+50 industry participants

New Offshore Wind Ports in the Nordics

Identifying and developing specific opportunities for collaboration and strategic innovation.

+10
Nordic ports

+6
manufacturing ports sites

+37
Industry partners

+8
Nordic developers

+ 4
Nordic Clusters

Nordic Innovation

NOW Ports

With the support of Nordic Innovation, a large international consortium will facilitate cooperation and development of Nordic ports in Denmark, Sweden and Norway and Finland.

The goal is to make Nordic ports ready for the expanding offshore wind industry with a stronger green infrastructure and new value chains across developers, manufacturers and subcontractors for offshore wind. In this project, 8 Nordic ports and sites will enter an innovative collaboration with offshore wind players in order to upgrade, redesign and adapt existing facilities and decarbonise the port's infrastructure.

Objectives

This project aims to create the most attractive, innovative and cost-effective concept for future offshore wind port infrastructure and supply chain in the Nordics (both bottom fixed and floating).

HOW we achieve this

Nordic ports and sites will enter in innovative collaborations with players in the offshore wind supply chain through an open innovation platform, with a view to:

- Uncovering specific opportunities for collaboration and strategic innovation
- Improve productivity and logistics
- Upgrading and redesign existing port's infrastructure
- Decarbonize port's infrastructure

Supporting development of Nordic Ports and their respective supply chains as one of world's leading offshore wind hubs.

8.mil
NOK in funding

Project period:
Jan 2022 - Dec 2023

Funded by Nordic Innovation

New Offshore Wind Ports in the Nordics

Nordic Innovation

NOW Ports Industry Ecosystem

Nordic Ports and Sites

EIGERSUND NÆRING OG HAVN KF
KARMSUND HAVN
ESBJERG HAVN
NorSea
Port of Grenaa
PORT OF STAVANGER NORWAY
PORT OF ROENNE
KRISTIANSAND HAVN
PORT OF AALBORG
semco maritime
Trelleborgs Hamn AB
WESTCON
windport
PORT OF GOTHENBURG
SAGA FJORDBASE AS

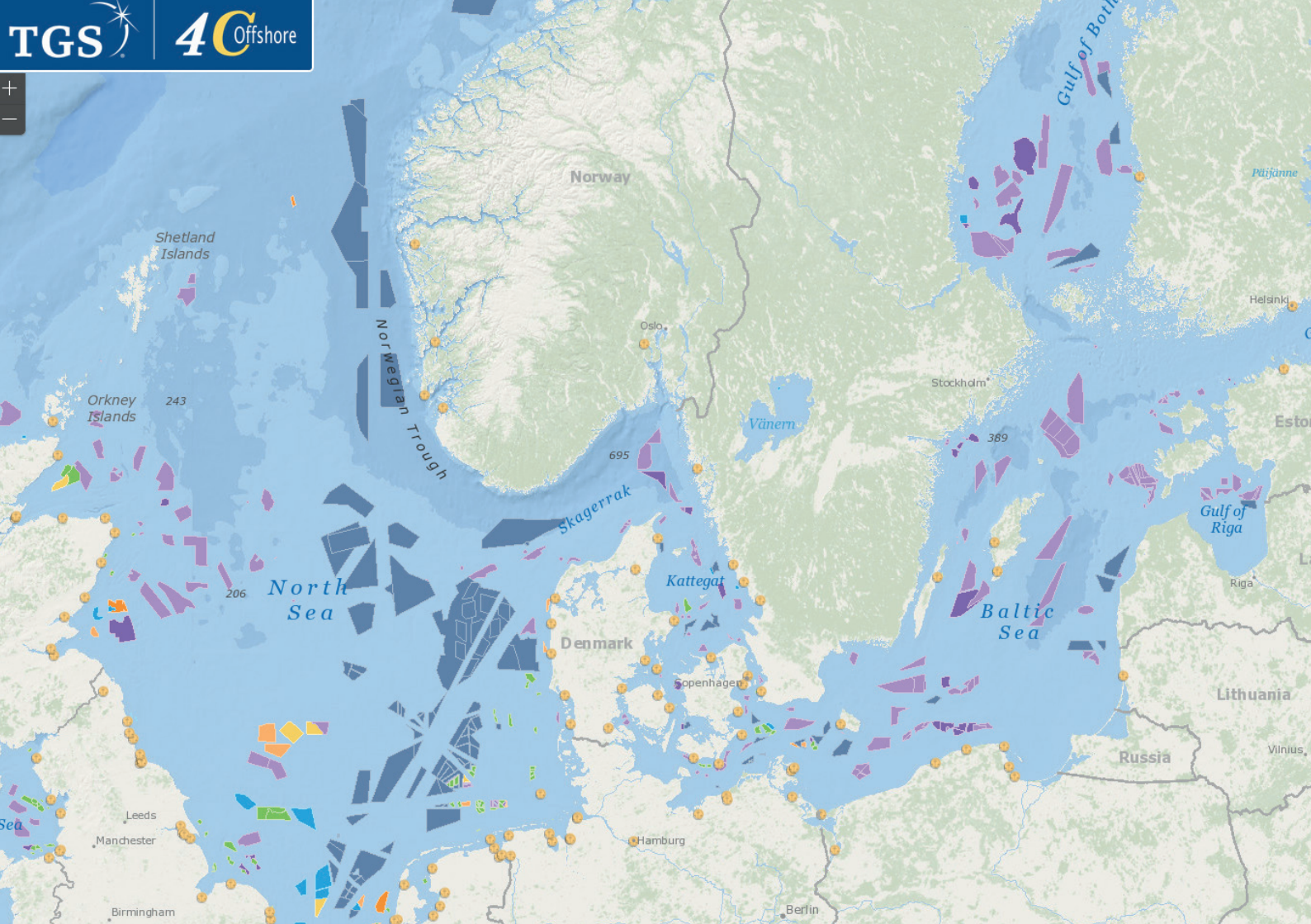
Cluster Organizations

Norwegian Offshore Wind
OFFSHORE VÄST
TEAM RENEWABLE ARCTIC FINLAND
RI. SE
energy CLUSTER DENMARK

Industry Participants

Vestas
SIEMENS Gamesa RENEWABLE ENERGY
Fred. Olsen Windcarrier
GMC
JØRN SOLDING A/S
OSC
maskinfabrik
AVEVA
NORKYST
Ørsted
RWE
VATTENFALL
semco maritime
MIROS
PSW
VEIDEKKE
TRELLEBORGS ENERGI
SOUTHWIND
CBS COPENHAGEN BUSINESS SCHOOL HANDELSHØJSKOLEN
W SENSE
kust vind
OX2
HYTOR
JUTLANDIA
BHS LOGISTICS PASSION FOR SOLUTIONS - SINCE 1946
sagasubsea
SHIP MANAGEMENT
Muehlhan
SINTEF
sarens
Deep Wind Offshore
Eksfin EXPORT FINANCE NORWAY
eolus
KARMSUND SERVICEBASE
COWI
Rogaland fylkeskommune

Nordic Innovation


TGS
4C Offshore
Norway
Shetland Islands
Orkney Islands
243
Norwegian Trough
206
North Sea
695
Skagerrak
Kattegat
Denmark
Oslo
Stockholm
Vänern
389
Gulf of Bothnia
Päijänne
Helsinki
Gulf of Riga
Riga
Baltic Sea
Lithuania
Russia
Vilnius
Copenhagen
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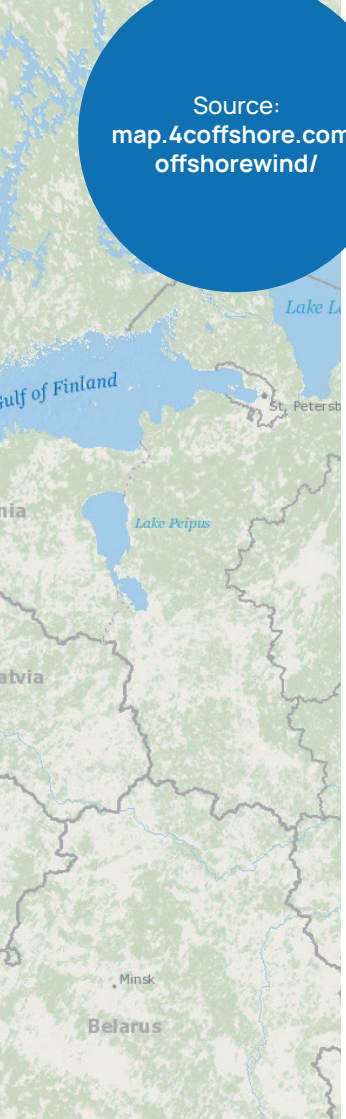
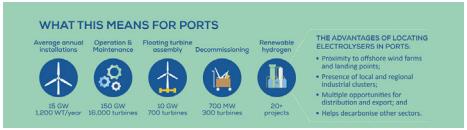


The importance of Nordic Offshore Wind Ports

Europe has 30 GW of offshore wind today.

The REPowerEU envisages a huge expansion by 2030. The ambition is a delivering of 165 GW of offshore wind in Europe. On top of this we need to add the goals from the Esbjerg, Ostend, Marienborg declarations. As it it today, the offshore wind supply chain in Europe is not large enough to deliver this!

Materializing these very ambitious targets will not come without challenges one important challenge is the Port infrastructure. Hence, to achieve these ambitious goals a rapid increase in annual installation rates is required.



Source: Wind Europe 2023

What does it mean for Ports?

The Nordic ports look into a future with

- More projects to ensure a suitable port infra structure
- Expantion of Port facilities – It is at the moment hard to get suitable port facilities
- Floating wind with a clear definition of how to handle business areas such ad space and logistics.

We need to look at cost reduction, scale & industrialization, supply chain readiness and suitable ports' infrastructure capable to catering for manufacturing, marshalling, installation of WTGs and major OFW components are certainly among some of the challenges!

Ports mapping:

During the NOWPorts project we have been looking into how to prepare the ports for the upcoming years. One of the results of this is a mapping of all involved ports.

The mapping contains a Port overview, including location, area, Quay information, distance to sites etc., some background information, main features and strengths of each port.

Nordic Innovation

Port of Grenaa

Port of Grenaa
Support your business

Port overview

Location	Havnecentervej 1, DK-8500 Grenaa, Denmark
Coordinates	56°24.4'N 10°55.5'E
Ownership	Limited company [Grenaa Havn A/S]
Activities	Business areas: Wind, Energy & Innovation, Bulk, Ferries- & Shipping Lines, Recycle & Waste Management and Stacking & Maintenance.
Main usage	An important hub in the center of Denmark. As one of Denmark's major industrial and commercial ports, we efficiently handle cargo from land to sea for the benefit of business and society.
Total area (m^2) incl. storage area	1.425.000 m^2 Warehouses 52,500 m2
Quay berth length (m)	2.500 m
Quay berth width (m)	Up to 50 m
Quay draft (m LAT)	Up to 11 m
Quayside Bearing Capacity (t/m^2)	Uniform load up to 4.5-30 t/m^2
Bearing capacity	Up to 25-50t/m^2
Craneage capabilities	144 metric tons / TWIN-LIFT up to 250 metric tons
Water depth and seabed conditions	Up to 11 m
Track record in renewables	Anholt Offshore Wind Farm. Tetra Spar floating. Stacking. Etc.
Proximity to Offshore Wind sites	Approx. 26 km / 14 NM to Anholt Offshore Wind Farm. Offshore wind projects in Kattegat - see map.
Proximity of Supply Chain	At and around port of Grenaa is a large number of dedicated and professional suppliers and service companies. The companies solve tasks within all of the Port of Grenaa's business areas
Ro/Ro Capabilities	Yes
Jack up Capabilities	Yes

Background:

Port of Grenaa is one of Denmark's leading ports for pre-assembly and O&M (Operation and Management).

During 2021 the Tetra Spar Demonstrator floating wind project was assembled at the port of Grenaa and finally towed to the test operating site off the Norwegian coast.

With the installation af Anholt Offshore Wind Farm during 2011-2013, we cemented our reputation and recognition as a professional wind port for the offshore wind industry - both nationally and internationally.

