

PLAN FOR PORT DEVELOPMENT

2021–2024

Presentation



**CLOSE
TO** *everything*



Stavangerregionen Havn støtter
FNs bærekraftsmål

Plan for port development

- Part of the Strategy Plan 2021–2024
- Based on Section 1 Purpose of the Act relating to Harbours and Fairways



Stavangerregionen Havn støtter
FNs bærekraftsmål



Area of application

- basis for daily work on land planning
- communicate need for further development of public port infrastructure
- specify area delimitation





**Grounds for
decision-making >**



The market >



**Infrastructure and
plant and equipment >**



**Collaboration and
interaction >**



Port areas >

Our grounds for decision-making



Different levels of decision-making



Samferdselsdepartementet



KYSTVERKET



Our navigation chart



LAW – the Harbour and Fairways Act and other regulations

PURPOSE – purpose of business, national and regional guidelines

SUSTAINABILITY – the UN's Sustainable Development Goals nos. 7, 9, 11, 12, 13, 14, 17

REPUTATION – safety for and dedication to customers, citizens, owners and employees

ECONOMY – interaction and spin-off effects

MARKET – opportunities and service

The UN's Sustainable Development Goals



The Port of Stavanger shall provide clean energy on land and along quays



The Port of Stavanger shall demonstrate readiness to make sustainable investments



The Port of Stavanger shall contribute to sustainable development where sea meets land



The Port of Stavanger shall establish environmental requirements for all port-related operations



The Port of Stavanger shall reduce greenhouse gas emissions from own operations by 80% by 2030



The Port of Stavanger shall help minimise waste and emissions to sea



The Port of Stavanger shall influence and listen to customers, suppliers and partners in order to reach our environmental goals and those of our owner municipalities



"Sea and rail transport produce less greenhouse gas emissions per tonne-kilometre than current road transport by lorry. This implies that transferring cargo transport from lorries to ships and rail could provide a reduction in greenhouse gas emissions and help improve the local environment by minimising noise and air pollution."

