement of people (and associated transport mode), supplies, equipment and waste to and from the various ports and airports that have been identified for potential utilisation during the construction stage.

4.2 Guidance and methodology

The following guidance documents have been considered:

- Transport Scotland (TS), Transport Assessment Guidance;
- Institute of Highways and Transportation (IHT), Guidelines for Traffic Impact Assessment (1998); and
- The Institute of Environmental Assessment (IEMA) Guidelines for the Environmental Assessment of Traffic and movement (2023).

The IEMA guidelines suggest two broad principles to be used as a screening process to delimit the scale and extent of any assessment. The IEMA guidelines state:

- "Rule 1 - include road links where traffic flows are predicted to increase by more than 30% (or where the number of heavy goods vehicles is predicted to increase by more than 30%); and
- Rule 2 - include any other specifically sensitive areas where traffic flows are predicted to increase by 10% or more".

It is noted that there is no need to undertake an assessment of environmental impacts as part of this evaluation, but it is useful to compare traffic levels against the IEMA thresholds to establish the level of impact and the potential need for further mitigation.

The anticipated traffic generated by the offshore Project can be compared against the estimated baseline traffic. If the IEMA thresholds have not been exceeded, the significance of the effects can be considered to be low or not significant and further detailed assessments and mitigation are not warranted.

Existing traffic levels for the roads in the vicinity of the ports and airports have been established from Department for Transport (DfT) traffic counts. Traffic count locations on trunk roads closest to the ports and airports have been used to indicate the typical baseline traffic volumes.

Because baseline traffic levels are forecast to increase, these must be extrapolated to the anticipated year in which construction works will begin (estimated to be 2028). This calculation is performed using the National Roads Traffic Forecasting (NRTF) low growth factor between the count year and the worst case 2028 year.

4.3 Construction activities and vehicle movements

4.3.1 Introduction

The exact ports to be used during the construction phase of the offshore Project are not yet known. This section gives an overview of potential viable options and the associated activities.

4.3.2 Main ports and airports

This section is intended to provide an overview of the focal points for construction related traffic movements. The following paragraphs outline the various ports and airports which could potentially be utilised during construction of the offshore Project (see Figure 4-1), their roles in the construction phase and the trunk roads which serve them.

It should be noted that the final list of construction ports and airports cannot yet be confirmed, and this document presents a shortlist of those which could potentially be used. The traffic implications described later in this document represent a worst case for each potential location.

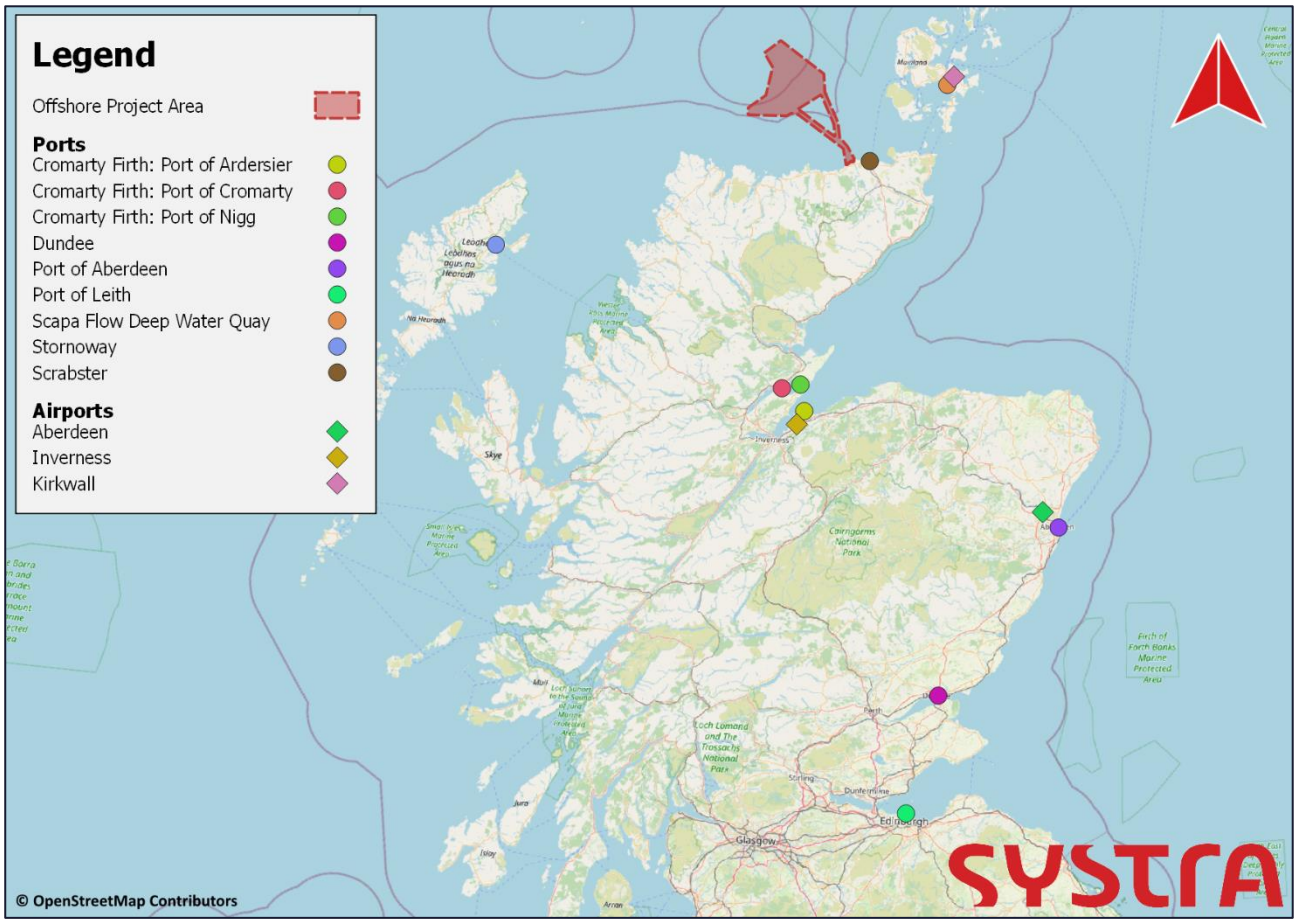

Figure 4-1 Offshore Project area and potential ports and airports

4.3.2.1 Scapa Flow Deep Water Quay, Orkney

The proposed Scapa Flow Deep Water Quay is located on the Orkney Mainland approximately 7 km south of Kirkwall and 1 km west of the A961. The port is currently the subject of an ongoing planning application for the following:

"The creation of a 575 m of quayside with water depth of -15 m CD, plus a 110 m x 75 m quay extension with water depth of -20 m CD and formation of 18 hectares of laydown area (not including the quay areas). The proposals also include the access road leading from the A961 to the laydown area."

An approximate location plan for the site, which will be run by the Orkney Islands Council (OIC) Harbour Authority, is indicated by Figure 4-2.

Figure 4-2 Scapa Flow Deep Water Quay, Orkney location plan (approximate)

If consented and constructed in a suitable timeframe, the Scapa Flow Deep Water Quay would be the closest port to the offshore Project. The port may be used for marshalling, construction, pre-assembly and logistics. The roads serving the port facility are all part of the local road network and there are no trunk roads on the Orkney Islands.

WTG components would be delivered by sea from fabrication sites to a laydown area within the port for pre-assembly. WTG components would then be transported to the offshore Project area by the installation vessel.

The main traffic movements generated by activity at the port would be associated with the workforce undertaking WTG pre-assembly or foundations preparatory works onshore, and crew transfers alongside[2] to and from offshore construction vessels. Although it is noted that the majority of crew transfer would occur by helicopter, a smaller number of trips would be associated with the delivery of supplies and plant and transport of vessel waste away from the port.

[2] *'Crew transfers alongside' refer to those made within port.*

4.3.2.2 Cromarty Firth: Port of Nigg

The Port of Nigg is located approximately 2 km north of the town of Cromarty on the Cromarty Firth in the Scottish Highlands. The port has a proven track record of delivering port logistics to offshore renewable projects. The port may be utilised for marshalling, construction, pre-assembly and logistics. The Port of Nigg could be used in addition to or in place of other suitable ports to undertake the activities identified.

The port is served directly by the B9175 which provides access to the A9 approximately 9.5 km north of the port. The A9 is a major trunk road between Falkirk and Thurso. A location plan of the Port of Nigg is indicted by Figure 4-3.