Main features:

Solutions for the wind industry have been at the heart of Port of Grenaa for numerous years. We work with many stakeholders on onshore and offshore wind projects. From floating wind turbines, upcycling and recycling, to pre-assembly and O&M. Therefore, we have the whole package available for future offshore wind farms in Kattegat.

We offer the ideal setup for handling and shipping large wind turbine components. There is plenty of space to work safely and efficiently. A jack-up area with reinforced seabed for installation vessels, 100% green shore power.

Strengths:

Experience, knowledge, flexibility, specialised service companies, good sailing conditions, good year-round navigability, local rescue service, local pilot station, water-depth up to 11 m, 100% green power, onshore power, 24/7 service.

Role as Offshore Wind (OFW) Port:

- ☐ Manufacturing of OFW components
- ☐ Pre-assembly / installation
- ☐ O&M
- ☐ Decommissioning

Contact Information:

Representative name: Theis Gisselbæk
Email: tgi@port-of-grenaa.com
Phone nr: (+45) 40 94 13 07

Port of Esbjerg

ESBJERG HAVN

Port overview

Location	Port Esbjerg, Hulvejen 1, 6700 Esbjerg
Coordinates	55°28,006'N 008°25,531'E
Ownership	Limited company [Grenaa Havn A/S]
Activities	Project cargo, offshore supply base, offshore wind, bulk, ro-ro, fishing, tank, shipyard, mob-demob of vessels/rig, wind installation
Main usage	Wind, offshore oil & gas, ro-ro
Total area (m^2) incl. storage area	4.500.000 m2
Quay berth length (m)	14.500 m
Quay berth width (m)	25 m
Quay draft (m LAT)	Up to 11,3 m
Quayside Bearing Capacity (t/m^2)	Up to 20 ton/m^2
Bearing capacity	Up to 80 t/m^2
Craneage capabilities	Liebherr 280, 400, 500 and 2x800
Water depth and seabed conditions	9,1 m sand/clay
Track record in renewables	Wind components storage
Proximity to Offshore Wind sites	Horns Rev 1 app 40 km/20 nm
Proximity of Supply Chain	Plenty suppliers located in port area
Ro/Ro Capabilities	Yes
Jack up Capabilities	Yes

Background:

Port Esbjerg is Denmark's largest North Sea port. It is the leading port for offshore wind power in Europe, the primary service and supply port for the Danish oil & gas industry and a Northern hub for cargo, especially RoRo transport. The highly developed supply chain at the Port Esbjerg includes experienced sub-suppliers and service providers offering customer support 24/7.

Main features:

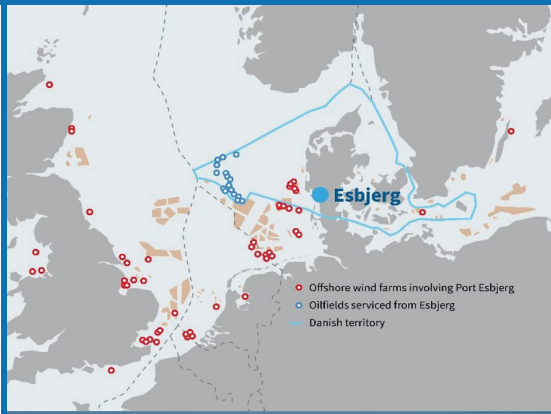
Port Esbjerg has been the primary base port for all oil and gas activities in the Danish part of the North Sea. Port Esbjerg is the leading port for wind power in Europe.

Strengths:

Sustainability is a key focus area at Port Esbjerg. We work consistently to lower our carbon footprint and aim to become a climate-neutral port. Therefore, we work on several green initiatives. We team up with national and international sustainability projects, and we are focused on waste recycling and on increasing the use of onshore power. Read more about our sustainability initiatives below.
Wind offshore.

Additional relevant information (for example):

Expansion of 570.000 m2.



Role as Offshore Wind (OFW) Port:

- ☐ Manufacturing of OFW components
- ☐ Pre-assembly / installation
- ☐ O&M
- ☐ Decommissioning

Contact Information:

Representative name: Jesper Bank
Email: jba@portesbjerg.dk
Phone nr.: +45 51961840

NorSea Esbjerg, Denmark

Port overview

Location	Esbjerg, Syddanmark, Denmark
Coordinates	55°27'42.3"N 8°26'52"E
Ownership	Long term lease contract
Activities	Port Service, pre-assembly, stevedoring, custom, agency, handling & freight forwarding
Main usage	A large site suitable for oil & gas and realization of offshore wind ambitions • Storage, production, and assembly of component. • Pre-assembly of wind turbines
Total area (m^2) incl. storage area	Office: 12.000 m - Warehouse: 75.000 m2 Outdoor Storage: 300.000 m2
Quay berth length (m)	App 1000 m
Quay berth width (m)	
Quay draft (m LAT)	8-11 m
Quayside Bearing Capacity (t/m^2)	5 tons/m2 (planned)
Bearing capacity	70 t – 100t /1x1 m
Craneage capabilities	Up to 308 tonnes
Water depth and seabed conditions	9- 12meters Sand
Track record in renewables	Largest wind port in the North Sea with deliveries to more than 56 wind parks in the world
Proximity to Offshore Wind sites	Access to all wind parks in the North sea between 30 nm to 250 nm
Proximity of Supply Chain	Located 10 minutes from E20 and 250 km to Copenhagen and Hamburg. Placed in a strong maritime industry and offshore region
Ro/Ro Capabilities	Planned 70m width
Jack up Capabilities	Planned 10 m depth

Background:

NorSea Denmark has been operating the largest offshore energy supply base in Denmark since 1974. As a one-stop-shop service provider to the entire offshore energy industry, we have supplied innovative, flexible, and safe solutions for more than 50 years. We are dedicated to keeping a safe workplace and focused on operational costs efficiency; reducing emissions and minimizing complexity through digitalization and automation.
As a proud, pioneering partner in the energy industry, we find it natural to use those skills and insight in transforming the industry supply chain into a low emission leadership. Naturally, we set the bar for ourselves with an ambitious goal of being the first zero emission supply base in the world.

Main features:

Energy Solutions is your access to an experienced, efficient, productive, and competent workforce in the onshore and offshore energy sector. Logistics Department provides full service international logistics solutions by air, rail, road, and sea. Customs specialists from NorSea saves you time, worries, and money. Agency services are built on local knowledge and a global network of specialists and offices. Stevedoring has more than 45 years' experience from planning and executing all types of vessel operations within the Oil & Gas, Wind, or Project Cargo Markets. Warehousing offers short- and long-term storage to meet every need and demand. Property and Facility manage over 10.000 m2 office space and more than 50.000 m2 indoor warehousing, of which 35.000 m2 is quayside. NorSea Property is administration approx. 300.000 m2, and we can supply leases of offices, industrial areas, and yard storage and warehousing to meet your every demand.

Strengths:

NorSea operates the largest Supply Base in Denmark offering tailor made One-Stop-Shop Logistic Solutions for all operators and suppliers in the Energy Sector. Protecting the safety of our employees, stakeholders, facilities, and environment is at the heart of everything we do at NorSea. By 2025, NorSea Denmark wants to be the first zero emissions offshore base operation in the world.
One Stop Shop

Role as Offshore Wind (OFW) Port:

- ☐ Manufacturing of OFW components
- ☐ Pe-assembly / intergration
- ☐ Marshalling / installation campaign prep.
- ☐ O&M
- ☐ Decommissioning

Contact Information:

Representative name: Lars Skov
Email:
lars.skovchristensen@norseagroup.com
Phone nr.:+45 3070 2666

Port of Gävle

Port overview

Location	Gävle (North Sweden)
Coordinates	60.69358718011932, 17.20707813852869
Ownership	Municipality of Gävle
Activities	Container, energy, bulk, combi, CFS, wind
Main usage	Port of Gävle is a full-service port that handles a variety of goods. Mainly forestry, steel and energy products, containers and project loads to and from Swedish industries.
Total area (m²) incl. storage area	3 800 000 m2 1 000 000 m2 storage area
Quay berth length (m)	2 800 km
Quay berth width (m)	28-42 m
Quay draft (m LAT)	6,0-12,2 m
Quayside Bearing Capacity (t/m²)	24 t/m²
Bearing capacity	24 t/m2
Craneage capabilities	186 t
Water depth and seabed conditions	13,4 meters,
Track record in renewables	Wind components storage
Proximity to Offshore Wind sites	Storgrundet, 100 km from port of Gävle
Proximity of Supply Chain	The port's customers and operators include major industrial and commercial companies, shipping companies, transport companies and freight forwarding agents.
Ro/Ro Capabilities	No
Jack up Capabilities	Yes

Background:

Port of Gävle is the largest logistic hub in Central Sweden and situated only two hours from Stockholm. The region's steel, wood and paper industries start their journey around the globe, from Port of Gävle. Port of Gävle also handles input goods for industry, fuel, consumer goods and project loads that will be distributed throughout the country. Port facilities have been used for handling components for wind installation.

Main features:

The biggest container terminal on the east coast and the third largest in the country with a unique CFS-storage as well as food inspection facility. A bulk terminal with four quays and several large warehouses directly connected to the quays. One of Sweden's largest energy ports.

Strengths:

As a logistic hub, Port of Gävle can contribute to the green transformation by acting as a barrier-lowering and enabling agent. An important part of this is to link the emerging fossil-free energy system with an existing logistics system.
Major investments have been made in upgrading the entrance channel, new warehouses, railways and other facilities.
Port can support offshore wind installation as well as operation and maintenance services.

Additional relevant information (for example):

Environmental permits have been granted to triple the volume of goods.

Role as Offshore Wind (OFW) Port:

- ☐ Manufacturing of OFW components
- ☐ Pre-assembly / installation
- ☐ O&M
- ☐ Decommissioning

Contact Information:

Representative name:
Natalie Gerami Wallner
Email:
natalie.gerami_wallner@gavlehamn.se
Phone nr.: +46 79 072 90 92

Port of Roenne

PORT OF ROENNE
Together we create

Port overview

Location	Fiskerivej 1, 3700 Roenne - DK
Coordinates	
Ownership	Limited Company – (Rønne Havn A/S)
Activities	Ferries, Cruise, Bulk & Offshore Wind
Main usage	As the Island of Bornholm's main port – the majority of the goods passes the port's quays. Tourists and cruise guestes are also frequent visitors to the port and the massive investment in offshore Wind in the Souhtern Baltic Sea also creates a lot of acticity.
Total area (m²) incl. storage area	830.000 m2 Incl. 350.000 m2 heavy duty area for OW
Quay berth length (m)	1.345 meters for OW-projects
Quay berth width (m)	Minimum 50 meters
Quay draft (m LAT)	11,00 meters
Quayside Bearing Capacity (t/m²)	Up to 50 t/m2
Bearing capacity	20 t/m2 – 80 t/m2
Craneage capabilities	64 tons – LHM250
Water depth and seabed conditions	11 meters. Jurassic Clay
Track record in renewables	DK Kriegers Flak, Arcadis Ost FOU, Arcadsi OST WTG, Baltic Eagle WTG
Proximity to Offshore Wind sites	Baltic Eagle – 60 Km from Port of Roenne
Proximity of Supply Chain	Offshore Center Bornholm located at the Port of Roenne
Ro/Ro Capabilities	Yes
Jack up Capabilities	Yes

Background:

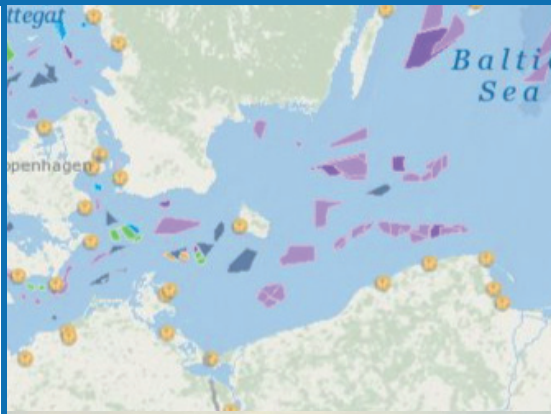
Being the largest commercial port on Bornholm, Port of Roenne is vital in securing transport of cargo and passengers to and from the island. The growing market in offshore wind in the Southern Baltic Sea, was a catalyst in expanding the port with up to 350.000 m2's heavy duty are in the coming years. So far the port have been involved in the projects Kriegers Flak DK WTG, Arcadis Ost FOU and Arcadis Ost WTG & Baltic Eagle WTG with more to come in the pipeline.