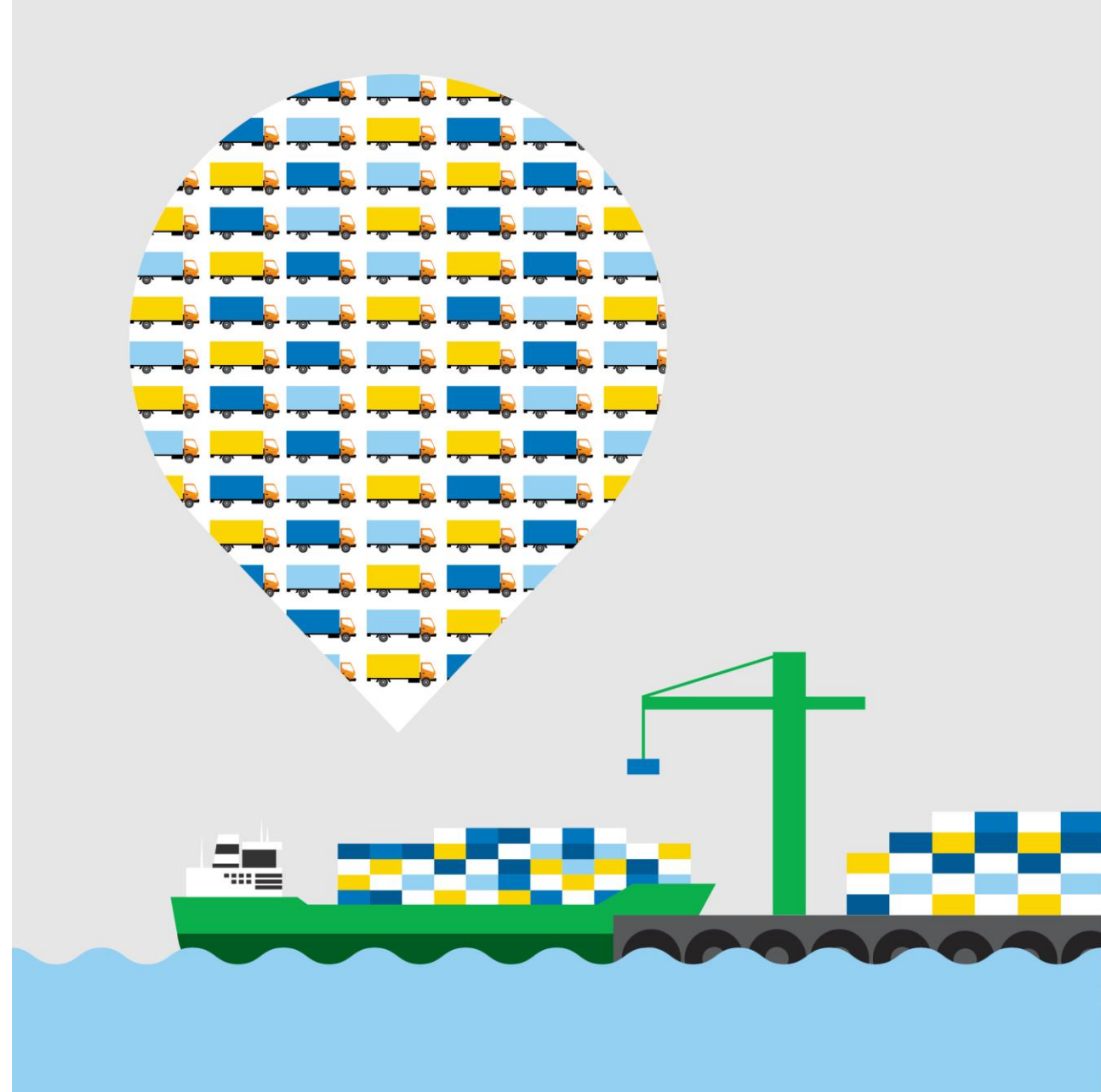
The Norwegian Environment Agency

"Shipping represents a significant and positive contribution to a sustainable development. With 90 percent of the global trade being transported by sea, the shipping industry constitutes a significant contribution to global trade and prosperity, [...] but because of its large scale, however, the industry still poses a range of environmental challenges. Consequently, continuous efforts are being made to limit pollution and other possible adverse effects from shipping, both in Norway and internationally."

The Norwegian Maritime Authority

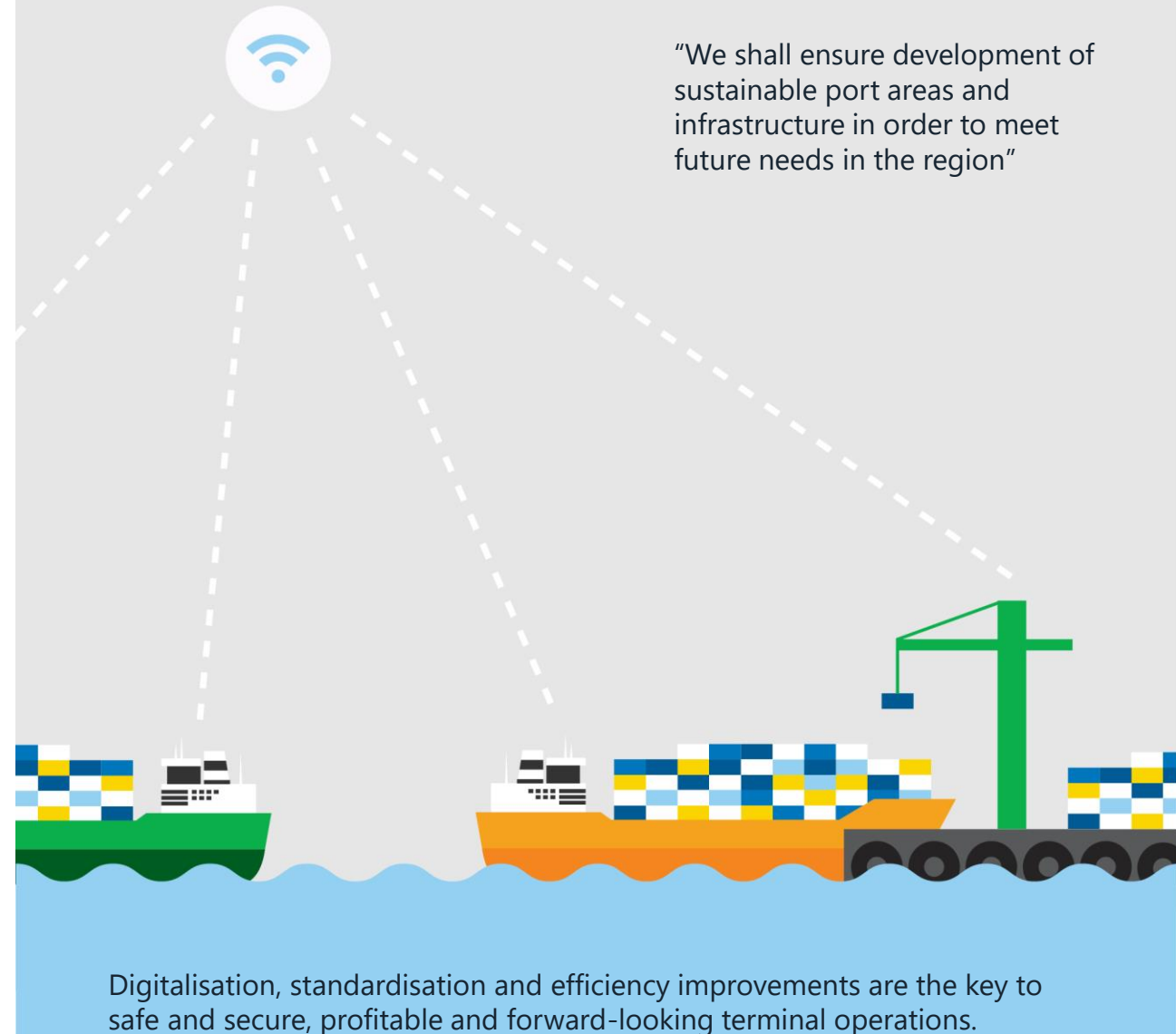
Comments on transfer of cargo from road to sea