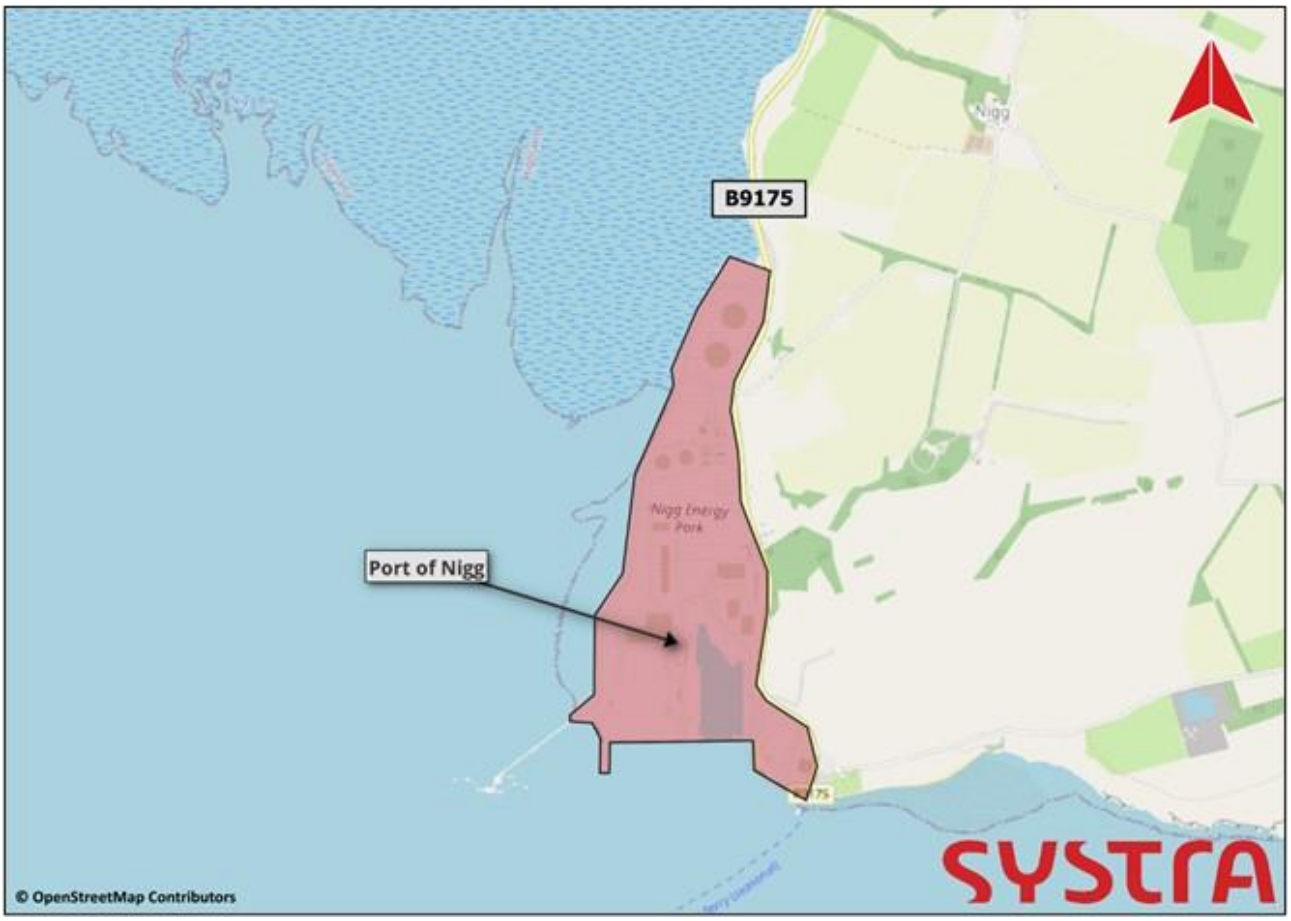

Figure 4-3 Port of Nigg location plan

The main traffic movements generated by activity at the port would be associated with the workforce undertaking WTG pre-assembly and/or foundations preparatory works onshore, and crew transfers alongside to and from offshore construction vessels. Although it is noted that the majority of crew transfer would occur by helicopter, a smaller number of trips would be associated with the delivery of supplies and plant and transport of vessel waste away from the port.

4.3.2.3 Cromarty Firth: Port of Cromarty

The Port of Cromarty is located in the town of Invergordon on the Cromarty Firth in the Scottish Highlands. The port has a proven track record of delivering port logistics to offshore renewable projects. The port may be utilised for marshalling, construction, pre-assembly and logistics. The Port of Cromarty could be used in addition to or in place of other suitable ports to undertake the activities identified.

The port is served directly by the B817 which provides access to the A9 approximately 5.1 km north of the port. The A9 is a major trunk road between Falkirk and Thurso. A location plan of the Port of Cromarty is shown in Figure 4-4.

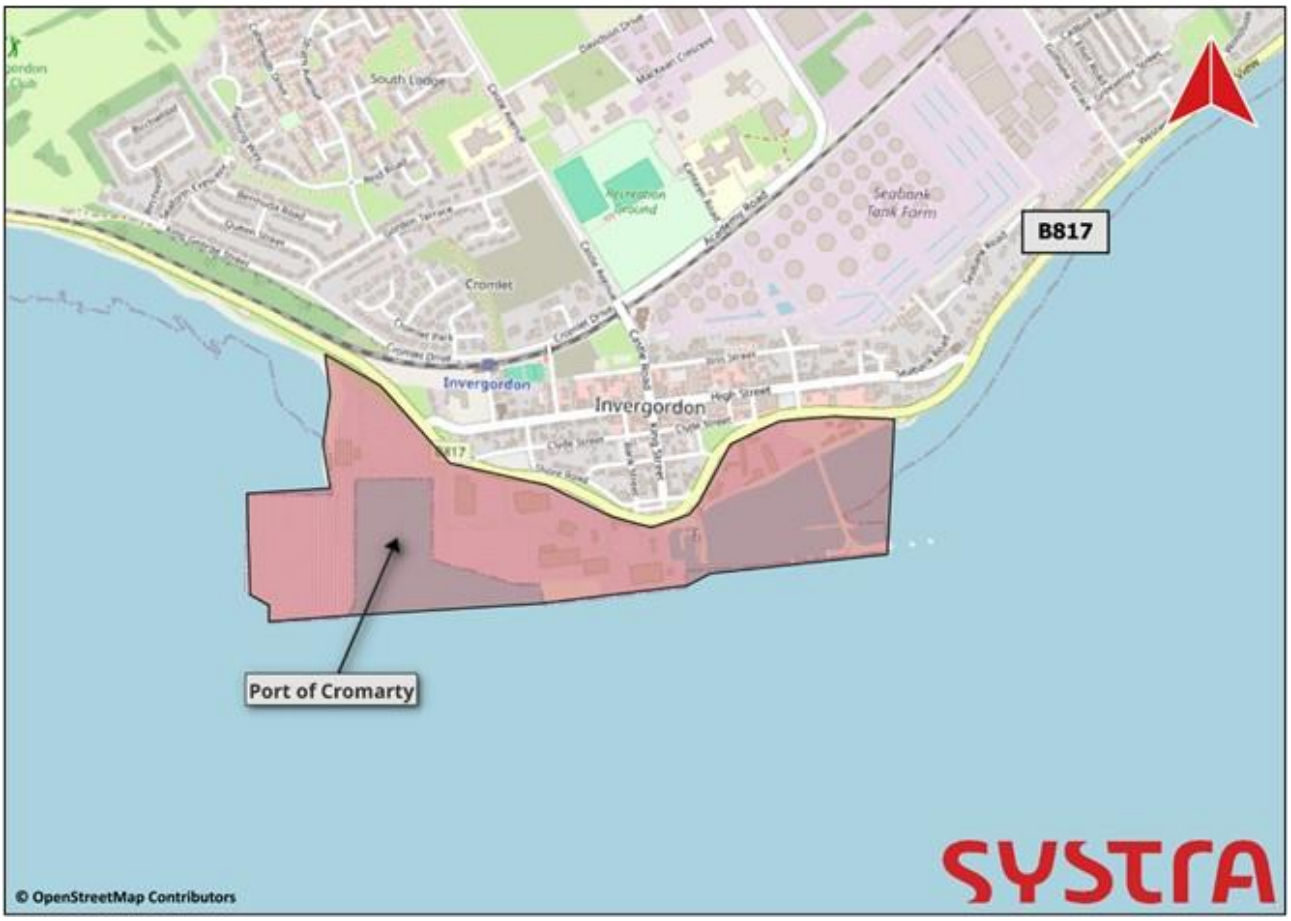

Figure 4-4 Port of Cromarty location plan

The main traffic movements generated by activity at the port would be associated with the workforce undertaking WTG pre-assembly and/or or foundations preparatory works onshore, and crew transfers alongside to and from offshore construction vessels. Although it is noted that the majority of crew transfer would occur by helicopter, a smaller number of trips would be associated with the delivery of supplies and plant and transport of vessel waste away from the port.