Main features:

With 250.000 m2's heavy duty area already ready build and additional 100.000 m2's to be added within the next year, the port is ready to accommodate two projects at the same time. We offer future-proof infrastructure combined with a 24/7-mentatilty securing the best possible foundation for the projects.

Strengths:

The 350.000 m2 in the southern part of the port is designed for the sole purpose of storing offshore wind components. This reflects in the very high bearing capacity to the benefit of the port's customers.



Role as Offshore Wind (OFW) Port:

- ☐ Manufacturing of OFW components
- ☐ Pre-assembly / installation
- ☐ O&M
- ☐ Decommissioning

Contact Information:

Representative name: Jeppe la Cour
Email: jlc@portofroenne.com
Phone nr.: +45 2345 8765

Port of Trelleborg

Port overview

Location	Trelleborg (South Sweden)
Coordinates	N55o 22'00,00 E130 09'06,00
Ownership	Municipality of Trelleborg
Activities	Mainly a RoRo Port
Main usage	Mainly a RoRo Port
Total area (m²) incl. storage area	Land surface 1,150,000 m²
Quay berth length (m)	Quay length 5,400 m
Quay berth width (m)	
Quay draft (m LAT)	
Quayside Bearing Capacity (t/m²)	
Bearing capacity	
Craneage capabilities	Mobil cranes
Water depth and seabed conditions	9m. Overall good conditions for jack-up : Limestone with possibility to lay stone and fortify

Background:

Port of Trelleborg is the largest RoRo port in Scandinavia. It handles a significant share of the Swedish foreign export/ import volumes. Today 16 RoPax ferries operate regularly in the four transport corridors between Trelleborg and the Continent. The geographic location of Trelleborg as Sweden's most southern port, only 85 km from the German border, creates excellent conditions for timetables with high frequencies.

Main features:

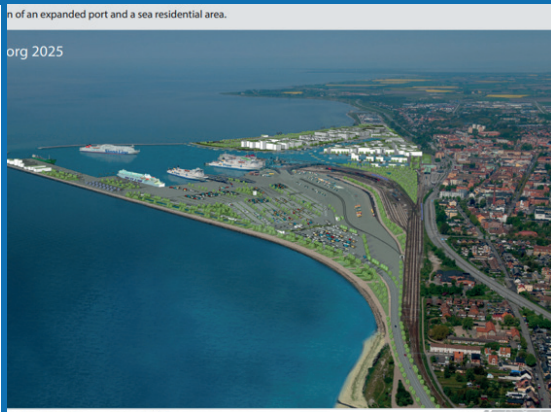
- Largest RoRo port in Scandinavia and the shortest route to the continent.
- One of five Swedish core ports
- Approx. 9 % of Swedish imports and exports pass Trelleborg's quays.
- Second in Sweden in terms of cargo volumes in ton.
- The Baltic Sea's largest railway port with rail ferries in the world that operate from port
- The largest rail ferries in the world operate Port of Trelleborg.

Port of Trelleborg´s offshore wind strategy, includes:

- Vision: To become a premium port service provider to offshore wind business in south Baltic Sea
- Port services: intermediate storage/ pre-assembly port/ O&M port
- Cost-effective services: Upgrade physical infrastructure, One-stop shop, Customized solutions.
- Market expansion: Market strategy, Promotion activities, collaboration projects
- The cleanest Port in the Baltic Sea: The port is active in various climate projects. Port of Trelleborg has developed an environmental program with five overarching objectives and action areas

Strengths:

- 55 km to the Copenhagen airport, Direct access to highway E6/E20, Daily ferry connections with Lubeck/ Travemunde, Rostock, Swinoujscie and Klaipedia
- Shortest route from Scandinavia to the continent
- Port lays in the middle of the city with direct access to urban infrastructure



Role as Offshore Wind (OFW) Port:

- ☐ Manufacturing of OFW components
- ☐ Pre-assembly / installation
- ☐ O&M
- ☐ Decommissioning

Contact Information:

Representative name: Torgny Nilsson
Email: Torgny.nilsson@port.Trelleborg.se
Phone nr.:+46709369709

Port of Stavanger

Port overview

Location	Stavanger region, Rogaland - Norway
Coordinates	Several sites
Ownership	Public, owned by three municipalities
Activities	Offshore base – projects – general cargo
Main usage	Part of – together with Dusavika Port – Europe's largest offshore energy cluster.
Total area (m^2) incl. storage area	255 000 for developing (754 000 total) and approx. 90 000 sqm storage and office facilites and will build for customer
Quay berth length (m)	Varies from 280m to 400 m
Quay berth width (m)	https://www.stavangerhavn.no/en/about/documents/diagrams-of-port-layouts/
Quay draft (m LAT)	From 7m to 20 m – general over 10 m
Quayside Bearing Capacity (t/m^2)	5 to 10 and some on solid rock
Bearing capacity	Mainly solid rock
Craneage capabilities	Varies from 50t to 124t in addition to mobile cranes
Water depth and seabed conditions	over 10 m – no dredging required
Track record in renewables	Blade storage
Proximity to Offshore Wind sites	Stavanger - Region
Proximity of Supply Chain	Northern Europes largest Energy cluster at the premises and nearby up to 10 minutes drive
Ro/Ro Capabilities	Yes
Jack up Capabilities	Yes

About us:

Port of Stavanger has 754 000 square meters divided over three port areas.
The areas are connected to over 6,000 meters of quay.
There are several opportunities for maritime activities, both new establishments and expansions.
Around 240 000 square meters can be developed today and an additional 255 000 square meters are regulated for future port development.

Strengths:

Part og Europe's largest energy cluster with over 50 years history in the industry

Additional relevant information (for example):

We can expand on existing areas as well as new areas in our port region.

Role as Offshore Wind (OFW) Port:

- ☐ Manufacturing of OFW components
- ☐ Pre-assembly / installation
- ☐ O&M
- ☐ Decommissioning

Contact Information:

Representative name: Eivind Hornnes
Email: eh@stavanger.havn.no
Phone nr.: +4790966155

Westcon Helgeland

Port overview

Location	Langsetvågen Industriområde, 8700 Nesna, Norway
Coordinates	66°16'24.7"N 13°10'51.8"E
Ownership	50%-50%, Skogsøy family & Westcon Yards
Activities	Large offshore fabrications, Aquaculture fabrications, ship repair and new built, Planned investments for offshore wind energy.
Main usage	Loading and un-loading of offshore structures, receival of raw material.
Total area (m^2) incl. storage area	20,000 m^2
Quay berth length (m)	56 m
Quay berth width (m)	40 m
Quay draft (m LAT)	+1.5 m
Quayside Bearing Capacity (t/m^2)	Point load 70 t/m2 (till 5 m from sea-side)
Bearing capacity	5000 t/m2 on rest of the quay
Craneage capabilities	220 ton in-house mobile crane & near by capacity facility 600 ton
Water depth and seabed conditions	60 m at the current quay, 120 m at the future Quay. Sandy sea bed conditions at both quays
Track record in renewables	N/A
Proximity to Offshore Wind sites	54 nm to Nordvest A
Proximity of Supply Chain	Majorly with in radius of 50 kms
Ro/Ro Capabilities	No (Capability consideration for future quay)
Jack up Capabilities	Yes

Background:

Westcon Helgeland AS was established in 1987, with key business for ship repairs. Which today has turned into a major hub for small to large ship repairs. We have produced over 50,000 ton of off-shore fabrications in the past years and, we are determined to be the key player for offshore wind projects fabrication and assembly in the coming years.

Main features:

- Existing ISPS Port.
- Two existing dry docks, with future expansion of another drydock for offshore wind projects.
- Large fabrication halls and painting hall.
- 420 tons boatlift, 220 tons mobile lift.
- 30,000 sq/m owned area, for future expansion

Strengths:

- Suitable sea-side / tide conditions and depth to sea-bed for casting/piling of concrete foundations.
- Large area for assembly and storage of wind projects.
- On time support from Industrial partners/suppliers, in different scopes like fabrication, testing, hydraulics, electrical, surface protection, and transportation.
- 100 plus inhouse man-power and 3rd party contracts with on-time/ project specific availability of man-power.

Additional relevant information:

Available FWT for other suppliers for installation and commissioning of parts and software.

Accommodations on site.

Role as Offshore Wind (OFW) Port:

- ☐ Manufacturing of OFW anchors
- ☐ Casting of concrete base
- ☐ Pre-assembly / installation support
- ☐ Support for final assembly

Contact Information:

Representative name: Arnt Skogsøy
Email: arnt.skogsoy@westcon.no
Phone nr.:+47 915 99 739

Semco Hanøytangen

Port overview

Location	Askøy, Bergen region, Norway
Coordinates	N 60,44265 E 005,1
Ownership	Semco Maritime AS has long term lease from owner Hellik Teigen AS
Activities	Large offshore yard, servicing/repair/maintenance floaters/ jack ups, fishfarm projects, planned offshore wind Fabrication/assembly
Main usage	Repair/maintenance offshore units
Total area (m^2) incl. storage area	+160.000m2
Quay berth length (m)	230m
Quay berth width (m)	60- 100m
Quay draft (m LAT)	17-40m
Quayside Bearing Capacity (t/m^2)	Point load from 8t/m2 to unlimited
Bearing capacity	100t/m2 to unlimited
Craneage capabilities	220 ton in-house mobile crane & Can mobilize up to 1350 tons
Water depth and seabed conditions	17m to +40m Seabed:Hard rock, increasing to 200m depth
Track record in renewables	OSS manufacturer, Hanøytangen: Studies for wind companies
Proximity to Offshore Wind sites	120 nm to Utsira Nord, 400 nm to Søre Nordsjø II
Proximity of Supply Chain	Main supply chain located within 25 km radius of yard
Ro/Ro Capabilities	Yes
Jack up Capabilities	Yes

Background:

Semco Maritime took over Hanøytangen yard 2015 with main purpose of serving jack ups and semi submersible. The port has immediate water depth of +100m to the south and wet storage of 3.1km2 in Hauglandsosen. The dry dock is certified for decommissioning and is green operated.

Main features:

- ISPS port
- Areas: +160000m2
- Green Drydock
- 30 nm sailing to open sea (no overhead obstructions and +100m depth
- Protected from wind & waves
- Storage and workshops on site
- 16000m2 expansion area
- Camp for +350 workforce
- Logistic/supply chain within radius of 25km
- Highly competent workforce
- Well developed supply industry
- Decommissioning capacity

Strengths:

Green drydock of 16000m2 (125m x 129m), depth 16,2 m , with strongpoints that can take 1000 t/m2. Environmental drain system

Shore power connection

Long term partner in offshore wind with +20 years OSS and O&M

Additional relevant information:

Open to collaboration with other ports/operators

Role as Offshore Wind (OFW) Port:

- ☐ Pre-assembly / installation
- ☐ O&M
- ☐ Decommissioning

Contact Information:

Representative name: Ole Angell
Email: oang@semcomaritime.com
Phone nr.: +4530166739

Windport

Port overview

Location	Mandal, Norway
Coordinates	58.0147, 7.48186
Ownership	Windport is a private company. The port area is a mix of privately and publicly owned land.
Activities	O&M base, Service hub, Marshalling, Assembly, Production, Fixed and floating turbines
Main usage	Today: Export of rocks and timber, cargo, shipbuilding, fuel bunkering and marine activites
Total area (m^2) incl. storage area	1.500.000 m2 (Includes hinterland with various height levels)
Quay berth length (m)	2.000m
Quay berth width (m)	"Unlimited"
Quay draft (m LAT)	10-50m
Quayside Bearing Capacity (t/m^2)	10-70 t/m2
Bearing capacity	10-70 t/m2
Craneage capabilities	As requested
Water depth and seabed conditions	>50m water depth Solid rock, shell sand seabed. No dredging required.
Track record in renewables	Design and construction of CTV's and electric/hybrid vessels, service technicians on land wind. Partly greenfield so limited experience with renewables yet.
Proximity to Offshore Wind sites	189km to Sørlige Nordsjø II, Norway
Proximity of Supply Chain	There is a well-established maritime supply industry in the area.
Ro/Ro Capabilities	Yes
Jack up Capabilities	Yes

Background:

Windport AS was established in 2021 and is 100% owned by Global Ocean Technology AS. Together with Port of Kristiansand, Lindesnes Municipality and local landowners, Windport is developing 3 port locations in Mandal, Norway for offshore wind. The port is partly greenfield but will be fully developed in due time for the first Norwegian offshore wind farm, Sørlige Nordsjø II. Windport's ambition is to provide port infrastructure and services according to the highest safety and sustainability standards as well as cost efficient logistics. Windport will facilitate both fixed and floating wind turbines during all phases of an offshore wind project such as planning, development, construction, assembly, installation, commissioning, operation & maintenance and decommissioning.

