

PENTLAND FLOATING OFFSHORE WIND FARM
(FOWF) PROJECT



SCOPE OF WORK
SUPPLY OF SHOREBASE & ONSHORE SUPPORT SERVICES

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1 Introduction

1.1 Project Overview

The Pentland Floating Offshore Wind Farm (FOWF) Project (Project) is being developed by Highland Wind Limited (Company) – a company majority owned by Copenhagen Infrastructure Partners (CIP) and Hexicon AB as minority shareholder. The project development activities are being led by CIP's development partner – Copenhagen Offshore Partners (COP).

The offshore site is located in a 10km² area located approximately 7.5km off the coast Dounreay, Caithness at its closest point to shore. The water depth ranges between 66m – 102m. The Pentland FOWF Project will be developed in two phases with up to 100MW capacity:

- **Phase 1** (Pentland Demo or Prototype) consists of the design, manufacture, assembly and temporary storage of the first floating foundation with subsequent wind turbine integration, installation at site and commissioning.
- **Phase 2** (Pentland Array) consists of the design, manufacture, assembly, installation and commissioning of the five (5) off remaining units up to the capacity limit.

The floating offshore unit (FOU) is based on the Stiesdal Tetrasub Semi-Submersible floating foundation concept with a five (5) point mooring system. Based on the site conditions, a taut mooring configuration c/w drilled and anchor piles is considered for two (2) off the FWTs, with a semi-taut mooring configuration c/w drag embedment anchors (DEA) is considered for the remaining four (4) off FWTs. Refer to Figure 1.1.

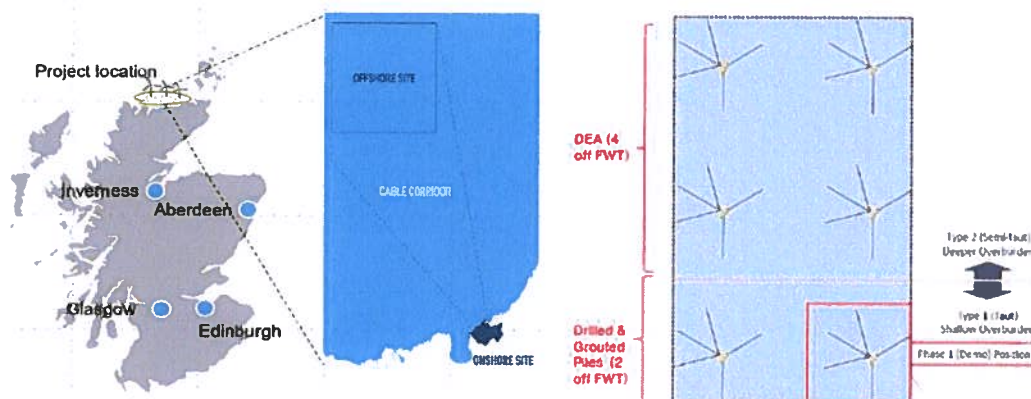


Figure 1.1: Project Location (left) and Array Configuration (right).

Company's key dates for offshore execution for Phase 1 and Phase 2 are summarised in Table 1.1.

Phase	Activity	Key Date
Phase 1	Installation 10 off Drilled & Grouted Piles (2 off locations)	May 2025
	Pre-lay mooring lines & wet store for 1 off FWT	May/June 2025
	Tow & hook-up of 1 off FWT	June/July 2025
Phase 2	Installation of 20 off DEAs	April/May 2027
	Pre-Lay mooring lines & wet store for 5 off FWT	May 2027
	Tow & hook-up of 5 off FWT	June/July 2027

Table 1.1: Key Project Dates

Company has issued a Request for Proposal (RFQ) to Contractor (Havfram Wind) for the Foundation Transport and Installation (T&I) and Supply of Station Keeping System for the Pentland FOWF Project. The (i.e. Contractor's) scope of works includes the supply of permanent mooring and anchoring equipment and all temporary installation aids, transport and installation of fully assembled floating foundations with integrated WTGs, and engineering services associated with offshore transport and construction activities.

1.2 Purpose

The purpose of this document is to define Tenderer's scope of work for provision of shorebase & onshore support services and specify the technical and commercial RFQ requirements to be provided by Tenderer as part of their bid submission.

2 Abbreviations & Definitions

The following abbreviations and definitions have been used throughout this document.