4.3.2.4 Cromarty Firth: Port of Ardersier

The Port of Ardersier is currently being redeveloped by Haventus to make it a leading energy transition facility to support the growing energy transition industry in the Cromarty Firth. The port is located approximately 7.5 km west of Nairn and 18.5 km northeast of Inverness. The port is currently scheduled to open in 2025.

The site is served by the A96 via a private access and an unclassified road. The A96 is a key link between Aberdeen and Inverness. An indicative location plan for the Port of Ardersier is indicted by Figure 4-5 .

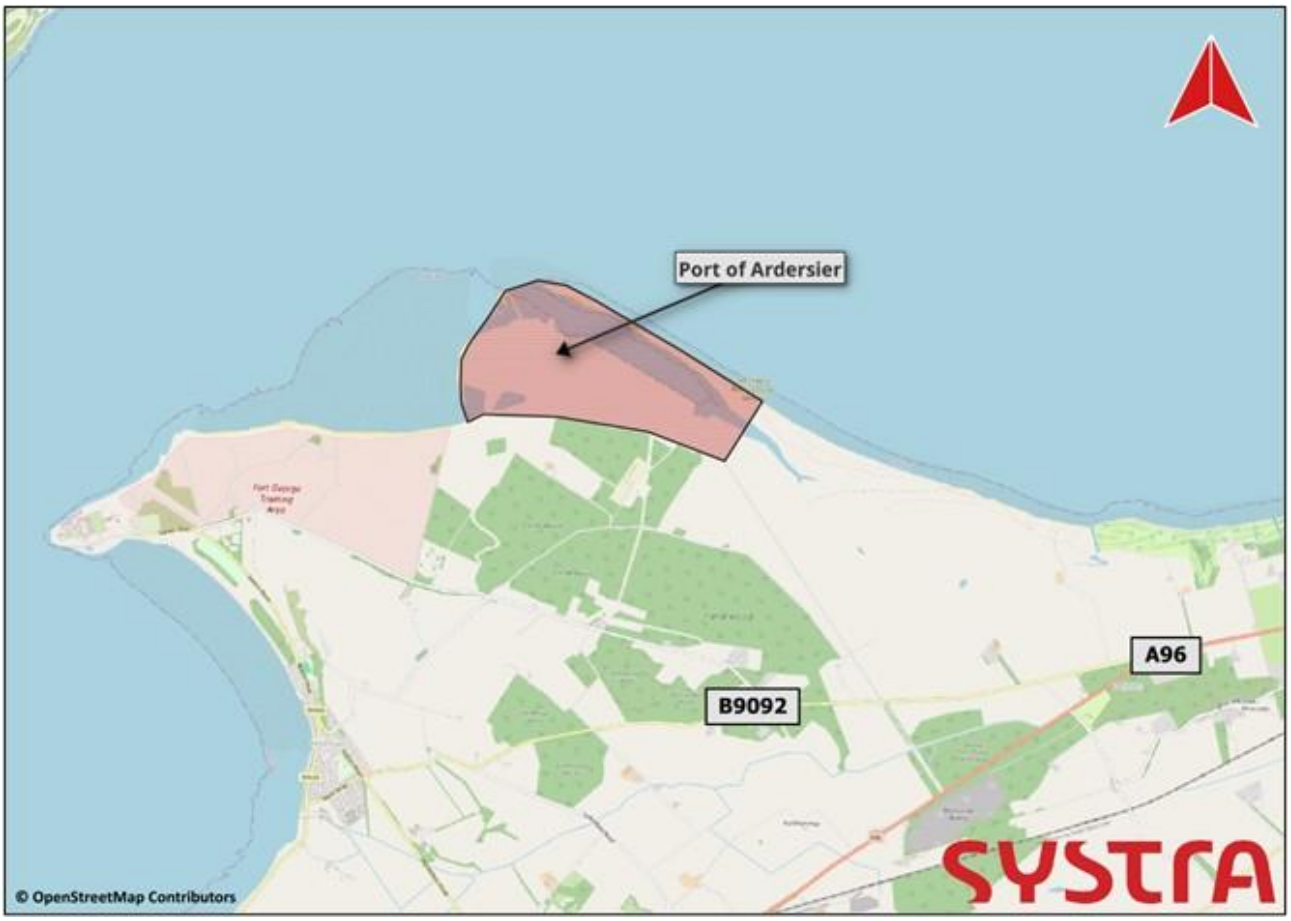

Figure 4-5 Port of Ardersier location plan

The Port of Ardersier could be used in addition to or in place of other suitable ports to undertake the activities identified. The main traffic movements generated by activity at the port would be associated with the workforce undertaking WTG pre-assembly and/or foundations preparatory works onshore, and crew transfers alongside to and from offshore construction vessels. Although it is noted that the majority of crew transfer would occur by helicopter, a smaller number of trips would be associated with the delivery of supplies and plant and transport of vessel waste away from the port. It is expected that the traffic would disperse both east and west on the A96 trunk road.

4.3.2.5 Port of Aberdeen

The Port of Aberdeen is located in the centre of Aberdeen and is served primarily by the A96 and the A956. The Port of Aberdeen could be used in addition to other suitable ports to undertake the activities identified. Although, there is a lesser preference to utilise the Port of Aberdeen due to its distance from the offshore Project area. A location plan of the Port of Aberdeen is indicated by Figure 4-6.

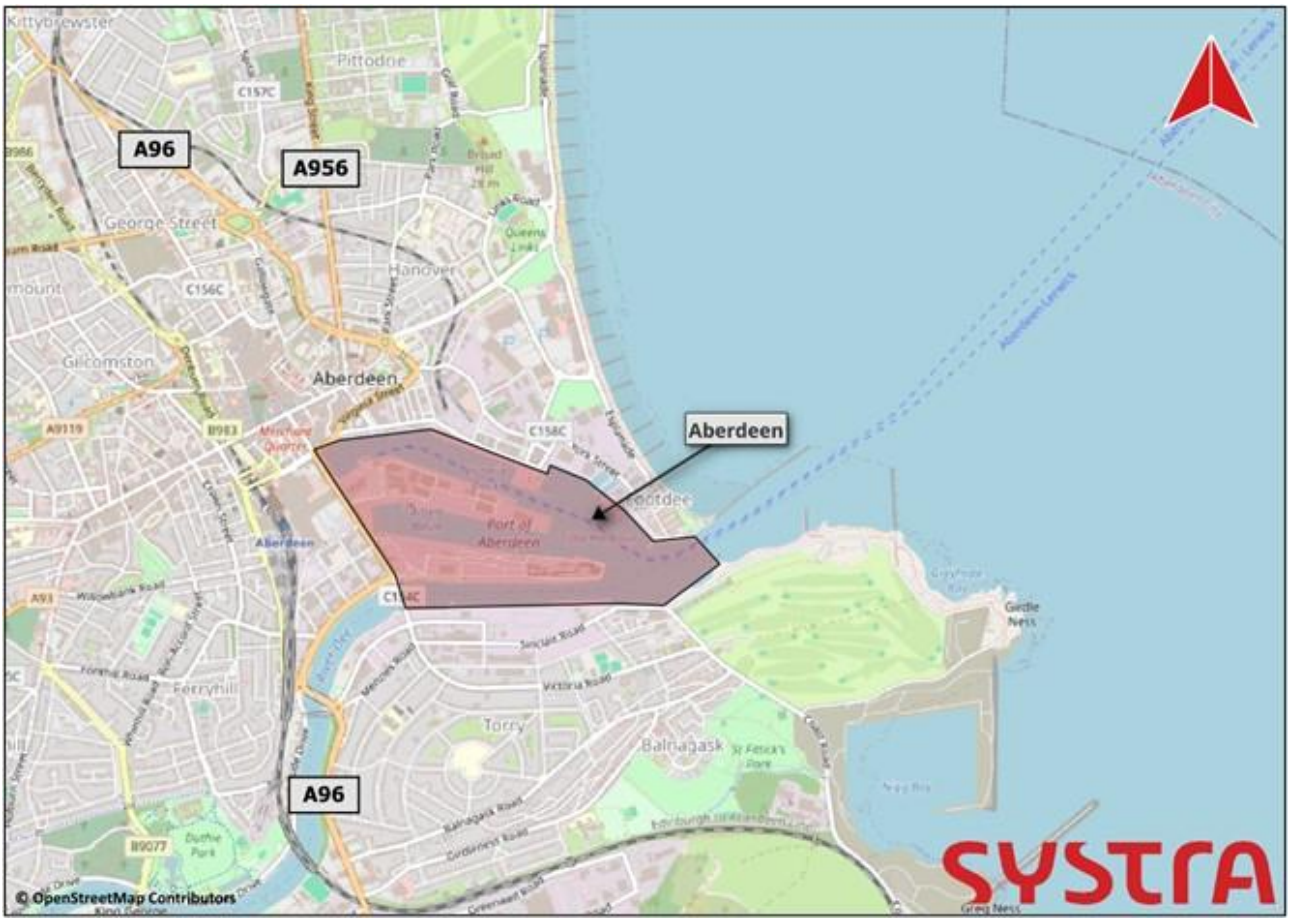

Figure 4-6 Port of Aberdeen location plan

The site is unsuitable for marshalling or pre-assembly activities. Therefore, the main traffic movements generated by activity at this port would be associated with logistics and supply operations.