Main features (when fully developed):

- Areas: ~1,5mill m2 (including hinterland)
- Quay: 1,5 km / 10-50m water depth
- Solid rock: High load capacity
- Short sailing route to open sea
- Good shelter from wind & waves
- No tidal range, no currents, no ice
- No dredging required
- ISPS, waste handling, shore power,
- Projects for bunkering of H2 and ammonia from 2024/25
- Efficient land logistics
- Highly competent workforce
- Well developed supply industry

Strengths:

The southernmost port in Norway with proximity to offshore wind projects in entire North Sea basin. A sheltered port with short distance to open sea. Large areas, deep water quay and high load bearing capacities. There is a well-developed supply industry through decades of experience from maritime and oil and gas industries.

Additional relevant information (for example):

Very open to collaborate with other Nordic ports to establish an efficient offshore wind logistics.

Role as Offshore Wind (OFW) Port:

- ☐ Manufacturing of OFW components
- ☐ Pre-assembly / installation
- ☐ O&M
- ☐ Decommissioning

Contact Information:

Representative name: Turid Storhaug
Email: tust@gotnorway.com
Phone nr.: +47 959 47 583

Port of Kristiansand

PORT OF KRISTIANSAND

Port overview

Location	Kristiansand, Mandal and Lindesnes
Coordinates	Krristainasand 58°7'34.7"N 8°1'10.5"E Mandal 58°0'43.9"N 7°29'34.6"E Lindesnes 58°2'9.6"N 7°9'22.4"E
Ownership	Public
Activities	Ferry, offshore, Project cargo, maintenance, container, cruise, bulk, fisheries, terminals, offshore wind, hydrogen, shore power, waste recycling and handling
Main usage	Ferry, offshore, Project cargo, maintenance, container, cruise, bulk, fisheries, terminals, offshore wind, hydrogen, shore power, waste recycling and handling
Total area (m^2) incl. storage area	Port area Kongsgaard Western side 50 000m2 Expantion possibility
Quay berth length (m)	Total 3400 m on 14 different facilities
Quay berth width (m)	Variable from 4 m to 30 m
Quay draft (m LAT)	Variable Minimum 7 to 14 m
Quayside Bearing Capacity (t/m^2)	Variable . Several strongpoints for high bearing & crane operations
Bearing capacity	20t /m2
Craneage capabilities	2x 100 t + 1 x 125
Water depth and seabed conditions	13 m Mud & clay
Track record in renewables	Project cargo to landbased wind development. 4,2 mW turbines
Proximity to Offshore Wind sites	189km to Sørlige Nordsjø II, Norway
Proximity of Supply Chain	Yes. Suppliers based in port area or within a 12 km range from the port
Ro/Ro Capabilities	Yes. Proven track record
Jack up Capabilities	Yes. Proven track record

Background:

Port of Kristiansand is strategically located with Denmark, and the European continent as one short crossing away. The center of Kristiansand is in the immediate vicinity, and the harbor is a favorite destination for shipowners, freight forwarders and cruise tourists. Kristiansand Harbor is one of the country's most important ports and occupies a central place in the national transport network. Port of Kristiansand plays a key role as a regional development actor and facilitator for business.

Main features:

Kristiansand Havn owns and operates today: ferry terminal, container terminal, terminal for cruise ship, wet/dry bulk terminal, general cargo terminal and offshore/supply terminal (OSP).

The port has a direct connection to the main road system, with connections to Oslo (E18), Stavanger (E39) and Bergen (RV9) among others. Regulatory work is now underway for the new E39, upgrading of the ferry terminal, Lagmannsholmen and probably soon the a new extended E18 crossing our North Port, Kongsgård/ Vige. Geographically, Kristiansand Havn is the port in Norway that is closest to the European market, Great Britain, Scandinavia and the Baltics. It gives us a unique competitive advantage.

Strengths:

ISPS
Shore Power (High and Low Voltage)
Waste handling
Low risk sailing in, and short distance to open sea
Efficient land logistics
Highly competent workforce
Well developed supply industry
Active projects: offshore wind, hydrogen, net-zero port activities, infrastructure
Sustainability and electricity

Additional relevant information (for example):

WindPort and SouthWind are companies we collaborate with using a combined effort and infratsructure towards offshore wind. And are open for more collaboration between nordic ports.

Role as Offshore Wind (OFW) Port:

- ☐ Manufacturing of OFW components
- ☐ Pre-assembly / installation
- ☐ O&M
- ☐ Decommissioning

Contact Information:

Representative name:
Isabelle-Louise Aabel
Email: ila@kristiansand-havn.no
Phone nr.: +47 992 75 549

Karmsund Wind

KARMSUND HAVN

Port overview

Location	Haugesund region in the west coast of Norway
Coordinates	Haugesund Cargo Terminals, Husøy 59.337552, 5.312392 Haugesund Subsea and Offshore Base, Killingøy 59.421237, 5.248497 Haugesund Windport Haavik 59.306086, 5.317827
Ownership	Karmsund Wind is owned by Karmsund Port Authority
Activities	Marshalling, mooring, assembly and O&M
Main usage	Cargo, fishery, break bulk, offshore Base, offshore wind
Total area (m^2) incl. storage area	Husøv up to 200.000 m^2 Killingø up to 14.000 m^2 Haavik 660.000 m^2
Quay berth length (m)	From 20 m to 200 m
Quay berth width (m)	Up to 1675m
Quay draft (m LAT)	9,5 - 30m
Quayside Bearing Capacity (t/m^2)	From 5t/m^2 to 20t/m^2 (Dedicated areas for loads > 20t/m^2)
Bearing capacity	
Craneage capabilities	As requested
Water depth and seabed conditions	< 30m Solid rock and shell sand seabed. No dredging required.
Track record in renewables	Proven track record from onshore wind project. Excellent experience as logistic hub for different segments of renewables projects
Proximity to Offshore Wind sites	50 km to Utsira Nord, Norway 250 km to Sørlige Nordsjø II, Norwa
Proximity of Supply Chain	There is a well-established maritime supply industry in the area.
Ro/Ro Capabilities	Yes
Jack up Capabilities	Yes

Background:

Karmsund Wind is 100% owned by Karmsund Port Authority, located on the west coast of Norway. Karmsund Port Authority manages one of Norway's largest and busiest port areas. The port works closely with the region's largest players in all maritime activities. Karmsund Port Authority has currently property and infrastructure values for over 300 million Euros and has investment plans (2023 -2033) of 250 million Euro, mainly related to Offshore Wind.

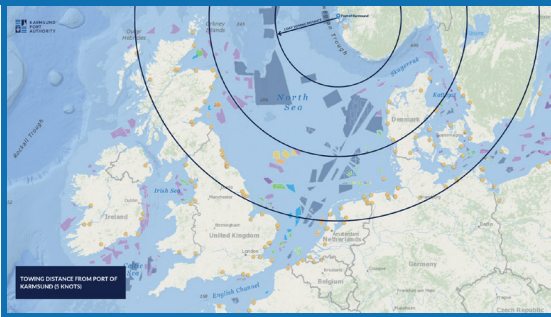
Karmsund Wind AS was established in March 2023 with the main goal to become the most important infrastructure supplier for the offshore wind industry in the North Sea basin. Karmsund Wind focuses on infrastructure and logistics within Marshalling and Mooring activities, assembly and O&M. The sites included in Karmsund Wind's plans are Haugesund Cargo Terminals Husøy, Haugesund Subsea and Offshore Base Killingøy and Haugesund Windport Haavik.

Main features:

- Karmsund Wind is owned Karmsund Port Authority (owned by six municipalities in the region).
- Karmsund Port is one of Norway's largest ports
- Large property and infrastructure owner:
  - Today : 600.000 m2 areal and 75.000 m2 buildings and 4 km quay
  - Going forward: at least 1.5 million m2 area , xxx m2 buildings and 8+ km quay.
- Investment plans 2023 - 2033: 200 – 250 million Euro
- Logistic hub for the west coast of Norway.
- Karmsund Port is located in one of the largest Maritime, Industrial and Technology centers in Norway.

Strengths:

The closest port to the planned offshore floating wind farm, Utsira Nord. Close proximity to other offshore wind farms in Northern Europe.



Role as Offshore Wind (OFW) Port:

- ☐ Manufacturing of OFW components
- ☐ Pre-assembly / installation
- ☐ Marshalling & Mooring
- ☐ Decommissioning

Contact Information:

Representative name: Kristine Edvinson
Email: ked@karmsund-havn.no
Phone nr.: +47 47668039

Port of Egersund

EIGERSUND NÆRING OG HAVN KF

Port overview

Location	Eigersund, Rogaland - Norway
Coordinates	58°26'25.9"N 5°58'53.3"E
Ownership	Public, owned by Eigersund municipality.
Activities	Container – Projects – General cargo - Bulk
Main usage	One of Norways largest fishing harbours
Total area (m²) incl. storage area	50.000 m2 for developing (zoning plan approved) 30.000 m2 ready storage (8.000 m2 ISPS area) 2.000 m2 warehouses (already build)
Quay berth length (m)	Varies from 150 – 200 meteers
Quay berth width (m)	From 10-20 meters – General over 10 m
Quay draft (m LAT)	6-9 meters. General 9 m.
Quayside Bearing Capacity (t/m²)	General 5Tonns m²
Bearing capacity	5.000 t/m2
Craneage capabilities	Mobile cranes only
Water depth and seabed conditions	General 12 meters Mud and sand
Track record in renewables	Blade, hub, and complete windmill construction storage
Proximity to Offshore Wind sites	Planned location of Flex2Power, a floating offshore wind construction, only 7 km from the harbour. Proximity to Sørlige Nordsjø 2
Proximity of Supply Chain	There is a well-established maritime supply industry in the area. Energy Innovation, located in Egersund, offers training and certifications within the offshore wind industry
Ro/Ro Capabilities	Yes
Jack up Capabilities	Yes

Egersund Port, located on the south-west coast of Norway, is the nearest equipped port to the newly established Sørlige Nordsjø 2 wind farm. The Kaupanes industrial area will soon have 60 hectares of land available for new development, and is continuously growing. The area offers land both within and outside the ISPS terminal, situated by the quayside.

Egersund Port aims to be more environmentally friendly, with the recent installation of shore power. With several large docks, the terminal has the capacity to efficiently handle SOV ships.

Egersund Port has plenty of space with a total quay length of around 4,500 metres, depths from six to nine metres. This includes three ro-ro berths. What is unique about the harbor is that it has no tidal difference and that it is ice-free virtually all year round. It is a short sail in from the sea, the docks are located near the sea and have a sheltered anchorage. Egersund also has good road and rail connections.

The ISPS terminal at Kaupanes, Egersund has 4 docks with a depth of 9m and varying lengths from 44m to 150m. One dock is a roll-on/roll-off dock allowing for efficient unloading of bigger equipment.

Key features include:

- Container docks within the ISPS area.
- High accessibility for SOV ships.
- Convenient access to a quayside facilities
- International airport within 1 hour.
- Stavanger University Hospital within 1 hour.
- 10 min from train station with connections to Stavanger and Kristiansand/Oslo.
- Stavanger is reachable in 1 hour by car or train and Kristiansand in 3 hours.