2.1 Abbreviations

AHTS	Anchor Handling, Towing & Supply (Vessel)
BAFO	Best And Final Offer
BP	Bollard Pull
CIP	Copenhagen Infrastructure Partners
CSV	Construction Support Vessel
COP	Copenhagen Offshore Partners
DEA	Drag Embedment Anchors
D&G	Drilled & Grouted
FOU	Floating Offshore Unit
FOWF	Floating Offshore Wind Farm
FWT	Floating Wind Turbine (FOU + WTG)
GBP	British Pound Sterling
HSE	Health, Safety and Environment
ILT	In-Line Tensioner
LOA	Length Over All
LTM	Long Term Mooring
MBL	Minimum Break Load
NDT	Non-Destructive Testing
RFQ	Request for Proposal
ROV	Remotely Operated Vehicle
SOW	Scope of Work
SPMT	Self Propelled Modular Transport
T&I	Transport & Installation
WTG	Wind Turbine Generator

2.2 Definitions

Company	Highland Wind Limited
Contractor	Havfram Wind
Project	Pentland Floating Offshore Wind Farm Project
Tenderer	Party invited to prepare a proposal for the SOW detailed in this RFQ.

3 References

The following documents are relevant for this scope of work.

Ref.	Document Number	Title
/1/		

4 Codes & Standards

Tenderer shall comply with the following rules and standards where applicable to their scope of supply. The Works shall be delivered according to the relevant codes and standards complete with certification and testing documentation.

Ref No.	Rule / Standard
Ref. 1	DNVGL-ST-N001 Marine Operations

5 Confidentiality

All information in this RFQ, including all drawings, specifications, or other appended or related data is **strictly confidential**, and are issued only for the purpose of Tenderer's preparation and submission of its proposal in response to this RFQ. All information contained or referred to in this document shall not be disclosed or released for any other purpose.

6 Technical Information

Preliminary technical information relevant to the scope of work is summarised below.

6.1 Equipment Storage

The total quantity of mooring components including quantity required for each Phase of development is summarised in Table 6.1. Tenderer to assess suitability of their equipment and capabilities for handling mooring components as listed.

Item	Total Quantity Required	Phase 1 Delivery Quantity	Phase 2 Delivery Quantity
Mooring Chain Supply			
5m x 175mm Studless Offshore Mooring Chain R5	30	5	25
25m x 175mm Studless Offshore Mooring Chain R5	30	5	25
30m x 175mm Studless Offshore Mooring Chain R5	10	10	0
42m x175mm Studless Offshore Mooring Chain R5	20	0	20
75m x175mm Studless Offshore Mooring Chain R5	60	0	60
Nylon Rope Supply			
30m x 322mm MoorLine Nylon @ 25,000kN MBL (on reels)	30	5	25
400m x 322mm MoorLine Nylon @ 25,000kN MBL (on reels)	4	2	2
500m x 322mm MoorLine Nylon @ 25,000kN MBL (on reels)	6	3	3
460m x 322mm MoorLine Nylon @ 25,000kN MBL (on reels)	20	0	20
Mooring Accessories Supply			
Dual Axis connector/uni-joint with load monitoring, MBL 3,000Te	30	5	25
In line tensioners suitable for 175mm R5 Offshore Mooring Chain, MBL 3,000Te	18	3	15
H-Link Chain Connector LTM (C-F) 175mm R5 Studless Chain to 322mm Nylon Rope/Steel Spool, MBL 3,000Te	80	10	70
H-Link Chain Connector LTM (C-C) 175mm R5 Studless Chain to 175mm R5 Studless Chain, MBL 3,000Te	20	0	20
Tri-plates suitable for connection to 175mm R5 D-Link Joining Shackle, MBL 3,000Te	40	0	40
D-Links Joining LTM - suitable for 175mm R5 Studless Offshore Mooring Chain, MBL 3,000Te	186	11	175
Anchor Shackle LTM suitable for 175mm R5 Studless Offshore Mooring Chain, MBL 3,000Te	30	5	25
LLLC Shackle for 175mm R5 Chain, MBL 3,000Te	18	3	15
ROV Operable H-Link /Subsea Connector, suitable for 175mm R5 Studless Offshore Mooring Chain, MBL 3,000Te	10	10	0
Mooring Anchors			
D&G Anchors	10	10	0
40Te DEAs	20	0	20

Table 6.1: Mooring Component Quantities.

6.2 Vessel Mobilisation

Contractor shall use Tenderer's shorebase for mobilisation activities during both the Phase 1 and Phase 2 execution campaigns. Contractor's vessel spread shall be as listed in Table 6.2.

Vessel Type	Qty 2025	Qty 2026
CSV	1	0
AHTS	1	1
Tow Vessels	2	2
Harbour Tugs	3	3

Table 6.2: Vessel Spread

Contractor is unable to provide exact vessel details at this stage. Tenderer to assume the following specifications listed in Table 6.3 for the preparation of its bid.