- Transfer as much long-distance transport as possible from road to sea and rail.
- Two main categories of cargo for sea transport:
 - 1) Cargo that **must** be transported by sea heavy goods and bulk.
 - 2) Cargo that **can** be transported by sea.
- Establishing operations in Risavika required a good road infrastructure.



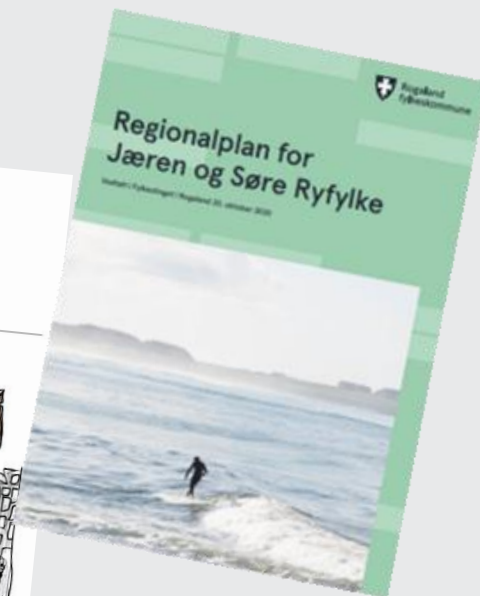
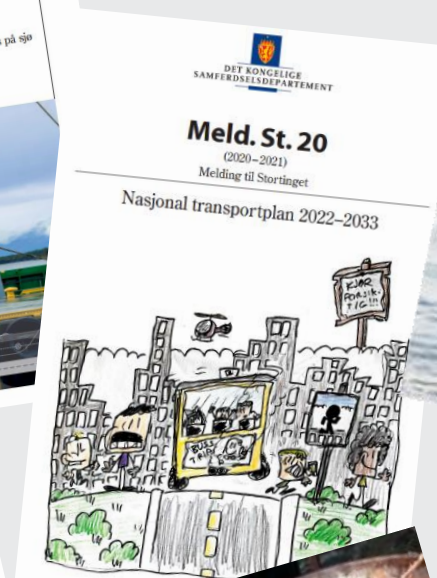
From the Strategy Plan

- A. Plan for port development shall guide priorities.
- B. We shall cooperate with authorities, politicians and others to reinforce port infrastructure on land and at sea.
- C. We shall develop values in the port areas to finance port infrastructure.