Energy Innovation, based in Egersund, offers crucial training, certifications, and innovation in the wind industry, vital to running a successful offshore wind farm. .

For more information, check https://kaupanes.no/

Role as Offshore Wind (OFW) Port:

- ☐ O&M

Contact Information:

Representative Tommy Bjellås
Email: post@egersund.havn.no
Phone nr.: +47 92021602

Karmsund Servicebase

KARMSUND SERVICEBASE

Port overview

Location	North-Karmøy, Torvastad
Coordinates	59°22'58"N 5°17'3"E
Ownership	100% private ownership, Small-Medium Enterprice (SME) according to EU definition.
Activities	Loading and unloading of all types of goods, offshore structures, equipment for aquaculture/fishfarming industry, storage, bonded storage, ship repairs and waste handling trough partners.
Main usage	Handling of goods for fishfarming industry, temporary storage, maritim industry, Oil & gas
Total area (m²) incl. storage area	110.000 m²
Quay berth length (m)	320m
Quay berth width (m)	
Quay draft (m LAT)	6-12m
Quayside Bearing Capacity (t/m²)	5-15 tons/m2
Bearing capacity	5-15 tons/m2
Craneage capabilities	As requested
Water depth and seabed conditions	6-20 m, Sandy/sedimentary seabed. No need for dredging.
Track record in renewables	Mob and demob of SOVs
Proximity to Offshore Wind sites	Yes, 16 nautical miles to Utsira Nord
Proximity of Supply Chain	O & M base, anchor handling, general handling and storage of goods inside/outside
Ro/Ro Capabilities	No
Jack up Capabilities	No

Background:

We have been operating for 50 years along the Karmsundet. Our property consists of several quays and industrial warehouses, storage halls, offices. We are placed in the middle of an industrial cluster in the area, consisting of suppliers for the maritime industry.

We are a part of the Karmsund Group, a private investment company focusing on industrial real estate and the contracting service industry. The ultimate owners are Norwegian.

Main features:

- Shore base services for ships and rigs, aquaculture industry
- Mobilisation and demobilisation services
- Contracting services and temporary labour needs
- Property services; quay facilities, rental of office, retail and industrial space, custom bonded storage, management and storage control
- Equipment rentals (barges, trailers, forklifts ++)

Strengths:

The base has several cooperating partners on site; ship repairs, steel construction, diving, transport, waste management.

The location is close to Utsira Nord and has no restrictions with regards to seacables and heights.

The infrastructure is already built.

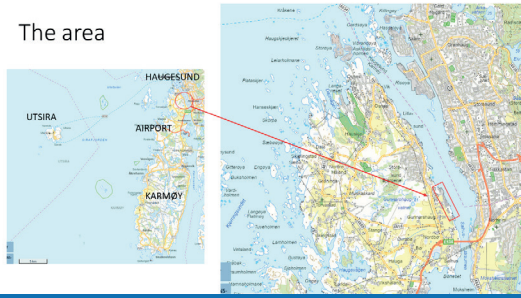
We are a flexible, private company that always serves the customer needs.

We operate the port ourselves.

Additional relevant information:

New SOV quay planned and approved. Ready 2024.

The area



Role as Offshore Wind (OFW) Port:

☐ O&M

Contact Information:

Representative name: Marie Aanensen
Email: maa@karmsundgroup.no
Phone nr.: +47 95 86 25 74

ASCO Norge - Farsund

Port overview

Location	Vollmonaveien 32 , Lundevågen, 4553 Farsund
Coordinates	Quay location: N58.08˚ E 006.80 Entr into port: N58.01˚ E 006 50˚
Ownership	ASCO Holdings Ltd
Activities	Terminal handling, supply base, warehouse, material management, logistics and Freight Forwarding
Main usage	Providing total logistics services to all industries. Extended Warehouse and storage facilities.
Total area (m²) incl. storage area	Internal storage area: 19,200 m² External storage – levelled area: 30,000 m² Additional outdoor area: 100.000 m² on request
Quay berth length (m)	130 m² each
Quay berth width (m)	20 m
Quay draft (m LAT)	6,5 – 14 m + deepwater quay
Quayside Bearing Capacity (t/m²)	5- 70 t/m². RORO quay with total of 350 ton capacity
Bearing capacity	Solid rock
Craneage capabilities	Up to 20 tons lift, reach 20 m. Heavy lift on request, Reach stacker up to 45 ton. 160-ton mobile crane available.Headover crane ASCO North
Water depth and seabed conditions	Over 10 m – Mainly solid rock. No dredging required
Track record in renewables	Servicing OFW projects in UK. Logistics partner in several Hydrogen development projects
Proximity to Offshore Wind sites	Approximately 100 NM from SN II, and in close tow range to Utsira Nord + future projects in North Sea basin.
Proximity of Supply Chain	Local supply chain in immediate proximity to yard.
Ro/Ro Capabilities	Yes
Jack up Capabilities	Yes. On Request

Background:

ASCO Base Farsund is a high experienced, modern terminal and a supply base with excellent facilities and interface. Strategically positioned and ideally located to serve as an operational hub to support and supply future OFW projects in the North Sea. The Farsund Port has extended facilities to support berthing of larger vessels as bargers, crane or jack-up vessel.

ASCO Farsund represents as the no 1 supply base operator between Stavanger and Kristiansand.

ASCO South: Warehouses, outdoor storage and offices close to quay.ASCO North: Warehouse, outdoor storage close to deepwater quay

Main features:

- Farsund North covers a 6.200 m2 indoor storage area and 4,200 m² outdoor storage with a possibility for additional outdoor areas for a total of 10.000 m2
- Storage of RAM cylinders in a special-designed tower-frame
- High ceiling inside warehouse
- Access to 3 overhead cranes, lifting capacity up to 25 t
- Direct access to deep-water quay
- Access to significant gravelled outdoor areas
- Access to workshop for maintenance work
- Offices available
- Secured area, alarm and CCTV outdoor and indoor. No public access

Strengths:

ASCO Farsund has an unrivalled competence and experience within warehouse management and logistics. We are a part of the Farsund Port and the «Lister intermunicipal port authority» which is a a collaboratoin between Farsund and Lyngdal municipality.

Additional relevant information (for example):

Kjeldsvika area located next to Alcoa terminal is perferctily situated to support future OFW Operations, when finalized.

Role as Offshore Wind (OFW) Port:

- ☐ Manufacturing of OFW components
- ☐ Pre-assembly / installation
- ☐ O&M
- ☐ Decommissioning

Contact Information:

Representative name:
Eivind Reisvaag Sunde
Email: ers@ascoworld.com
Phone nr.: +47 4888 3302

ASCO Norge - Tananger

Port overview

Location	Risavika Havnering 235 and 285, 4098 Tananger
Coordinates	Entry into port: N 58,930 E 5,573 Point of pilot boarding: N 58,850 E 5,500
Ownership	ASCO Holdings Ltd
Activities	Total Supply base services: Warehouse, project cargo loading/unloading vessels, material management, MGO supply, bulk deliveries, Water, LNG and power supply, Logistics, Freight (air/sea/land). Aviation.
Main usage	Logistics services to all industries. MGO supply, Freight forwarding and customs clearance, Warehouse and storage facilities.
Total area (m^2) incl. storage area	100.000 m2 base area, 17,400 m2 internal storage
Quay berth length (m)	Total of 450 m + 150 m new quay under development.
Quay berth width (m)	
Quay draft (m LAT)	11 – 13 m draft
Quayside Bearing Capacity (t/m^2)	70-100 tonnes/m2 load bearing capacity
Bearing capacity	Solid rock
Craneage capabilities	3 harbour cranes, lift up to 84 tonnes
Water depth and seabed conditions	over 10 m – Mainly solid rock. No dredging required
Track record in renewables	Servicing OFW projects in UK. Logistics partner in several Hydrogen development projects.
Proximity to Offshore Wind sites	Close to both Utsira Nord and SNII projects.
Proximity of Supply Chain	Northern Europes largest Energy cluster at the premises and nearby up to 10 minutes drive
Ro/Ro Capabilities	No
Jack up Capabilities	No

Background:

We have been operating for 50 years along the Karmsundet. Our property consists of several quays and industrial warehouses, storage halls, offices. We are placed in the middle of an industrial cluster in the area, consisting of suppliers for the maritime industry.

We are a part of the Karmsund Group, a private investment company focusing on industrial real estate and the contracting service industry. The ultimate owners are Norwegian.

Main features:

- Shore base services for ships and rigs, aquaculture industry
- Mobilisation and demobilisation services
- Contracting services and temporary labour needs
- Property services; quay facilities, rental of office, retail and industrial space, custom bonded storage, management and storage control
- Equipment rentals (barges, trailers, forklifts ++)

Strengths:

The base has several cooperating partners on site; ship repairs, steel construction, diving, transport, waste management.

The location is close to Utsira Nord and has no restrictions with regards to seacables and heights.

The infrastructure is already built.

We are a flexible, private company that always serves the customer needs.

We operate the port ourselves.

Additional relevant information:

New SOV quay planned and approved. Ready 2024.

Role as Offshore Wind (OFW) Port:

- ☐ Manufacturing of OFW components
- ☐ Pre-assembly / installation
- ☐ O&M
- ☐ Decommissioning

Contact Information:

Representative name:
Eivind Reisvaag Sunde
Email: ers@ascoworld.com
Phone nr.: +47 4888 3302

Hausvik Energy Yard

Port overview

Location	Hausik, Lyngdal municipality
Coordinates	N 58.049 E 6.987 Point of pilot boarding: N 58.020 E 6.935
Ownership	Hausvik Energy Yard AS
Activities	Planned offshore wind fabrication/assembly, maintenance, supply base service & logistical support.
Main usage	Historically Hausvik Yard has been used as project area for fish farm projects, offshore O&G, service and decommissioning. Gravel quarry (license ends in 2024).
Total area (m^2) incl. storage area	300.000 m2 levelled area ready to use + 100 000 m2 as future optional, pending on regolatory approval.
Quay berth length (m)	50-500 meter* pending on future development
Quay berth width (m)	"Unlimited"
Quay draft (m LAT)	10-50 m
Quayside Bearing Capacity (t/m^2)	10-70 t/m^2
Bearing capacity	70 – 100 tonnes / m2 load bearing capacity.
Craneage capabilities	As requested.
Water depth and seabed conditions	70-150 meter, mainly solid rock.
Track record in renewables	Industrial consortia of 5 local companies with extensive experience and competence from mechanical/ electromechanical, maritime, construction, energy and renewable industry.
Proximity to Offshore Wind sites	Approximately 100 NM from Sørlige Nordsjø II, and in close tow range to Utsira Nord + future projects in North Sea basin.
Proximity of Supply Chain	Main supply chain located within 25 km radius of yard.
Ro/Ro Capabilities	No (Capability consideration for future quay)
Jack up Capabilities	Yes

Background:

Hausvik Energy Yard AS is a Joint Venture company owned by 5 large industrial companies in the South of Norway. This consortium represents a highly experienced workforce of 900 employees with an annual turnover of 2.7 billion NOK.

Main features:

Hausvik Energy Yard is a levelled, ready-to-use 300,000 m^2 industrial area strategically situated with direct access to open waters and in close vicinity to other local ports as Farsund and Mandal, making it an optimal location for supporting the international offshore wind industry.

Offering the shortest sailing route to the North Sea Basin and Europe, along with extensive laydown areas, deep-water quays, and sheltered fjords devoid of tides, Hausvik is your number one choice to support any OFW operations, including O&M, component manufacturing, pre-assembly, installations or decommissioning.

Strengths:

Large industrial plot. 300 00 m2 levelled area on solid rock foundation, ready for use by 2024/2025.

Deepwater quays, sheltered waters. Fjords suitable for wet storage.

New quays and infrastructure under development.

Highly experienced workforce and supply industry, with proven track record experience from supporting OFW projects.

Additional relevant information:

Open to collaborate with other Nordic ports or EPCI contractors to provide industrialized concepts, support and development to the international offshore wind industry. Fixed and floating. Steel and concrete.