Vessel Type	Length Over All [m]	Deadweight [Te]	Max Draft [m]
CSV	160	12,000	8.5
AHTS	95	5,000	7.5
Tow Vessels	80	3,000	7
Harbour Tugs	Tenderer to supply		

Table 6.3: Vessel Preliminary Specifications

7 Scope of Work

Tenderer is invited to provide a technical and commercial proposal for the scope of work as listed in the following sections:

7.1 Phase 1

- 1st March – 1st August 2025
- Secure port storage/laydown area – 10,000m² (can be away from quayside but must be able to efficiently relocate equipment to quay as directed by Contractor)
- Office space for 2-off personnel
- Priority/unrestricted berthing access for CSV (LOA ~160m, 12,000T DWT) and AHTS (LOA ~95m, 5,000T DWT) plus quayside laydown and staging area for load/backloading equipment in addition to storage area listed above
- Provision of 3-off Harbour tugs (50-100Te BP) inc. TMS and marine crew to assist with FWT tow/relocation operations within the Invergordon / Cromarty Firth / Nigg area
- Provision of yokohama fenders for berthing
- Provision of quayside equipment and personnel:
 - o Shoreside craneage (up to 250Te) for receipt of large mooring chain and anchoring equipment.
 - o SPMT modules
 - o Reach stacker or telehandler
 - o Forklifts, small and large
 - o Machinery operators
 - o Stevedores and rigging personnel
 - o Welding personnel, equipment, and consumables
 - o NDT technicians
 - o Offshore rated ISO container hire

7.2 Phase 2

- 1st March – 1st August 2027
- Secure port storage/laydown area – 30,000m² (can be away from quayside but must be able to efficiently relocate equipment to quay as directed by Contractor)
- Office space for 6-off personnel
- Priority/unrestricted berthing access for anchor handler (LOA ~95m, 5,000T DWT) plus quayside laydown and staging area for load/backloading equipment in addition to storage area listed above
- Provision of 3-off Harbour tugs inc. TMS and marine crew to assist with FWT tow/relocation operations within the Invergordon / Cromarty Firth / Nigg area
- Provision of yokohama fenders for berthing
- Provision of quayside equipment and personnel:
 - o Shoreside craneage (up to 250Te) for receipt of large mooring chain and anchoring equipment.
 - o SPMT modules
 - o Reach stacker or telehandler
 - o Forklifts, small and large
 - o Machinery operators
 - o Stevedores and rigging personnel
 - o Welding personnel, equipment and consumables
 - o NDT technicians
 - o Offshore rated ISO container hire

Tenderer's SOW shall include:

- All project management, engineering, labor, equipment, systems, tools, consumables, and all other items required to perform the Work.
- Quality management in accordance with Company's Quality Management Requirements as applicable to Tenderer's scope. Refer to Attachment 11.1.
- HSE management in accordance with Company's HSE Requirements as applicable to Tenderer's scope. Refer to Attachment 11.2.

7.3 Local Content

Optimising UK local content has been highlighted by Company as an important aspect for the development of the Pentland FOWF Project. Tenderer shall highlight any UK local content aspects it can offer in its proposal and value of local content as a percentage of total contract price, e.g. project management, engineering/design, manufacture etc.

8 Pricing

Subcontractor shall provide a schedule of rates (in GBP) for the following:

- Onshore Supply Base / Quayside facilities (including securing exclusive quayside access).
- Personnel & labour
- Mobile equipment rates (i.e. cranes/forklifts) – including operator and fuel
- Stevedoring rates
- Local transportation rates
- Port charges
- Ship Agency rates (if applicable)
- Container hire
- Bunkers – fuel & water.
- Any other applicable fees/costs.

9 RFQ Deliverables

Subcontractor shall provide the following deliverables as part of its proposal:

- Subcontractor capability document / previous experience.
- Details of Subcontractor's proposed onshore supply base and quayside facilities, including:
 - Location
 - Available storage / laydown areas (outdoor and under cover)
 - Confirmation of exclusive vessel access to quayside area during period of requirements and quayside details and location
 - General layout plans/drawings of facilities
 - Equipment available (e.g. cranes, forklifts, containers etc.)
 - Office facilities available
 - Utilities available (e.g. fuel, potable water, power, air)
 - Any exclusions, exceptions, and qualifications to Subcontractor's proposal.

10 Schedule

Tenderer is requested to submit their proposal by **COB 12th April 2023**. The following RFQ key dates are provided for Tenderer's information and are subject to change:

Activity	Date / Window
RFQ Closing Date	12 th April 2023
Contractor's Submission to Company	21 st April 2023
Contractor Clarification Round with Company	w/c 24 th April 2023
Second Round with Selected Contractors for BAFO	w/c 8 th May 2023
Contractor's BAFO Submission	31 st May 2023
Contract Award – Foundation Transport and Installation (T&I) and Supply of Station Keeping System SOW (i.e. Contractor's Scope)	16 th June 2023

11 Attachments

Attachment 11.1 Quality Management Requirements

Attachment 11.2 Contractor Minimum HSE Requirements



Quality Management Requirements

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Originator Company	
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