4.3.2.6 Deep Water Terminal, Stornoway

The Deep Water Terminal in Stornoway, Outer Hebrides is currently nearing completion. The port is located approximately 1.6 km south of the town of Stornoway on Lewis and Harris. The port is served by the A859 via the existing Arnish Port access road. The A859 is part of the local road network and there are no trunk roads on Lewis.

The Deep Water Terminal could be used in addition to or in place of other suitable ports to undertake the activities identified. Although, there is a lesser preference to utilise the Deep Water Terminal due to its distance from the offshore Project area. A location plan of the Deep Water Terminal is shown in Figure 4-7.

Figure 4-7 Deep Water Terminal, Stornoway location plan

4.3.2.7 Port of Leith

The Port of Leith is located in the Leith area to the north of Edinburgh. The port is served by the A901 and the A199 to the west and east, respectively. A location plan of the Port of Leith is shown in Figure 4-8.

The nearest trunk roads to the port are the A720 City Bypass, the A1 and the A68 with the nearest connection for all three routes being to the east of the port via the A199 and the local authority controlled section of the A1.

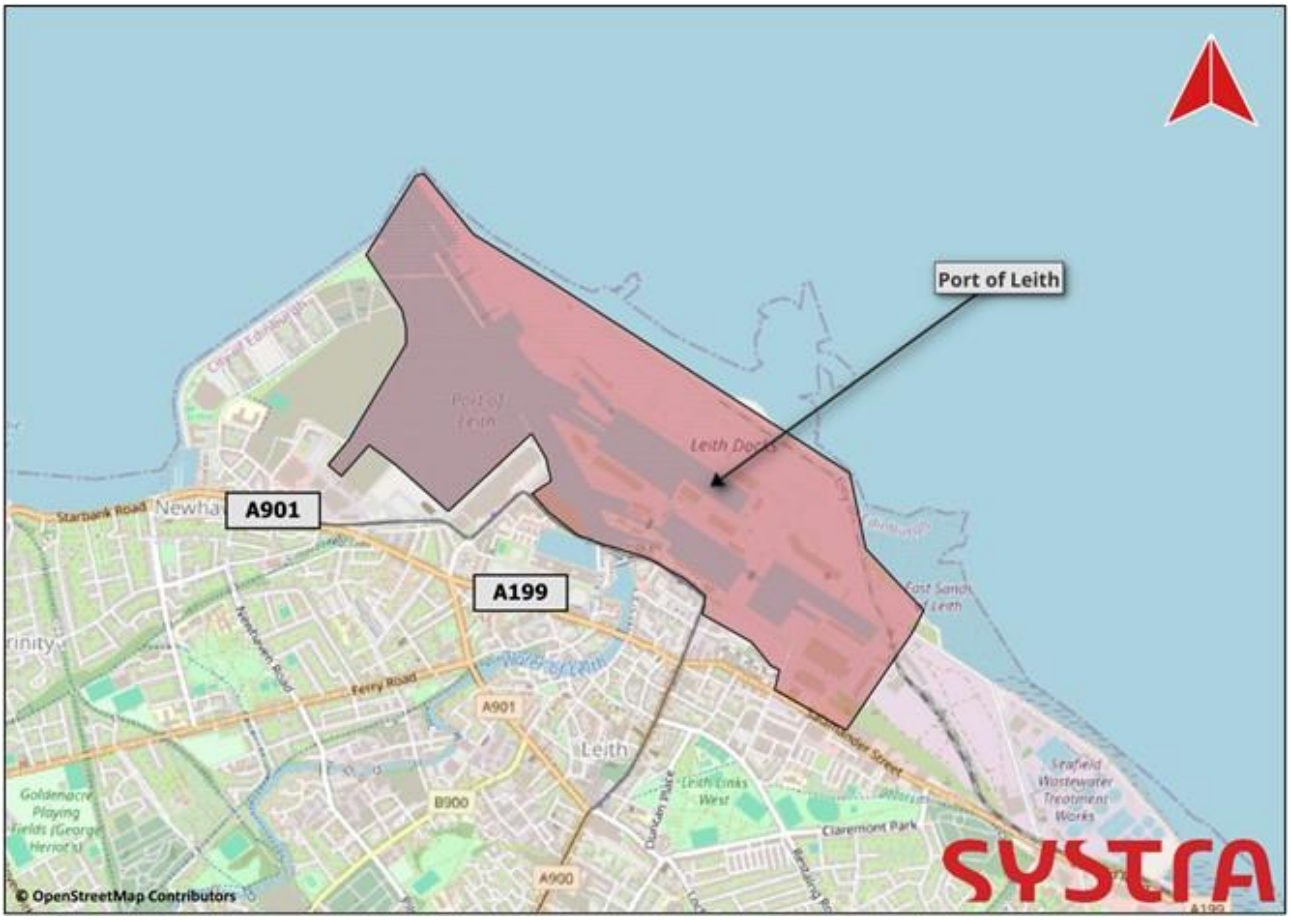

Figure 4-8 Port of Leith location plan

The Port of Leith could be used in addition to or in place of other suitable ports to undertake the activities identified. Although, there is a lesser preference to utilise the Port of Leith due to its distance from the offshore Project area.

4.3.2.8 Port of Dundee

The Port of Dundee is situated to the east of Dundee City Centre, approximately 3 km along the A92 East Dock Street from the northern side of the Tay Bridge. The site is also served by the A923 and the A85. The Port of Dundee is operated by Forth Ports. The port has a proven track record of delivering port logistics to offshore renewable projects. A location plan of the port is shown in Figure 4-9.

Figure 4-9 Port of Dundee location plan

The Port of Dundee could be used in addition to or in place of other suitable ports to undertake the activities identified. Although, there is a lesser preference to utilise the Port of Dundee due to its distance from the offshore Project area.

4.3.2.9 Scrabster Harbour

Scrabster Harbour is located approximately 2.4 km north of the town of Thurso in the Scottish Highlands. The port is located 8.5 km east of the point where the offshore Export Cable Corridor (ECC) makes landfall. The A9 trunk road serves the port of Scrabster.

A location plan of Scrabster Harbour is indicated by Figure 4-10.