Web: http://hausvikenergyyard.no/

Role as Offshore Wind (OFW) Port:

- ☐ Manufacturing of OFW components
- ☐ Pre-assembly / installation
- ☐ O&M
- ☐ Decommissioning

Contact Information:

Representative name: Arne Marthinsen
Email: arne.marthinsen@ogrey.no
Phone nr.: +47 9004 6025

Fjord Base

FJORD BASE GRUPPEN

Port overview

Location	In the city of Florø, the westernmost city of Norway
Coordinates	61° 35' 58.45" N & 5° 01' 58.08" E
Ownership	Ancala Partners (75%) and Semi AS (25%)
Activities	Important hub for industrial activities in the region, with short-distance to cooperations and skilled networks
Main usage	Offshore Supply, OCTG, Maritime, Subsea, Projects, Green Ventures and Land-based Fish Farming.
Total area (m^2) incl. storage area	1.060.000 m^2 (+ 1.600.000 m^2 expansion possiblities)
Quay berth length (m)	850 m, total lenght of 9 quays
Quay berth width (m)	More than 50 m
Quay draft (m LAT)	7,7 - 17 m
Quayside Bearing Capacity (t/m^2)	10 t/m2 (120t/m2 point load for existing quay sides)
Bearing capacity	Large, the whole industrial area is on solid rock
Craneage capabilities	Extensive machine park including, 5 large mobile cranes (84t), reach stacker (45t), 29 forklifts (16t)
Water depth and seabed conditions	80 meters and possible solutions for deep quayside requirements.
Track record in renewables	Storage and logistic support for the installation and maintenance of Guleslettene Wind Farm and Hennoy Wind Farm. Deeply involved in development of H2 production facility and NH3 bunkering terminal
Proximity to Offshore Wind sites	Vestavind B (103 km), Trollvind (128 km), Hywind Tampen (158 km), INTOG NE-b (210 km), Utsira Nord (272 km), Nordvest C (285 km), Shetland Offshore Wind (306 km), INTOG NE-c (318 km), Arven Offshore Wind Farm (321 km)
Proximity of Supply Chain	Hosting 65 companies with 650 skilled workers.
Ro/Ro Capabilities	Yes
Jack up Capabilities	Yes

Background:

The Fjord Base Group has been involved in generating business activity in the local community since 1985. Fjord Base, Norway's largest and westernmost supply base, and is an important hub for industrial activities in the region.

Providing critical infrastructure and logistic services to major multi-national companies with on and off-shore operations in the region and has more recently expanded its services to on and off-shore renewable energy operators, making it a key player in the energy transition in Norway.

Main features:

- 35 years exerience with logistics and operation
- Outstanding HSSEQ Culture
- Positioned for the green shift (Energy Center Florø)

Strengths:

Comprehensive ambitions within Offshore Wind: strong and committed ownership for becoming a major supplier within offshore wind, including assembly and marshalling of FOWTs.

Versatile facilities for different Floater technologies: deep quaysides and routes to access the open ocean with a minimum depth of 80 meters for the duration of the tow. Ideal Location and Port Facilities: our sheltered and deep-sea port offers calm sea conditions, enabling high assembly uptime. Abundant Project Area and potential of 1 600,000 square meters available for future expansion.

Industrial Cluster Advantage: this vibrant industrial cluster ensures a comprehensive range of services and expertise at your disposal.

Additional relevant information (for example):

Services for O&M, Assembly and Marshalling for Electrification projects is available today. Further, 1st stage of development will serve a 500 MW project, and 2nd stage about 1 GW after future expansion. Ensuring cost efficient production facilities by large scale industrialization of Offshore Wind

Role as Offshore Wind (OFW) Port:

- ☐ Manufacturing of OFW components
- ☐ Pre-assembly / installation
- ☐ O&M
- ☐ Decommissioning

Contact Information:

Representative name: Ole Schanke Eikum
Email: ole.schanke.eikum@fjordbase.no
Phone nr.: +47 95 04 80 93

Port of Utsira

Port overview

Location	Utsira, Norway
Coordinates	Norevågen: 59.312194, 4.885215 Sørevågen: 59.297867, 4.893118
Ownership	Utsira port is corporation between municipality, private and public owned land.
Activities	O&M base, service hub, warehouse/storage, Drone service, Emergency response. Ferry MS Utsira transport personal, cars, cargo.
Main usage	Infrastructure of goods, personnel logistics, fishery, offshore wind industry
Total area (m^2) incl. storage area	100 000 sqm (60% north & 40% south)
Quay berth length (m)	Approx. 700 m (400 m north & 300 m south)
Quay berth width (m)	Varies from 3m – 15 m
Quay draft (m LAT)	Varies from 2 m – 6 m
Quayside Bearing Capacity (t/m^2)	$6t/m^2$
Bearing capacity	Varies depending on soil/ground conditions and type of quay.
Craneage capabilities	As required / planning for wind industry
Water depth and seabed conditions	Water dept between 4 – 10 m. Solid rock, dredging to be executed if needed
Track record in renewables	Worlds first wind hydrogen plant 2004. Goal green and smart municipality
Proximity to Offshore Wind sites	7- 10 km to Utsira Nord floating wind farm
Proximity of Supply Chain	Karmsund havn – 25 km, Westcon base, Aibel, Aker Stord. North: Wergeland base - South: Rosenberg, Norsea basene, Windport Mandal
Ro/Ro Capabilities	Small scale
Jack up Capabilities	No

Background:

Utsira port was established in 1865-70 when the herring came, and was Norway's first state port. The municipality went from agriculture to fishing, and had two fishing ports with freezers that created jobs and growth. Now Utsira will transition to offshore wind, and be a pilot and host municipality for Utsira Nord, a large offshore wind project 7 km from the island. Utsira Nord will cover 1986 km2, and be visible from the living room of the residents. The goal is to ensure good operation and maintenance models from Utsira, which are time-, cost- and climate-efficient. Utsira will be a pioneer municipality for sustainable development of offshore wind in Norway.

Main features:

- Areas: Two harbor's, one in the south and one in the north, which make the ports extremely weather flexible.
- Quay: Quay established for fishery with water depth of 4-8 meters, adapted for CTW and anchor handlers. Under mapping and development.
- Short distance to Utsira warehouse/storage, drone center, accommodation (7 km).
- No tidal range, no currents, no ice.
- Waste handling, shore power looking into electrician, H2.
- Highly competent workforce well developed supply and logistics.

Strengths:

Geographical advantages – 7 km. High marine competence – and decade experience with fishery operation and logistics

Additional relevant information (for example):

Planning investments to ensure competitive ports, transition from fishing to offshore wind. Open for collaboration with other Nordic Ports

Role as Offshore Wind (OFW) Port:

- ☐ O&M
- ☐ Drone base - inspection, surveillance
- ☐ Warehouse/ Storage, office,
- ☐ Emergency (critical equipment, environment spill, medical)

Contact Information:

Representative name: :
Erik Berg/ Håvard Nordvik
Email: post@utsira.kommune.no
Phone nr.: 408 46 245 /950 62 203

NorSea Tananger, Norway

Port overview

Location	Tananger, Norway
Coordinates	58° 55' 75" N, 05° 35' 40" E
Ownership	NorSea Group
Activities	Offshore installation projects, drilling and operational services, storage and mob/demob of large volume elements, roro-quay, deepwater quays
Main usage	Offshore project mobilisation port. Project support and administrative center for oil&gas majors, service companies and NorSea group.
Total area (m²) incl. storage area	Quay level area: 400.000 m² - Outdoor storage: 100.000 m² - Indoor storage: 33.000 m² - Workshops Mech: 11.000 m² - Offices: 55.000 m²
Quay berth length (m)	550m
Quay berth width (m)	7-11m
Quay draft (m LAT)	6-11m
Quayside Bearing Capacity (t/m²)	Bearing 4-10t/m²
Bearing capacity	70-100t/m²
Craneage capabilities	50 – 210 tons
Water depth and seabed conditions	8 – 11 meters depth
Track record in renewables	
Proximity to Offshore Wind sites	Site is in very close proximity (30 nmi) to the initial floating offshore wind area Utsira Nord, and Sørlige Nordsjøen II (130 nmi). Tananger can efficiently support wind farm operations in the northern North Sea /UK as well as the Norwegian Sea.
Proximity of Supply Chain	Stavanger hold the position as an O&G capital, thus the supplier cluster in the region support and facilitate all aspects of offshore operations.
Ro/Ro Capabilities	Yes
Jack up Capabilities	Yes

Background:

Norsea's supply and mobilisation base in Tananger (Sola) ("Tananger base") was established in 1960'es as Norway's first generation oil bases. The base has together with Dusavik been a cornerstone in the Stavanger regional offshore oil&gas service cluster. Companies established at or mobilising goods and equipment from our base in Tananger, provide an efficient full range services to the oil&gas field operations on the Norwegian Continental Shelf.

Tananger is a complete maritime and oil&gas service centre through the local access to over 60 service companies with special expertise in drilling, fabrication, workshop activities, subsea and equipment for heavy mooring work.

Main features:

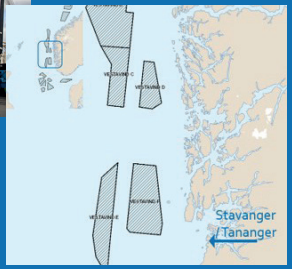
Tananger base is well established with all required social, operational and support services either at site or available in Stavanger Region. Offshore wind operators can both tap into the established resource pool and services base of the Oil&gas-cluster, as well as build own offshore wind competence upon a strong regional maritime industry.

Strengths:

Stavanger hold the position as Norway's oil&gas capital and with decades of offshore industry development, the supplier cluster in region support and facilitate all aspects of offshore operations. Hence Tananger is ideal for establishing operative control centres and support services for the O&M phase of the Norwegian Offshore wind developments.

NorSea is a professional real estate partner in relation to both developing and operate/maintain various types of infrastructure. With own organization and various suppliers - clients is met professionally on various locations Norsea operates (Norway: Hammerfest, Harstad, Kristiansund, Averøy, Stord, Jelsa, Espevik, Stavanger. Denmark: Esbjerg). Norsea Property manage and partly owns: 4,2 million m2 base areas, warehouses and office buildings.

https://norseagroup.com/en/bases/norsea-tanangerbase



Role as Offshore Wind (OFW) Port:

- ☐ Operational and maintenance main base
- ☐ Logistic centre for Windfarm Operators and and Suppliers

Contact Information:

Representative name: Tore Jacobsen
Email: tore.jacobsen@norseagroup.com
Phone nr.:+4790860829

NorSea Dusavik, Norway

Port overview

Location	Dusavik, Stavanger, Norway
Coordinates	59° 00' 00" N, 06° 40' 00" E
Ownership	NorSea Group
Activities	Offshore installation, drilling and operational services, storage and mob/demob of large volume elements, roro-quay, deepwater quays
Main usage	Storage and operational supply and support. Subsea construction mobilisation port.
Total area (m²) incl. storage area	Quay level area: 300.000 m² - Outdoor storage: 115.000 m² - Indoor storage: 23.000 m² - Workshops Mech: 14.500 m² - Offices: 22.000 m²
Quay berth length (m)	7 off quays total 550 m
Quay berth width (m)	11 m / draft 8 m
Quay draft (m LAT)	Draft 8 - 11 m
Quayside Bearing Capacity (t/m²)	10t/m²
Bearing capacity	70t/m²
Craneage capabilities	50-210 tons
Water depth and seabed conditions	8 – 11 meters depth
Track record in renewables	Installation Hywind pilot floating monopile WTG
Proximity to Offshore Wind sites	Site is in very close proximity to the Utsira Nord (33 nmi) floating wind site and 140 nm from Sørlige Nordsjøen II area for fixed bottom developments
Proximity of Supply Chain	Stavanger holds the position as Norway's O&G capital and the supplier cluster in the region support and facilitate all aspects of offshore operations.
Ro/Ro Capabilities	Yes
Jack up Capabilities	No

Background:

NorSea's supply and mobilisation base in Dusavik (Stavanger) ("Dusavik base") was established in 1980'es. Site has together with Tananger been a cornerstone in the Stavanger regional offshore oil&gas service cluster. Companies established at or mobilising goods and equipment from our base in dusavik, provide an efficient full range services ad supply to the oile&gas industry on the Norwegian Continental Shelf.