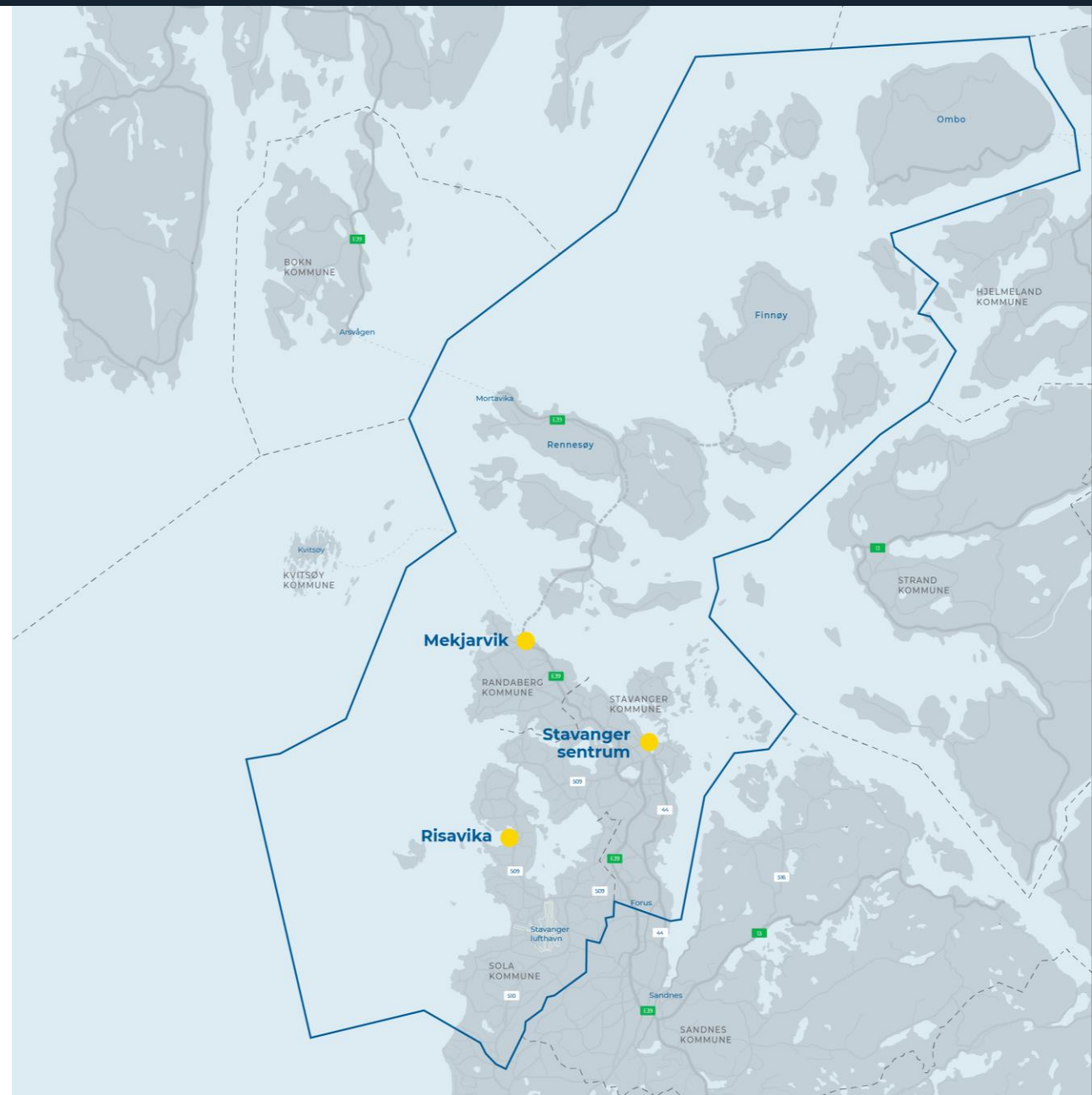
Premise providers

- The National Transport Plan and National Port Strategy provide the framework for shipping, logistics and transport.
- Regional plans have named the ports of Risavika, Mekjarvik and Dusavik as important ports for competitive strengths in the region – and to be prioritised for port development.