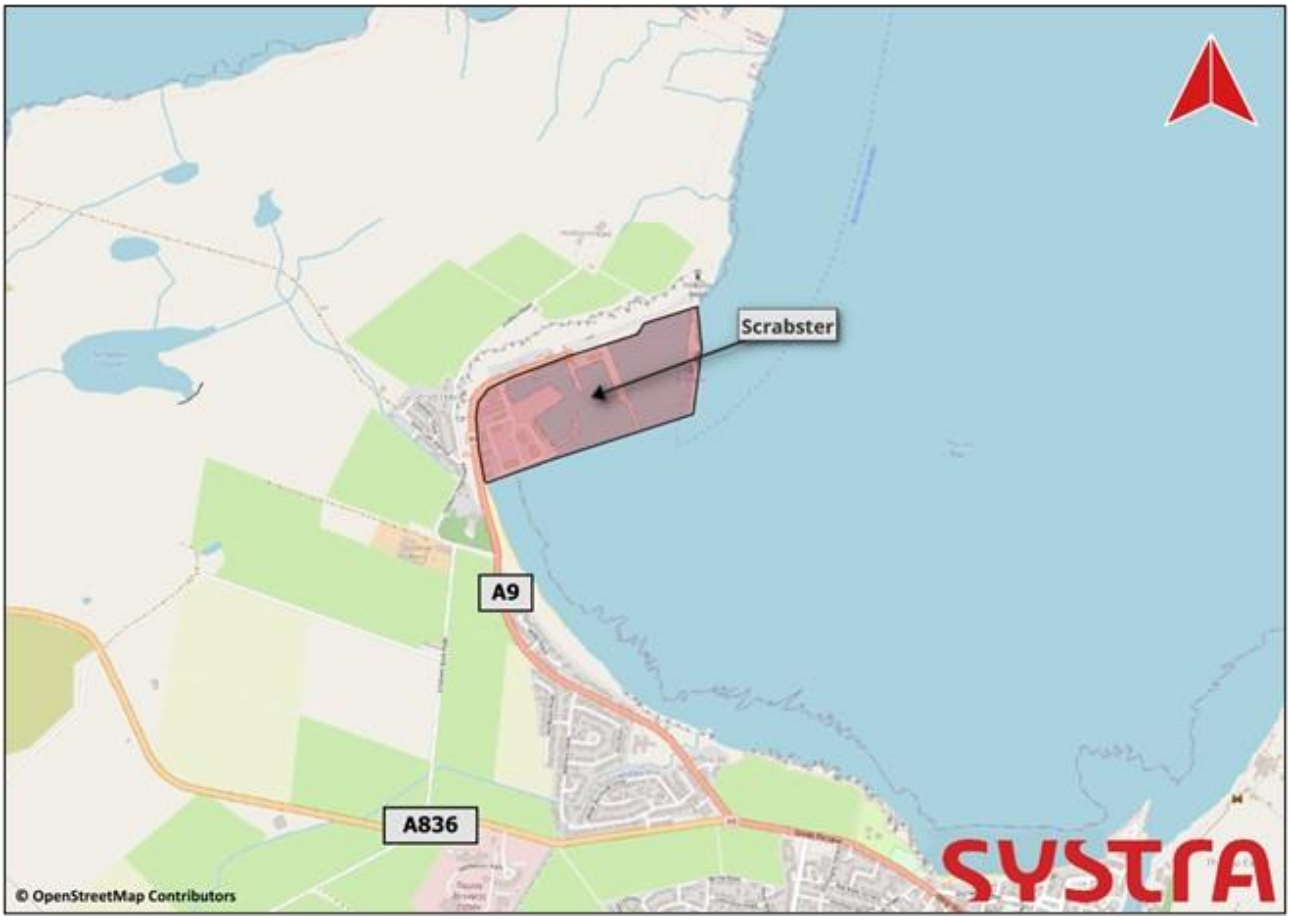

Figure 4-10 Scrabster Harbour location plan

Scrabster Harbour has been identified as a port which may be used for supply or logistics operations and/or limited commissioning works, likely alongside other suitable ports.

4.3.2.10 Kirkwall Airport

Kirkwall Airport is located 3.8 km southeast of Kirkwall on the Orkney Mainland. The airport is operated by Highlands and Islands Airports Limited (HIAL) and is primarily used by Loganair. The airport is served primarily by the A960, which runs between Kirkwall and Gritley. A location plan of the airport is shown in Figure 4-11.

Figure 4-11 Kirkwall Airport location plan

The main traffic movements generated by activity at the airport would be associated with the transfer of crew to the offshore Project area by helicopter or to support personnel logistics to nearby ports. Kirkwall Airport is the closest feasible airport to the offshore Project area, located approximately 73 km to the east.

4.3.2.11 Inverness Airport

Inverness Airport is located approximately 12.4 km northeast of the city of Inverness. The airport is operated by HIAL and utilised by a number of airlines. The airport is served primarily by the A96 trunk road via a number of access roads. A location plan of the airport is shown in Figure 4-12.

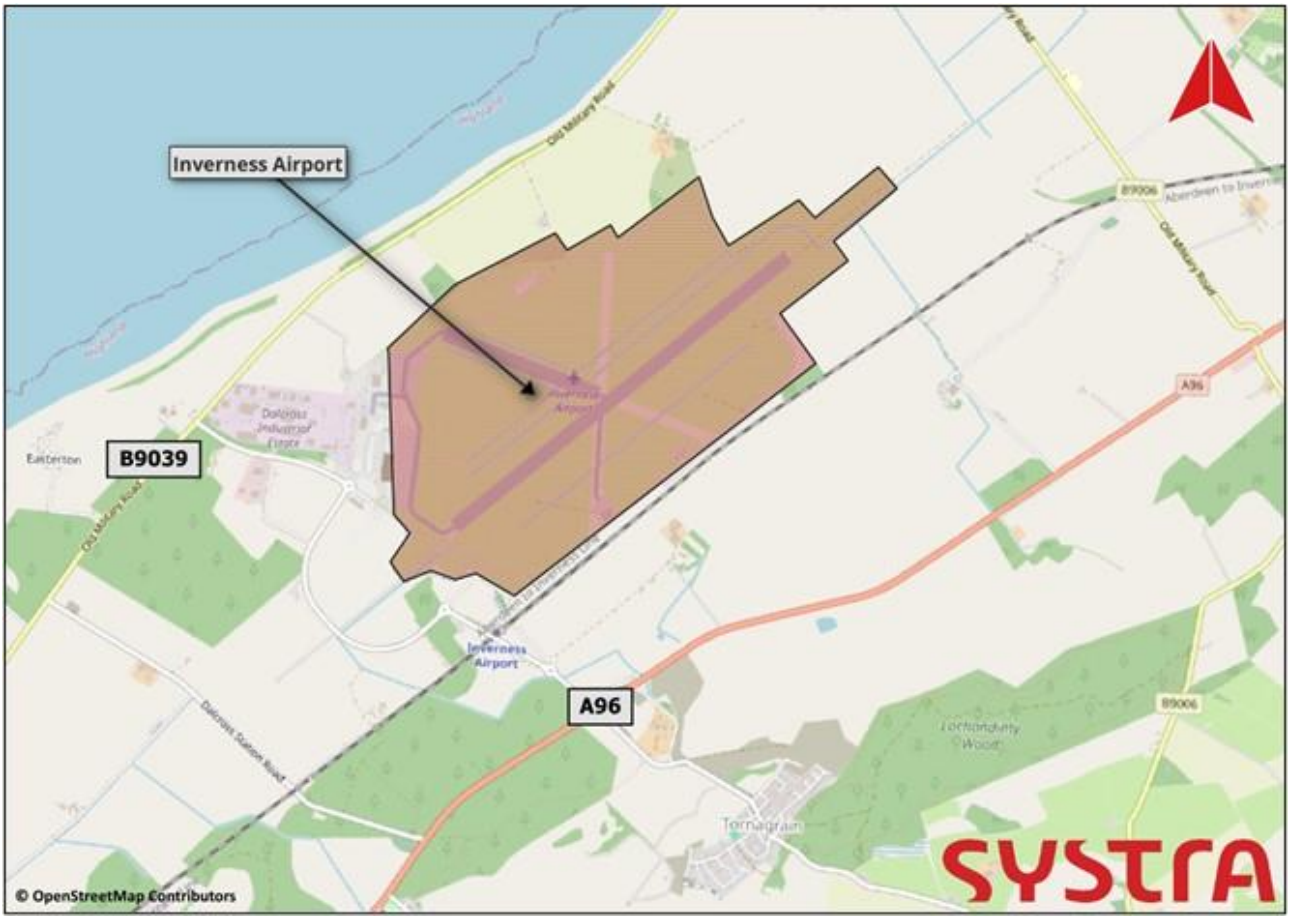

Figure 4-12 Inverness Airport location plan

The main traffic movements generated by activity at the airport would be associated with the transfer of crew to the offshore Project area by helicopter. Inverness Airport is located approximately 150 km south of the offshore Project area.

4.3.2.12 Aberdeen Airport

Aberdeen Airport is located approximately 9 km northwest of the city of Aberdeen. The airport is operated by AGS Airports Limited and utilised by a number of airlines. The airport is served primarily by the A96 and the A90 (Aberdeen Western Peripheral Route) via a number of access roads. A location plan of the airport is indicated by Figure 4-13.