Main features:

Site is developed with seven quays with a total of 550 m. Dusavik is supply port with regular shipments that could be supporting offshore wind farm operations

Strengths:

Dusavik base is well established close to city centre with all required social, operational and support services either at site or available in Stavanger Region.

Very good location for development and support of wind farms in the Norwegian Sea.

NorSea is a professional real estate partner in relation to both developing and operate/maintain various types of infrastructure. With own organization and various suppliers - clients is met professionally on various locations Norsea operates (Norway: Hammerfest, Harstad, Kristiansund, Averøy, Stord, Jelsa, Espevik, Stavanger. Denmark: Esbjerg). Norsea Property manage and partly owns: 4,2 million m2 base areas, warehouses and office buildings.

https://norseagroup.com/en/bases/norsea-dusavikbase

Role as Offshore Wind (OFW) Port:

- ☐ Operational and maintenance offshore base
- ☐ Logistic centre for Windfarm Operators and Suppliers.

Contact Information:

Representative name: Tore Jacobsen
Email: tore.jacobsen@norseagroup.com
Phone nr.:+4790860829

NorSea Stordbase, Norway

Port overview

Location	Eldøyane, Stord, Norway
Coordinates	59° 45' 27" N, 5° 29' 02" E
Ownership	Nor Sea and Stord Municipality
Activities	Ready to use. Storage and mob/demob of large volume elements, ro-ro-quay, deepwater access
Main usage	Storage and pre-assembly of WTGs, mooring and array cables project preparations and installation support.
Total area (m^2) incl. storage area	Quay level area: 100.000 m^2 - Outdoor storage: 95.000 m^2 - Indoor storage/workshops: 4.000 m2 / 800 m^2
Quay berth length (m)	18-145m
Quay berth width (m)	9-50m
Quay draft (m LAT)	9-50m
Quayside Bearing Capacity (t/m^2)	5-10t/m^2
Bearing capacity	Solid Rock With minimum 22 t/m^2
Craneage capabilities	45 – 220 tons
Water depth and seabed conditions	9-50m Sheltered fjord close to main marine traffic route.
Track record in renewables	Stord Site supported the storage and topside WTG assembly of first offshore floating wind farm Hywind Scotland. Further storage, handling and load-out of Mooring chains and equipment for Hywind Scotland.
Proximity to Offshore Wind sites	Site is in very close proximity (50 nm) to the initial floating offshore wind area Utsira Nord and developing wind farm areas in the northern North Sea /UK as well as the Norwegian Sea
Proximity of Supply Chain	Stord Industry Cluster , holds a long and renowned experience in providing services, engineering and construction projects the O&G industry
Ro/Ro Capabilities	Yes
Jack up Capabilities	Yes

Background:

NorSea Stordbase is located at Eldøyane Industrypark at Stord(Vestland). Stordbase was established in 1981 with core business being offshore logistics, base activity, terminal and harbour services. Stordbase has developed a high level of knowledge and expertise, in close cooperation with companies that supply equipment and services to the oil and gas industry and wind projects in the North Sea.

Main features:

Site is developed with offices, storage workshops and three quays with a total of 300 m. Quay #3 and Sørøy has water depths outside quay that allow for lifting rigs like Thialf /Saipem 7000 and heavy installation ship Pioneering Spirit to perform lifting operations close to site. The site is a suitable port for serving projects on the Utsira Nord offshore floating wind farm area, and location reduce the distance for sailing /towing to northern North Sea offshore wind farms to a minimum.

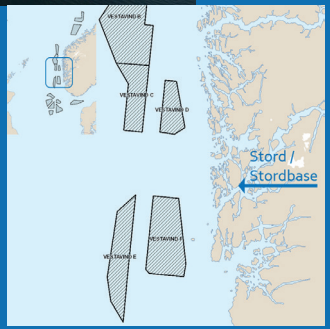
Strengths:

Stord base has proven as a very flexible versatile project mobilization base. Project executions include Hywind Scotland Pilot floating wind turbine storage, mounting and mating; storage and handling of 15 000 Johan Sverdrup pipespools; numerous SURF and subsea construction project storage and mobilisations for multiple subsea contractors.

Strong maritime service cluster in primary development area Utsira Nord in Norway.

NorSea is a professional real estate partner in relation to both developing and operate/maintain various types of infrastructure. With own organization and various suppliers - clients is met professionally on various locations Norsea operates (Norway: Hammerfest, Harstad, Kristiansund, Averøy, Stord, Jelsa, Espevik, Stavanger. Denmark: Esbjerg). Norsea Property manage and partly owns: 4,2 million m2 base areas, warehouses and office buildings.

https://norseagroup.com/en/bases/norsea-stordbase



Role as Offshore Wind (OFW) Port:

- ☐ Storage, Marshalling and offshore installation campaign suppport.
- ☐ Operational and maintenance service base
- ☐ Logistic centre for Windfarm Operators and and Suppliers

Contact Information:

Representative name: Tore Jacobsen
Email: tore.jacobsen@norseagroup.com
Phone nr.:+4790860829

NorSea Vestbase, Norway

Port overview

Location	Kristiansund, Norway
Coordinates	63° 06' 17.6" N, 007° 46' 46.0" E
Ownership	Norsea Property AS (private)
Activities	Supplybase and industrial cluster with various relevant suppliers established
Main usage	Logistical support for vessel calls and offshore installations. Long experience in field development support, heavy lift operations and special mob/demob projects
Total area (m^2) incl. storage area	Gross approx 500.000 m^2
Quay berth length (m)	Length 840m multiple quays
Quay berth width (m)	Draft 7 to 21 m
Quay draft (m LAT)	
Quayside Bearing Capacity (t/m^2)	5 to 30 T/m^2
Bearing capacity	5-30 t/m^3 and 55-120 t/m^2
Craneage capabilities	Various harbor cranes + 600t crawler crane
Water depth and seabed conditions	7,3-21,4m
Track record in renewables	N/A
Proximity to Offshore Wind sites	Site is in close proximity to the fields in the Norwegian Sea
Proximity of Supply Chain	City of Kristiansund has been and are serving e.g. the oil&gas industry, aqua-industry and shipyard industry for decades – and are well developed – and locally available
Ro/Ro Capabilities	Yes
Jack up Capabilities	No

Background:

Norsea's supplybase in Kristiansund ("Vestbase") was established in 1980, and are developed into a cluster of 50-60 companies/suppliers serving oil&gas industry and other industries.

Main features:

"Vestbase" represents a dynamic cluster, with great capacity within key elements such as: infrastructure, machines, personnel categories and a broad range of suppliers of goods and services. Located only 5 min to city center and Kvernberget Airport/heliport. The site is next to the coastline, reducing the distance for sailing/towing the fjords to a minimum. Norsea Vestbase has great experience in heavy load operations in relation to numerous field development campaigns since the 90's

Strengths:

Site is developed, with well established supplier network. Logistical transit routes (road/sea) are also well established with regular routes (incl roro-vessel).

The mixture of great infrastructure, range of suppliers, Kristiansund city with its features, airport/heliport and general geographical location secures Norsea Vestbase as a preferred logistical partner.

NorSea is a professional real estate partner in relation to both developing and operate/maintain various types of infrastructure. With own organization and various suppliers - clients is met professionally on various locations Norsea operates (Norway: Hammerfest, Harstad, Kristiansund, Averøy, Stord, Jelsa, Espevik, Stavanger. Denmark: Esbjerg). Norsea Property manage and partly owns: 4,2 million m2 base areas, warehouses and office buildings.

Additional relevant information: norseagroup.com

Role as Offshore Wind (OFW) Port:

- ☐ Logistic centre for Windfarm Operators and and Suppliers
- ☐ Pre-assembly / intergration

Contact Information:

Representative name: Tore Jacobsen
Email: tore.jacobsen@norseagroup.com
Phone nr.:+4790860829

NorSea Averøy, Norway

Port overview

Location	Averøy, Norway
Coordinates	63° 03' 12.4" N, 007° 40' 01.3" E
Ownership	Norsea Property AS (private)
Activities	Ready to use. Storage and mob/demob of large volume elements, rig calls, roro-quay, deepwater
Main usage	Storage and pre-assembly with further potential.
Total area (m^2) incl. storage area	Quay level area (green on ill.): 200.000 m² - Level 2 (blue on ill.): 40.000 m² - Optional development area: 100.000 m²
Quay berth length (m)	20-80m
Quay berth width (m)	
Quay draft (m LAT)	7,5-16m
Quayside Bearing Capacity (t/m^2)	10-20t/m²
Bearing capacity	
Craneage capabilities	
Water depth and seabed conditions	Quay #21 has 20+ meter dept just few meters outside quayside. A potential new quay on southern side of site may have 20-30 meter waterdept
Track record in renewables	N/A
Proximity to Offshore Wind sites	Site is in close proximity to the fields in the Norwegian Sea
Proximity of Supply Chain	City of Kristiansund has been and are serving e.g. the oil&gas industry, aqua-industry and shipyard industry for decades – and are well developed – and locally available
Ro/Ro Capabilities	Yes
Jack up Capabilities	No

Background:

NorSea's supplybase in Kristiansund ("Vestbase") was established in 1980, and are developed into a cluster of 50-60 companies/suppliers serving oil&gas industry and other industries. In 2012 NorSea acquired the described site at Averøy, which since then has been developed into a large attractive site with great location and capacities. Various project has been executed at site, and new projects are being considered/ developed.

Main features:

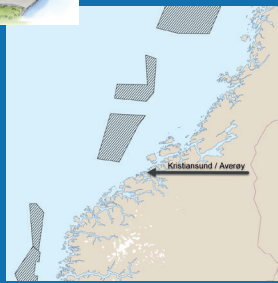
Site is developed, with two quays. Close to the city of Kristiansund, with a broad range of suppliers established, hotels and airport etc. The site is next to the coastline, reducing the distance for sailing/towing the fjords to a minimum.

Strengths:

Site is developed, with potential/plans for new special infrastructure elements (such as a ultra deepwater quay) or further expansions. Very good location for development and support of wind farms in the Norwegian Sea.

NorSea is a professional real estate partner in relation to both developing and operate/maintain various types of infrastructure. With own organization and various suppliers - clients is met professionally on various locations Norsea operates (Norway: Hammerfest, Harstad, Kristiansund, Averøy, Stord, Jelsa, Espevik, Stavanger. Denmark: Esbjerg). Norsea Property manage and partly owns: 4,2 million m2 base areas, warehouses and office buildings.

Additional relevant information: norseagroup.com



Role as Offshore Wind (OFW) Port:

- ☐ Pre-assembly / intergration

Contact Information:

Representative name: Tore Jacobsen
Email: tore.jacobsen@norseagroup.com
Phone nr.:+4790860829

AF Environmental Base Vats

Port overview

Location	Raunesvegen 597, 5578 Nedre Vats
Coordinates	59° 26.46' N, 5° 44.83' E
Ownership	AF Gruppen ASA
Activities	Heavy lift, load in/out, construction, service, mob/demob, decommissioning
Main usage	Offshore construction, offshore wind, decomissioning
Total area (m²) incl. storage area	135 000 m² onshore (expandable) 3 km² wet storage area
Quay berth length (m)	762 m (ships up to 400 m length)
Quay berth width (m)	700 m (no practical width restriction)
Quay draft (m LAT)	23.5 m (rapidly increase from quay front)
Quayside Bearing Capacity (t/m²)	10 ton/m² or higher, with strong points/zones with higher capacity
Bearing capacity	up to 630 ton/m²
Craneage capabilities	LR 1300, can support most heavy lift cranes
Water depth and seabed conditions	6 – 400m, rock, silt
Track record in renewables	Load out and assembly, concrete foundations
Proximity to Offshore Wind sites	Utsira Nord, ~100 km
Proximity of Supply Chain	Most services are available nearby
Ro/Ro Capabilities	Yes
Jack up Capabilities	Yes - but rock dump/leveling required

Background:

The Vats facility was developed in 1980 for construction of large Oil & Gas GBS platforms. Troll A, the largest structure ever moved was constructed in Vats. Vats was selected due to the sheltered location and extreme water depth (400m)
AF Gruppen tok over the site in 2004 and further expanded the site. Since then the site it has been usen for various construction and decommissioning projects.