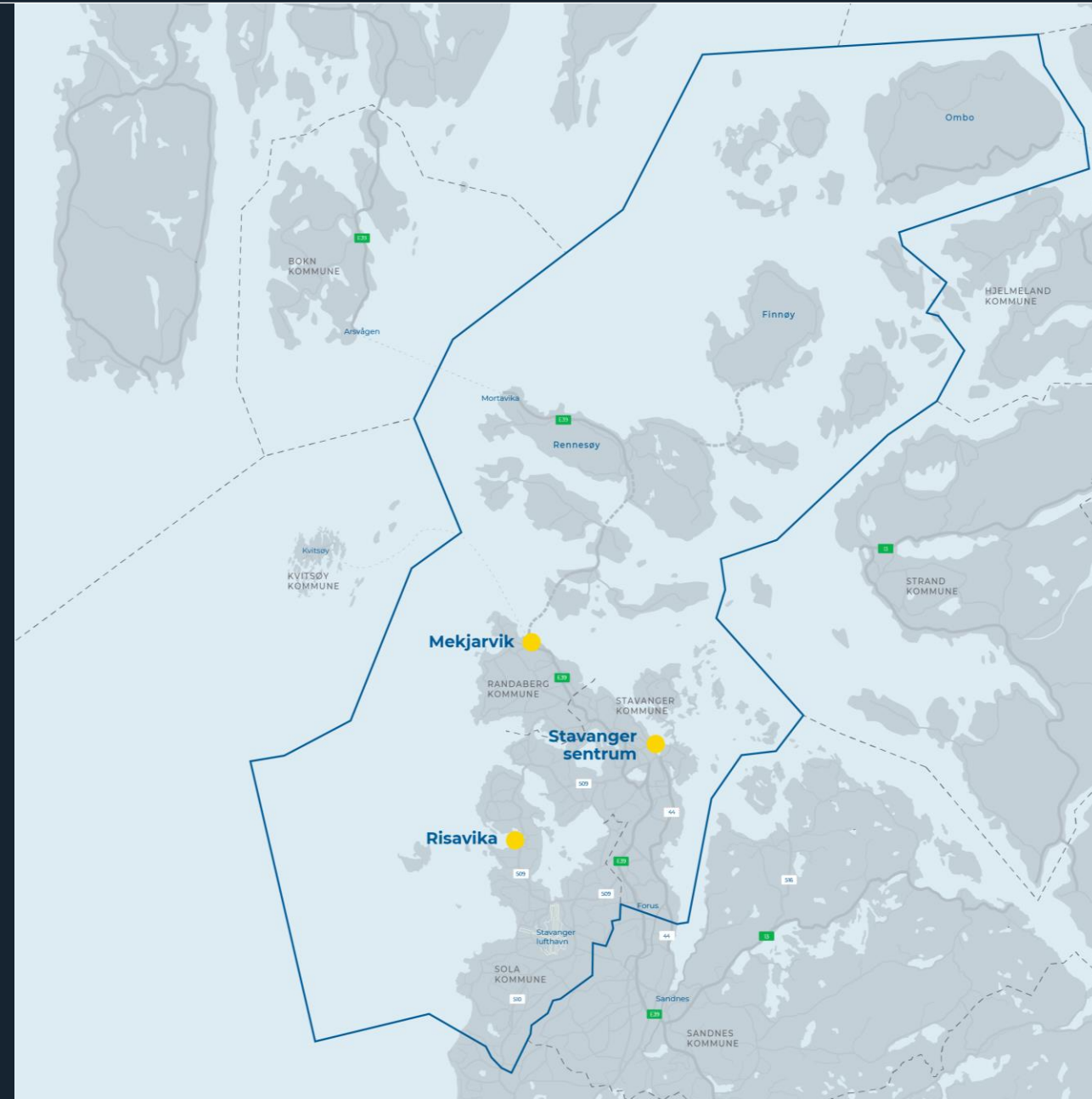
The Port of Stavanger today

- 750,000 m² land area
- 5,300 m quay
- 43,700 m² offices, warehouses, halls and workshops
- 60,000 calls every year
- developments based on a long-term perspective, to benefit the region and in line with the UN's Sustainable Development Goals



Opportunities

- Sola, Randaberg and Stavanger municipalities have municipal plans that provide opportunities for further developments.
- Stavanger has, to an extensive degree, solved the challenges faced by other ports in city centres.
- Cargo, international sailings and offshore operations have been moved to the ports in Risavika and Mekjarvik.
- The waterfront area in Stavanger centre is due for a major change, with developments appropriate for a city centre.