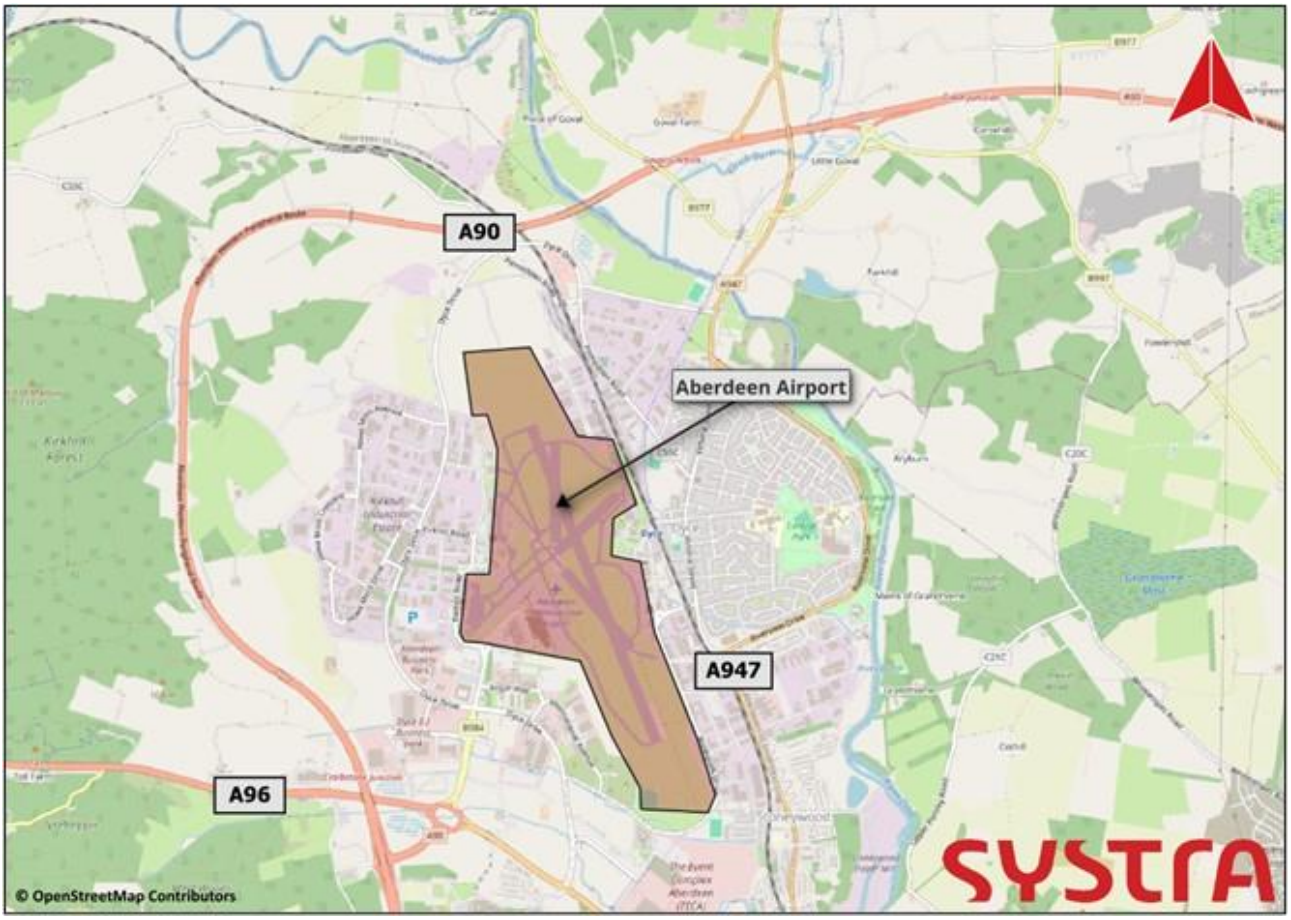

Figure 4-13 Aberdeen Airport location plan

Aberdeen Airport is a long-established heliport serving the North Sea oil and gas fields. The main traffic movements generated by activity at the airport would be associated with the transfer of crew to the offshore Project area by helicopter. Aberdeen Airport is located approximately 225 km southeast of the offshore Project area.

4.3.3 Activities and vehicle movements

4.3.3.1 Delivery of major components

It is not anticipated that any abnormal load deliveries associated with the major components for the offshore Project will be transported by road; all will be delivered by marine vessels either directly from the site of fabrication to the offshore Project area, or via the chosen assembly/marshalling port.

The delivery of the components below will not use any part of the United Kingdom (UK) local or strategic road network. All WTG and fixed-bottom foundation components will be delivered by sea to the selected port for laydown prior to assembly and installation. OSPs and all subsea cables will be delivered directly to the offshore Project area by sea.

There will be road traffic movements arising from the pre-assembly and installation of these components as set out below. These are principally around movement of staff, supplies, equipment and waste.

4.3.3.2 Movement of staff

The process of installation and commissioning of the offshore Project will require the transport of technicians and vessel crews offshore using Crew Transfer Vessels (CTVs) or helicopters. CTVs will for the most part operate between ports on the east coast of Scotland and the offshore Project area. Crew will also be transferred offshore from the selected airport(s) by helicopter.

Any crew movements to ports or airports not associated with onwards movement to the offshore Project area, such as those involved with marshalling and logistics, are expected to be dispersed on the road network. As such any impact would be imperceptible from daily traffic variation and established activity at existing ports.

4.3.3.3 Transportation of supplies

Supplies needed during construction include fuel, food, potable water, welfare and medical supplies, installation equipment and tools. These items will largely be transported by road to the ports by vans or HGVs, and then by sea to the offshore Project area using transport barges, CTVs or general workboats.

Vessels may visit a number of ports for bunkering during the construction phase. However, the fuel is likely to be obtained directly from the facilities available at the ports and so there is unlikely to be any increased direct road traffic associated with the delivery of fuel to the ports as a result of the offshore Project.

It is considered that any impact from the transportation of supplies would be imperceptible when compared with daily traffic variations and established activity at existing ports.

4.3.3.4 Transportation of waste

Waste generated from the offshore Project will include a range of materials, but the principal constituents comprise wood from pallets and frames, metal, general and other such waste. Waste generated during construction will be delivered by marine vessels from the offshore Project to ports where it will be handled by a certified and registered waste carrier. Any waste brought onshore will be transported by HGV from the port to a waste recycling facility as part of standard port waste disposal activities.

4.3.4 Summary of road traffic movements

It is not anticipated that any abnormal load deliveries associated with the Project will be transported by road other than the delivery of any plant or pre-assembly cranes, which will be stripped down and delivered to port as a series of HGV movements.

The only HGV movements on the road network are likely to be associated with the transfer of supplies to the ports and waste from the ports. Wastes would be transported to licensed waste management facilities for recycling.

The transport of staff and some supplies will generate traffic movements on the road networks around the identified ports that may be used as part of the offshore Project. Such traffic will likely be from cars, crew buses, vans and other light goods vehicles.

4.4 Construction road traffic

4.4.1 Baseline traffic flow data

The following baseline traffic data has been collected for roads in the vicinity of the ports and airports detailed in section 4.3.3. Where a counter was not available near the port the two closest counters were selected. The Annual Average Daily Traffic (AADT) data has been used to inform the potential traffic impacts arising from construction of the offshore Project. As detailed in the methodology described in section 4.2, the traffic flow figures in Table 4-1 have been extrapolated to 2028 to account for traffic growth over time.

Table 4-1 Annual average daily flows

DFT COUNTER	COUNT YEAR	LOCATION	NRTF FACTOR	AADT (2028)		
				TOTAL	HGVS	% HGVS
Scapa Flow Deep Water Quay, Orkney						
1182	2022	A961, South of Kirkwall	1.031	2,268	108	0.05
		Coordinates: 58.95565900, -2.95694390				
Port of Nigg						
10722	2022	A9, East of Nigg Roundabout	1.031	9,292	489	0.06
		Coordinates: 57.76932500, -4.03082680				
40721	2022	A9, South of Nigg Roundabout	1.031	10,144	526	0.05
		Coordinates: 57.76199200, -4.04376280				
Port of Cromarty						
20724	2022	A9, Tomich Junction, North of Invergordon	1.031	8,747	586	0.07
		Coordinates: 57.70903100, -4.18347720				
Port of Ardersier						
784	2022	A96, East of Nairn	1.031	13,176	1,255	0.11