Main features:

Extreme weather depth in fjord and at quay, no width or length limitation. Can accommodate any type of vessel/rig. Multiple high strength mooring points around the fjord (up to 1300 ton). High strength deep water quay that can accommodate more than 20 000 ton load in/out.

Green shore power and water supply available.
AF Gruppen is its own Port authority.

Strengths:

Large Wet storage area, Extreme water depth, high strength quay and storage areas. Sheltered towards wind and waves, no swell. Typical tide difference 0.6 m. No entry restrictions. Located in area with strong supply chain towards offshore industry.

Additional relevant information:

Suitable rock resource on site – i.e. for concrete aggregate. Updated site development plan under development, multiple expansion options allready approved. After expansion site can be expanded to more than 300 000 m²

Role as Offshore Wind (OFW) Port:

- ☐ Manufacturing of OFW foundations
- ☐ Pre-assembly / installation
- ☐ O&M
- ☐ Decommissioning

Contact Information:

Representative name: Eirik Lind Hånes
Email: Eiriklind.hanes@afgruppen.no
Phone nr.: +47 45453451

NorSea Polarbase, Norway

Port overview

Location	Hammerfest, Norway
Coordinates	70° 38.13' N 23° 39.82' E
Ownership	Polarbase Eiendom AS (private)
Activities	Supplybase and industrial cluster with various relevant suppliers established
Main usage	Logistical support, offshore installations, aqua activity, field development support, heavy lift operations and special mob/demob projects
Total area (m²) incl. storage area	Gross approx 500.000 m² Outdoor storage 350 000 m²
Quay berth length (m)	560m
Quay berth width (m)	
Quay draft (m LAT)	10-22m
Quayside Bearing Capacity (t/m²)	10t/m²
Bearing capacity	5-30t/m³ and 55-120t/m²
Craneage capabilities	Various harbor cranes + 6oot crawler crane (per 2023)
Water depth and seabed conditions	10-22m
Track record in renewables	N/A
Proximity to Offshore Wind sites	Site is in close proximity to the fields in the Norwegian Sea
Proximity of Supply Chain	City of Hammerfest has been and are serving e.g. the O&G industry, aqua-industry and shipyard industry for decades – and are well developed – and locally available
Ro/Ro Capabilities	Yes
Jack up Capabilities	No

Background:

Norsea's supplybase in Hammerfest (Polarbase) was established in 1985, and are developed into a cluster of 30-40 companies/suppliers serving oil&gas industry and other industries.

Main features:

Polarbase represents a dynamic cluster, with great capacity within key elements such as: infrastructure, machines, personnel categories and a broad range of suppliers of goods and services. Located only 10 min to city center and Hammerfest Airport/heliport. The site is main supply base and logistics hub for the e Barents Sea. Norsea Polarbase has great experience in heavy load operations in relation to field development campaigns and other projects.

Strengths:

Site is developed, with well established supplier network. Logistical transit routes (road/sea) are also well established with regular routes (incl roro-vessel).

The mixture of great infrastructure, range of suppliers, Hammerfest city with its features, airport/heliport and general geographical location secures Norsea Polarbase as a preferred logistical partner.

NorSea is a professional real estate partner in relation to both developing and operate/maintain various types of infrastructure. With own organization and various suppliers - clients is met professionally on various locations Norsea operates (Norway: Hammerfest, Harstad, Kristiansund, Averøy, Stord, Jelsa, Espevik, Stavanger. Denmark: Esbjerg). Norsea Property manage and partly owns: 4,2 million m2 base areas, warehouses and office buildings.

Additional relevant information: norseagroup.com

Role as Offshore Wind (OFW) Port:

- ☐ Logistic centre for Windfarm Operators and and Suppliers
- ☐ Pre-assembly / intergration

Contact Information:

Representative name: Tore Jacobsen
Email: tore.jacobsen@norseagroup.com
Phone nr.:+4790860829

NorSea Espevik, Norway

Port overview

Location	Espevik, Norway
Coordinates	59°20'33.3"N 5°39'46.0"E
Ownership	Long term lease contract
Activities	Assembly, Marhalling and production
Main usage	Storage, production, and assembly of component, marshaling of jackets and monopiles, marshaling and mobilization of mooring systems
Total area (m²) incl. storage area	280 000m²
Quay berth length (m)	
Quay berth width (m)	
Quay draft (m LAT)	8-11m
Quayside Bearing Capacity (t/m²)	5-10t/m²
Bearing capacity	Whole area is an abondened rock quarry and high bearing capacity
Craneage capabilities	
Water depth and seabed conditions	8-11m Rock and sand
Track record in renewables	
Proximity to Offshore Wind sites	Utsira Nord (50 nmi), and Sørlige Nordsjøen II (150 nmi)
Proximity of Supply Chain	Located 30 minutes from Haugesund in strong maritime industry and O&G region
Ro/Ro Capabilities	Yes, planned 70m width
Jack up Capabilities	Yes, planned 12m depth

Background:

NorSea's Offshore and AquaBase in Espevik is a joint infrastructure project established in 2022, to serve both the offshore wind and aquaculture developments for NorSea clients and stakeholders. Building upon NorSea's strong Oil&Gas presence in Stavanger-region the Espevik base represent up to 280 000 m3's of seafaced industry area being developed for temporary storage, assembly, marshalling and preparation for offshore installation campaigns. The Espevik site is also approved for land-based salmon smolt production, enabling biological capacity for realization of the of the offshore salmon farming value chain- another of Norway's new focus sectors.

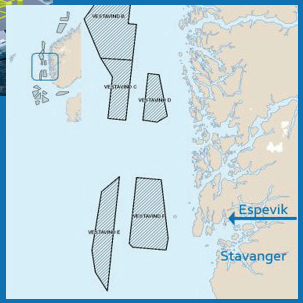
Main features:

Located close to the city of Haugesund and Stavanger, with all required services for efficient project support and logistics. The site has immediate access to the Boknafjord system, reducing the distance for sailing/towing the floating wind foundations, anchorage and all subsea infrastructure to offshore wind sites.

Strengths:

Site is a prestine offshore base available in the the same strong maritime region as the initial Utsira Nord licence area. By reuse of an old rock quarry Espevik has a good ESG profile. This offering both suppliers and operators high flexibility in utilisation and an opportunity to establish a modern offshore assembly and support base for the developing wind farm operations I Norway and the northern North Sea .

NorSea is a professional real estate partner in relation to both developing and operate/maintain various types of infrastructure. With own organization and various suppliers - clients is met professionally on various locations Norsea operates (Norway: Hammerfest, Harstad, Kristiansund, Averøy, Stord, Jelsa, Espevik, Stavanger. Denmark: Esbjerg). Norsea Property manage and partly owns: 4,2 million m2 base areas, warehouses and office buildings.



Role as Offshore Wind (OFW) Port:

- ☐ Manufacturing of OFW components
- ☐ Pe-assembly / intergration
- ☐ Marshalling / installation campaign prep.
- ☐ O&M

Contact Information:

Ports

In the NOWPorts project we have more than 50 industry players . The industry players cover the whole supply chain and includes; Developers, O&Ms, Suppliers, and logistics.

Name	Description
WESTCON HELGELAND AS https://www.westconhelgeland.no/nn/	Offers ship repair, fabrication, rig service, and design and engineering solutions. Located close to the North Sea, it is the perfect geographical location eases rigs and ships to a quick return to full activity.
Port of Grenaa Support your business www.port-of-grenaa.com	Denmark's most central deep-water port - the gateway to the Kattegat. One of the Denmark's largest industrial and commercial ports.
ESBJERG HAVN https://portesbjerg.dk/	Denmark's leading offshore port, a hub for cargo transport in northern Europe and one of the world's largest originating ports for wind power.
PORT OF RØNNE Together we create https://roennehavn.dk/	Bornholm's supply port and Denmark's easternmost industrial port. Centrally located in the Baltic Sea, providing a varied range of maritime services.
NorSea https://norseagroup.com/en/	One-stop-shop service provider to the entire energy industry. Focus on operational costs efficiency; reducing emissions and minimizing complexity through digitalization and automation
SEMCO maritime https://www.semcomaritime.com/	Specializes in Oil & Gas, Offshore Wind and Power Generation. Provide the global energy sector with project engineering, solutions and competences.

Name	Description
PORT OF AALBORG https://portofaalborg.dk/	North Denmark's largest logistics hub with a focus on the realization of the municipality's business and sustainable strategies.
Trelleborgs Hamn AB https://www.trelleborgshamn.se/en/english/	Port of Trelleborg is the largest RoRo port in Scandinavia (for rolling traffic). The largest rail ferries in the world operate at Port of Trelleborg and it is Baltic Sea's largest railway port.
PORT OF GOTHENBURG https://www.portofgothenburg.com/	The largest port in the Nordic countries. The only Swedish port with the capacity to cope with the largest modern, ocean-going container ships.
KARMSUND HAVN https://karmsundhavn.no/en/home/	The leading maritime logistics hub for the west coast of Norway. Inter-municipal company (IKS), located in the offshore wind capitol of Norway.
EIGERSUND NÆRING OG HAVN KF https://enhkf.no/en/eigersund-naering-havn-en/	Natural harbor that works actively to develop viable industrial areas and functions as a supportive for new establishments. Strives to ensure a scene for competitive, sustainable and cooperative businesses.
WERGELAND GROUP https://www.wergeland.com/	Offers ship repair, fabrication, rig service, and design and engineering solutions. Located close to the North Sea, it is the perfect geographical location eases rigs and ships to a quick return to full activity.
GOT https://www.gotnorway.com/	An Offshore/Marine technology group in southern part of Norway. Provides all design, engineering and documentation required to build ships, floating structures and platforms.

Name	Description
https://www.cmport.com/	North Denmark's largest logistics hub with a focus on the realization of the municipality's business and sustainable strategies.
http://windport.no/	The southernmost port in Norway with proximity to offshore wind projects in Northern Europe and a well-established supply industry with decades of experience from maritime and energy industries.
https://www.stavangerhavn.no/	The largest port in the Nordic countries. The only Swedish port with the capacity to cope with the largest modern, ocean-going container ships.
https://www.portofkristiansand.no/en/	The region's leading Offshore Suply port with Europe's largest onshore power plant. Owns and operates: ferry / container / cruise ships / wet and dry bulk / general cargo / offshore/supply (OSP) terminals.
https://www.fjordbase.no/	Involved in generating business activity in the local community. Has operations in the oil and gas sector, and in technical services, property development, aquaculture and industrial maintenance.
https://gavlehamn.se/en/about-port-of-gavle/	The largest logistics hub in Central Sweden. An efficient, intermodal logistics centre where shipping, rail and road transports meet.
https://karmsundgroup.no/	Strategically located in the sheltered straits of the Karmsund. With a long shoreline and quayside to facilitate logistics, it is perfectly fit to serve as an offshore service base.

Name	Description
https://ascoworld.com/	Provides a total and comprehensive package of Supply Base Services, Marine Management and Freight Management to the energy industries globally. A multiuse provider of ports and infrastructure in and around the North Sea basin.
https://hausvikenergyyard.no/	Aims to develop and operate Hausvik Energy Yard in Lyngdal and create local jobs through a joint commitment to offshore wind and other projects within renewable energy. Offers a 300 000 m2 industrial plot with deepwater quay and infrastructure, ready for projects from 2024/25.
https://utsira.kommune.no/	Will offer inspection, maintenance, and a substation to support the offshore industry in the area, especially the future offshore wind farm at Utsira North.
https://afgruppen.com/	Custom built to handle offshore installations and other marine structures. One of Europe's most modern and environmentally sound reception facilities for discarded offshore installations.

What to know more?

Contact one of the persons from Nordic Cluster

Energy Cluster Denmark

Charlotte Baumgartner
email: clb@energycluster.dk

OffshoreVäst Sweden

Nermina Saracevic
email: nermina.saracevic@ri.se

Norwegian Offshore Wind

Astrid Green
email: ag@norwegianoffshorewind.no

Christopher Harman
email: ch@norwegianoffshorewind.no

Nordic Innovation