The market



The main markets for the Port of Stavanger



Cargo >



Energy – offshore >



Passenger transport >



Tourism >



Cargo

Development opportunities

- Westport is the terminal operator for cargo in Risavika.
- Increased interest in redirecting cargo shipping lines from East Norway and Gothenburg and directly to West Norway.
- Commodity traders are assessing the use of more decentralised warehouses, particularly for seasonal goods and fresh goods.
- Positive experience from shipping of fresh salmon, fruit and vegetables.
- Food logistics company Asko is evaluating the establishment of a direct cargo shipping line between Rotterdam and Risavika, instead of shipping to Oslo then continuing by road.

**WESTPORT**



Cargo

Sustainable fleet development

Hydrogen only:

Two zero-emission hydrogen vessels planned for construction by Topeka, a company in the Wilhelmsen Group, for daily cargo transport from Risavika and north. The vessels will also distribute hydrogen.



MS Topeka (Photo: Topeka)

Norway's largest sailing vessel:

SC Connector has rotor sails and can use both wind and battery power for propulsion. The vessel currently has an average fuel reduction of 25%, but can ideally sail from port to port with zero emissions.



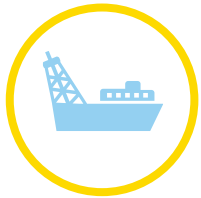
SC Connector (Photo: Sea Cargo)

The world's first zero-emission bulk vessel:

HeidelbergCement and Felleskjøpet Agri have announced a tender competition for the construction and operation of a zero-emission vessel to transport aggregates and grain along the coast of Norway. Egil Ulvan Rederi AS' "Powered by Nature" concept has been selected, and the vessel is due for launch in 2024. The vessel will also be the first full-scale cargo vessel running on compressed hydrogen, entirely without greenhouse gas emissions.



Powered by Nature (Photo: Ulvan Rederi)



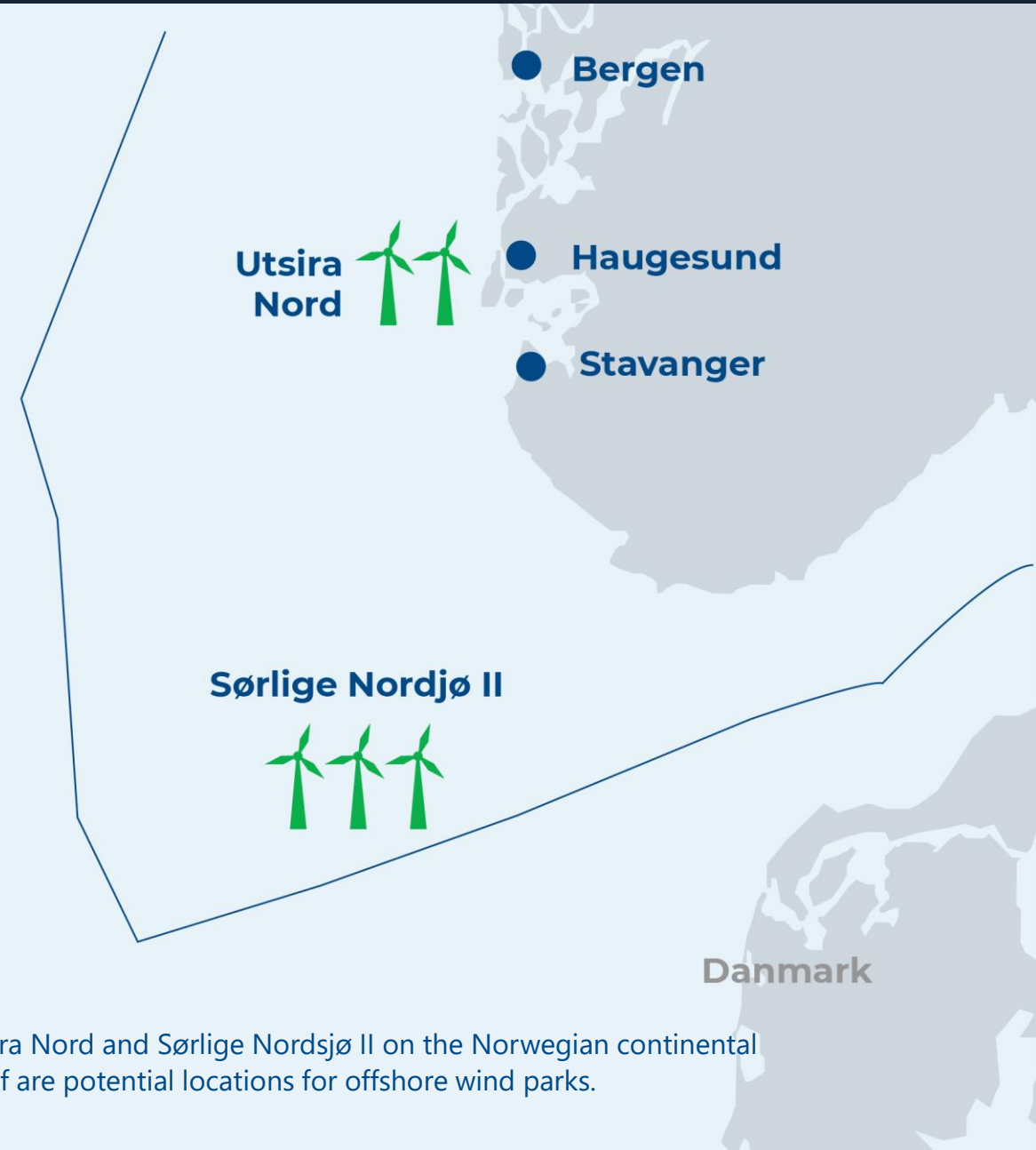
Energy and offshore Development opportunities