DFT COUNTER	COUNT YEAR	LOCATION	NRTF FACTOR	AADT (2028)		
				TOTAL	HGVS	% HGVS
		Coordinates: 57.57679400, -3.91630970				
Port of Aberdeen						
74313	2022	A956, West of Port	1.031	22,712	1,725	0.08
		Coordinates: 57.14279100, -2.09235390				
Deep Water Terminal, Stornoway						
1134	2015	A859, North of Port	1.092	7,605	224	0.03
		Coordinates: 58.21986238, -6.39523653				
91285	2022	A859, South of Port Access Road	1.031	3,493	115	0.03
		Coordinates: 58.18827400, -6.44328490				
Port of Leith						
30872	2022	A199, Commercial Street, South of Port	1.031	15,644	613	0.04
		Coordinates: 55.97766600, -3.17618220				
Port of Dundee						
20857	2022	A92, East Dock Street, Northwest of Port	1.031	31,789	985	0.03
		Coordinates: 56.46199500, -2.96391260				
Scrabster Harbour						
20801	2022	A9, South of Scrabster	1.031	3,496	108	0.03
		Coordinates: 58.60148200, -3.54352990				
Kirkwall Airport						
20992	2022	A960, Within Kirkwall	1.031	6,333	118	0.02
		Coordinates: 58.97821400, -2.95530790				
40996	2022	A960, South of Airport	1.031	1,042	68	0.07
		Coordinates: 58.92948900, -2.84608890				

DFT COUNTER	COUNT YEAR	LOCATION	NRTF FACTOR	AADT (2028)		
				TOTAL	HGVS	% HGVS
Inverness Airport						
90304	2022	A96, At Allanfearn	1.031	29,003	2,897	0.11
		Coordinates: 57.49850300, -4.14718700				
10785	2022	A96, East of Airport	1.031	15,562	1,544	0.11
		Coordinates: 57.54394700, -4.00648740				
Aberdeen Airport						
91027	2022	A90, East of Airport	1.031	13,117	1,161	0.10
		Coordinates: 57.21266000, -2.23687680				
91028	2022	A96, South of Airport	1.031	11,087	569	0.05
		Coordinates: 57.19171900, -2.22312510				

4.4.2 Indicative construction program and vehicle movements

It is anticipated that the construction of the offshore Project will take up to four years (subject to change), with an additional one year of pre-construction/site preparation works (see chapter 5: Project description of the Offshore EIA Report). As such vehicle movements across five seasons have been considered, with each construction season being typically nine months in length (approximately from February to October while weather and sea conditions are favourable). Most activities will run from 10 to 26 weeks although some activities (e.g. Guard Vessels) may occur for up to 52 weeks of the year. Each activity has an associated number of HGV deliveries and crew changes. For the purposes of presenting the estimated impact at each port and airport the traffic movement has been condensed down to a worst case day in the season.

Estimates of the number of HGVs required per week for each activity in each season have been developed. At the height of the construction stage of the offshore Project (Season 3 and 4) there are estimated to be an anticipated maximum of 30.25 HGVs per week assuming that all activities were to coincide on the same weeks, which in reality they would not. This peak HGV traffic equates to 8.6 two-way HGV movements per day.

Crew changes to the offshore Project area will be conducted either vessels alongside or helicopter offshore. For the purposes of conducting a worst case assessment it is assumed that crew transfer will occur at the same port as all other staging and marshalling activities.

Crew transfer to ports and airports will be conducted by bus from nearby hotels. The movement of staff to hotels will be dispersed on the road network and will be imperceptible from daily traffic variation and existing travel patterns to

established businesses. Each bus can carry 40 passengers and it has been assumed that for every 10 passengers there will be an additional car for late arrivals or those with alternative transport arrangements. Where an activity is stated as having crew transfer by Helicopter / alongside, an even split between the two modes has been assumed. Additionally, the indicative impacts presented subsequently assumes that all crew transfers occur on the same day, whereas in reality this is unlikely.

At the peak of the construction stage of the offshore Project (Season 3 and 4) there will be an anticipated maximum of 44 two-way vehicle movements (18 buses and 26 cars) to the selected port on any given day and 56 two-way vehicle movements (16 buses and 40 cars) to the selected airport.

The remainder of this section presents the potential traffic impacts arising from the construction stage of the offshore Project. Noting that traffic movements are unlikely to be concentrated onto any one Trunk Road or at any one particular time. It is also noted that the potential traffic generation from the ports is at least partially considered as part of daily port operations.

4.4.2.1 Scapa Flow Deep Water Quay

Table 4-2 summarises the worst case estimated traffic impact for each season of the construction stage if the selected port were to be the Scapa Flow Deep Water Quay.

Table 4-2 Construction vehicle movement impact at Scapa Flow Deep Water Quay

SEASON	BASELINE TRAFFIC FLOW (A961)		WORST CASE DAILY MOVEMENT		% INCREASE FROM BASELINE	
	Total	HGV	Light goods Vehicle (LGV)	HGV	%Total	%HGV
1	2,268	108	16	2	0.76%	1.06%
2	2,268	108	16	3	0.83%	2.71%
3	2,268	108	44	9	2.32%	7.98%
4	2,268	108	44	9	2.32%	7.98%
5	2,268	108	24	4	1.22%	3.37%

4.4.2.2 Port of Nigg

Table 4-3 summarises the worst case estimated traffic impact for each season of the construction stage if the selected port were to be the Port of Nigg.

Table 4-3 Construction vehicle movement impact at the Port of Nigg

SEASON	BASELINE TRAFFIC FLOW (A9)		WORST CASE DAILY MOVEMENT		% INCREASE FROM BASELINE	
	TOTAL	HGV	LGV	HGV	%TOTAL	%HGV
1	9,292	489	16	2	0.18%	0.24%
	10,144	526			0.16%	0.22%
2	9,292	489	16	3	0.20%	0.60%
	10,144	526			0.19%	0.56%
3	9,292	489	44	9	0.57%	1.77%
	10,144	526			0.52%	1.64%
4	9,292	489	44	9	0.57%	1.77%
	10,144	526			0.52%	1.64%
5	9,292	489	24	4	0.30%	0.75%
	10,144	526			0.27%	0.69%

4.4.2.3 Port of Cromarty

Table 4-4 summarises the worst case estimated traffic impact for each season of the construction stage if the selected port were to be the Port of Cromarty.

Table 4-4 Construction vehicle movement impact at the Port of Cromarty

SEASON	BASELINE TRAFFIC FLOW (A9)		WORST CASE DAILY MOVEMENT		% INCREASE FROM BASELINE	
	TOTAL	HGV	LGV	HGV	%TOTAL	%HGV
1	8,747	586	16	2	0.20%	0.20%
2	8,747	586	16	3	0.22%	0.50%
3	8,747	586	44	9	0.60%	1.48%
4	8,747	586	44	9	0.60%	1.48%
5	8,747	586	24	4	0.32%	0.62%

4.4.2.4 Ardersier Port

Table 4-5 summarises the worst case estimated traffic impact for each season of the construction stage if the selected port were to be the Ardersier Port.

Table 4-5 Construction vehicle movement impact at Ardersier Port

SEASON	BASELINE TRAFFIC FLOW (A96)		WORST CASE DAILY MOVEMENT		% INCREASE FROM BASELINE	
	TOTAL	HGV	LGV	HGV	%TOTAL	%HGV
1	13,176	1,255	16	2	0.14%	0.010%
2	13,176	1,255	16	3	0.14%	0.23%
3	13,176	1,255	44	9	0.40%	0.69%

SEASON	BASELINE TRAFFIC FLOW (A96)		WORST CASE DAILY MOVEMENT		% INCREASE FROM BASELINE	
	TOTAL	HGV	LGV	HGV	%TOTAL	%HGV
4	13,176	1,255	44	9	0.40%	0.69%
5	13,176	1,255	24	4	0.21%	0.29%

4.4.2.5 Port of Aberdeen

Table 4-6 summarises the worst case estimated traffic impact for each season of the construction stage if the selected port were to be the Port of Aberdeen.

Table 4-6 Construction vehicle movement impact at the Port of Aberdeen

SEASON	BASELINE TRAFFIC FLOW (A956)		WORST CASE DAILY MOVEMENT		% INCREASE FROM BASELINE	
	TOTAL	HGV	LGV	HGV	%TOTAL	%HGV
1	22,712	1,725	16	2	0.08%	0.06%
2	22,712	1,725	16	3	0.08%	0.17%
3	22,712	1,725	44	9	0.23%	0.50%
4	22,712	1,725	44	9	0.23%	0.50%
5	22,712	1,725	24	4	0.12%	0.21%

4.4.2.6 Deep Water Terminal, Stornoway

Table 4-7 summarises the worst case estimated traffic impact for each season of the construction stage if the selected port were to be the Deep Water Terminal, Stornoway.