Oil and gas

- The region has the largest oil and gas cluster in North Europe, covering base operators and logistics.
- This market is seeking centralised warehouse and storage facilities – and the Port of Stavanger can provide this service.

Offshore wind

Utsira Nord and Sørliche Nordsjø II are potential fields for offshore wind parks, and our ports have the capacity to provide services to these energy environments.



Utsira Nord and Sørliche Nordsjø II on the Norwegian continental shelf are potential locations for offshore wind parks.



Energy and offshore Sustainable fleet development

Hybrid vessel:

Coey Viking dual fuel PSV – with battery capacity, this is a great example to demonstrate that sea transport has the capacity to exchange between diesel and battery propulsion.

MV “Viking Energy” was the first cargo ship in the world with engines running on LNG.

Subsequently, the vessel has been upgraded with hybrid technology, and was the first to obtain DnV’s Battery Power class notation. The vessel's shore power system minimises emissions and noise when in port. Equinor, Eidesvik Offshore, Wärtsilä, Prototech, Maritime Clean Tech etc. are collaborating on the development and installation of fuel cells that make use of hydrogen from ammonia as fuel.

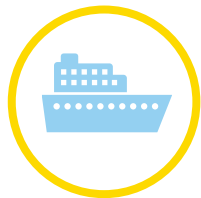
The goal is to achieve a zero-emission vessel.



Coey Viking dual fuels PSV (Photo: Viking Supply)



MV Viking Energy – hydrogen conversion (Photo: Eidesvik)