Table 4-7 Construction vehicle movement impact at the Deep Water Terminal, Stornoway

SEASON	BASELINE TRAFFIC FLOW (A859)		WORST CASE DAILY MOVEMENT		% INCREASE FROM BASELINE	
	TOTAL	HGV	LGV	HGV	%TOTAL	%HGV
1	7,605	224	16	2	0.22%	0.52%
	3,493	115			0.50%	0.98%
2	7,605	224	16	3	0.25%	1.31%
	3,493	115			0.54%	2.54%
3	7,605	224	44	9	0.69%	3.86%
	3,493	115			1.51%	7.48%
4	7,605	224	44	9	0.69%	3.86%
	3,493	115			1.51%	7.48%
5	7,605	224	24	4	0.36%	1.63%
	3,493	115			0.79%	3.15%

4.4.2.7 Port of Leith

Table 4-8 summarises the worst case estimated traffic impact for each season of the construction stage if the selected port were to be the Port of Leith.

Table 4-8 Construction vehicle movement impact at Port of Leith

SEASON	BASELINE TRAFFIC FLOW (A199)		WORST CASE DAILY MOVEMENT		% INCREASE FROM BASELINE	
	TOTAL	HGV	LGV	HGV	%TOTAL	%HGV
1	15,644	613	16	2	0.10%	0.18%
2	15,644	613	16	3	0.12%	0.48%

SEASON	BASELINE TRAFFIC FLOW (A199)		WORST CASE DAILY MOVEMENT		% INCREASE FROM BASELINE	
	TOTAL	HGV	LGV	HGV	%TOTAL	%HGV
3	15,644	613	44	9	0.34%	1.41%
4	15,644	613	44	9	0.34%	1.41%
5	15,644	613	24	4	0.18%	0.59%

4.4.2.8 Port of Dundee

Table 4-9 summarises the worst case estimated traffic impact for each season of the construction stage if the selected port were to be the Port of Dundee.

Table 4-9 Construction vehicle movement impact at Port of Dundee

SEASON	BASELINE TRAFFIC FLOW (A92)		WORST CASE DAILY MOVEMENT		% INCREASE FROM BASELINE	
	TOTAL	HGV	LGV	HGV	%TOTAL	%HGV
1	31,789	985	16	2	0.06%	0.12%
2	31,789	985	16	3	0.06%	0.30%
3	31,789	985	44	9	0.17%	0.88%
4	31,789	985	44	9	0.17%	0.88%
5	31,789	985	24	4	0.09%	0.37%

4.4.2.9 Kirkwall Airport

Table 4-10 summarises the worst case estimated traffic impact for each season of the construction stage if the selected airport were to be Kirkwall Airport.

Table 4-10 Construction vehicle movement impact at Kirkwall Airport

SEASON	BASELINE TRAFFIC FLOW (A960)		WORST CASE DAILY MOVEMENT		% INCREASE FROM BASELINE	
	TOTAL	HGV	LGV	HGV	%TOTAL	%HGV
1	6,333	118	0	0	0.00%	0.00%
	1,042	68			0.00%	0.00%
2	6,333	118	22	0	0.35%	0.00%
	1,042	68			2.11%	0.00%
3	6,333	118	56	0	0.88%	0.00%
	1,042	68			5.37%	0.00%
4	6,333	118	56	0	0.88%	0.00%
	1,042	68			5.37%	0.00%
5	6,333	118	20	0	0.32%	0.00%
	1,042	68			1.92%	0.00%

4.4.2.10 Inverness Airport

Table 4-11 summarises the worst case estimated traffic impact for each season of the construction stage if the selected airport were to be Inverness Airport.

Table 4-11 Construction vehicle movement impact at Inverness Airport

SEASON	BASELINE TRAFFIC FLOW (A96)		WORST CASE DAILY MOVEMENT		% INCREASE FROM BASELINE	
	TOTAL	HGV	LGV	HGV	%TOTAL	%HGV
1	29,003	2,897	0	0	0.00%	0.00%
	15,562	1,544			0.00%	0.00%
2	29,003	2,897	22	0	0.08%	0.00%

SEASON	BASELINE TRAFFIC FLOW (A96)		WORST CASE DAILY MOVEMENT		% INCREASE FROM BASELINE	
	TOTAL	HGV	LGV	HGV	%TOTAL	%HGV
	15,562	1,544			0.14%	0.00%
3	29,003	2,897	56	0	0.19%	0.00%
	15,562	1,544			0.36%	0.00%
4	29,003	2,897	56	0	0.19%	0.00%
	15,562	1,544			0.36%	0.00%
5	29,003	2,897	20	0	0.07%	0.00%
	15,562	1,544			0.13%	0.00%

4.4.2.11 Aberdeen Airport

Table 4-12 summarises the worst case estimated traffic impact for each season of the construction stage if the selected airport were to be Aberdeen Airport.

Table 4-12 Construction vehicle movement impact at Aberdeen Airport

SEASON	BASELINE TRAFFIC FLOW (A90/A96)		WORST CASE DAILY MOVEMENT		% INCREASE FROM BASELINE	
	TOTAL	HGV	LGV	HGV	%TOTAL	%HGV
1	13,117	1,161	0	0	0.00%	0.00%
	11,087	569			0.00%	0.00%
2	13,117	1,161	22	0	0.17%	0.00%
	11,087	569			0.20%	0.00%
3	13,117	1,161	56	0	0.43%	0.00%
	11,087	569			0.51%	0.00%
4	13,117	1,161	56	0	0.43%	0.00%
	11,087	569			0.51%	0.00%

SEASON	BASELINE TRAFFIC FLOW (A90/A96)		WORST CASE DAILY MOVEMENT		% INCREASE FROM BASELINE	
	TOTAL	HGV	LGV	HGV	%TOTAL	%HGV
5	13,117	1,161	20	0	0.15%	0.00%
	11,087	569			0.18%	0.00%

4.5 Summary of construction-related traffic effects

The construction phase of the offshore Project will result in a short term and temporary increase in traffic movements, including cars, vans and HGVs to and from the selected ports and airports. Other ports may be used to support the offshore Project construction, though this would be on an ad-hoc and infrequent basis.

The majority of traffic movements will be dispersed on the road network and imperceptible from daily variations in traffic or existing travel patterns to established destinations which are already operating under existing planning consents.

The increase in overall traffic volumes for construction traffic movements, particularly HGVs, is not considered to be significant in terms of the DfT and IEMA guidance. The road traffic generated by the offshore Project during the construction phase will not generate more than 30 HGV movements per hour and will not result in a 30% increase to baseline numbers. The greatest increase, assuming a worst case scenario, is estimated to be around 7-8% on the A859 at the Stornoway Deep Water Terminal, Lewis or on the A961 at the Scapa Flow Deep Water Quay, Orkney. It should be noted that neither of these roads are not trunk roads. Traffic increase on the trunk road network is not expected to be more than 2% at any location.

No mitigation is therefore required for the anticipated road-based traffic and transportation associated with the construction of the offshore Project.

5 SUMMARY AND CONCLUSIONS

This addendum to the Offshore EIA Report has been prepared in response to the MD-LOT Additional Information Request. Additional information has been provided on queries raised by MD-LOT and Transport Scotland. The additional information confirms that there will be no significant traffic and transport effects associated with the offshore aspects of the Project (see section 4). The additional information has been shared with Transport Scotland, who have confirmed (by written letter date 1st July 2024) that there will be no objection to the Offshore Application subject to a condition to submit a Construction Traffic Management Plan (CTMP) prior to the commencement of the Project.

6 REFERENCES

Transport Scotland (2012) *Transport Assessment Guidance*. Glasgow. ISBN: 978-1-908181-37-4.

Institute of Highways and Transportation (1998) *Guidelines for Traffic Impact Assessment*. London. ISBN: 978-0-902933-12-5.

The Institute of Environmental Assessment (2023) *Guidelines for the Environmental Assessment of Traffic and Movement*.

7 ACRONYMS

ACRONYM	DEFINITION
AADT	Annual Average Daily Traffic
CTMP	Construction Traffic Management Plan
CTV	Crew Transfer Vessel
DfT	Department for Transport
ECC	Export Cable Corridor
EIA	Environmental Impact Assessment
HGV	Heavy Goods Vehicle
HIAL	Highlands and Islands Airports Limited
IEMA	Institute of Environmental Assessment
IHT	Institute of Highways and Transportation
MD-LOT	Marine Directorate - Licensing Operations Team
MHWS	Mean High Water Springs
MLWS	Mean Low Water Springs
NRTF	National Roads Traffic Forecasting
OIC	Orkney Island Council
OSP	Offshore Substation Platform
OWF	Offshore Wind Farm
OWPL	Offshore Wind Power Limited
TS	Transport Scotland
UK	United Kingdom
WTG	Wind Turbine Generator