Tourism

Development opportunities

Cruise

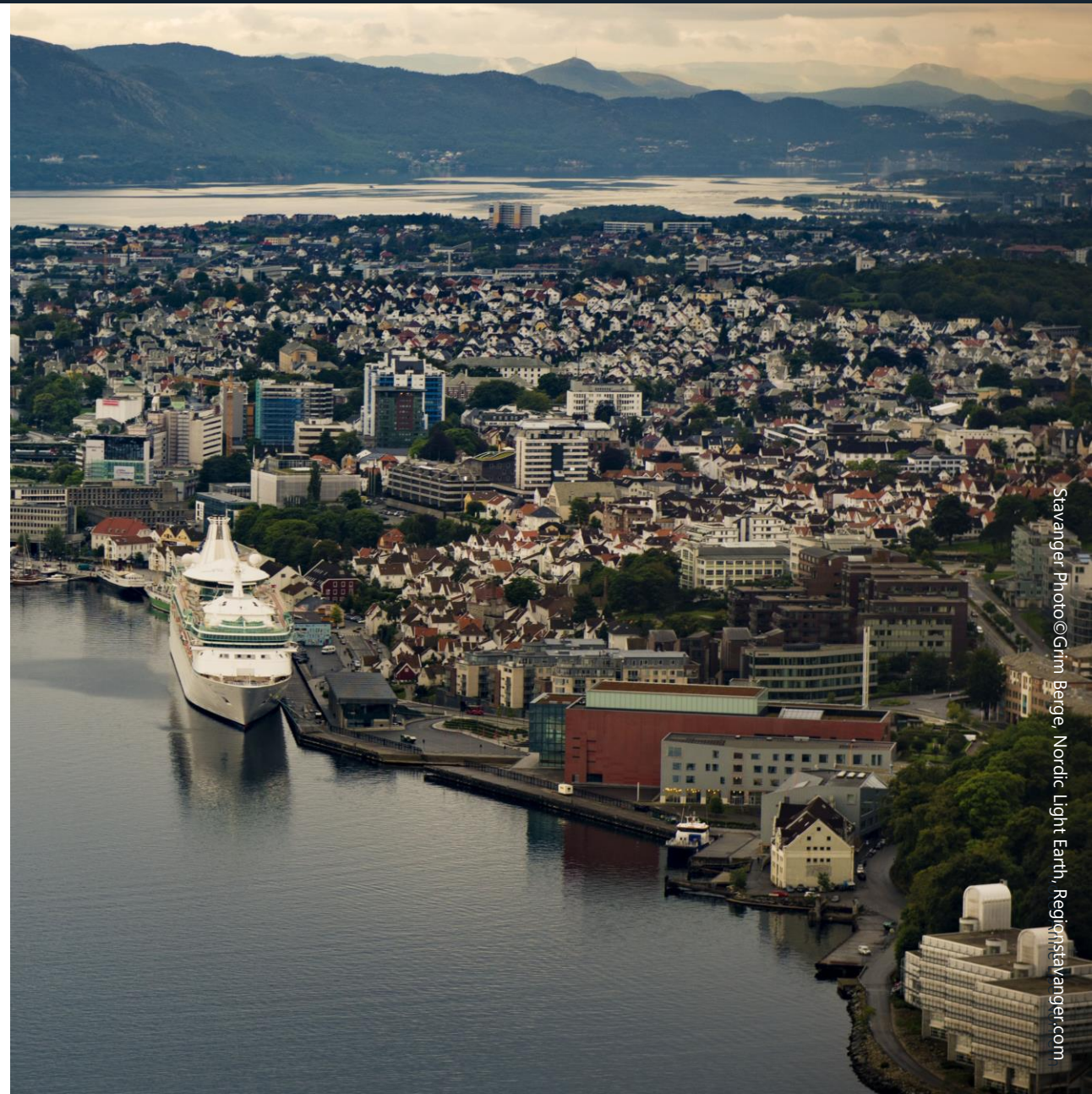
- region with major potential
- joint cruise strategy
- plan of action for cruise calls – based on critical level analysis
- zero-emission cruise port

Charter

- combination charter boat/liner

Guest harbour

- expansions





Tourism

Sustainable fleet development

The world's first:

MS Iona is the world's first cruise ship running on LNG* with port calls in Stavanger.

*LNG is liquefied natural gas that provides reductions in fuel costs and emissions.

MS Rygerelektra is a new electric express boat in Rødne's fleet, carrying passengers on zero-emission sailings between Stavanger and Lysefjorden. She has a catamaran-design hull that does not create a large wake. The sailing is more pleasant for tourists, with less noise and more comfort.

LNG only:

Fjord Line offers passenger, car and lorry transport from Stavanger to Denmark and Bergen, with daily departures from Risavika. The vessels run 100% on LNG.

Sustainable cruises:

Japanese NGO Peace Boat have ordered an "Ecoship cruise liner", with the aim to establish a new model for sustainable cruise tourism. This is proof of the ability and willingness of shipping companies to develop more sustainable tourism.



MS Iona (Photo: Desiré Kranenburg)



MS Rygerelektra (Photo: Rødne Fjord Cruise)



MS Stavangerfjord (Photo: Fjord Line)



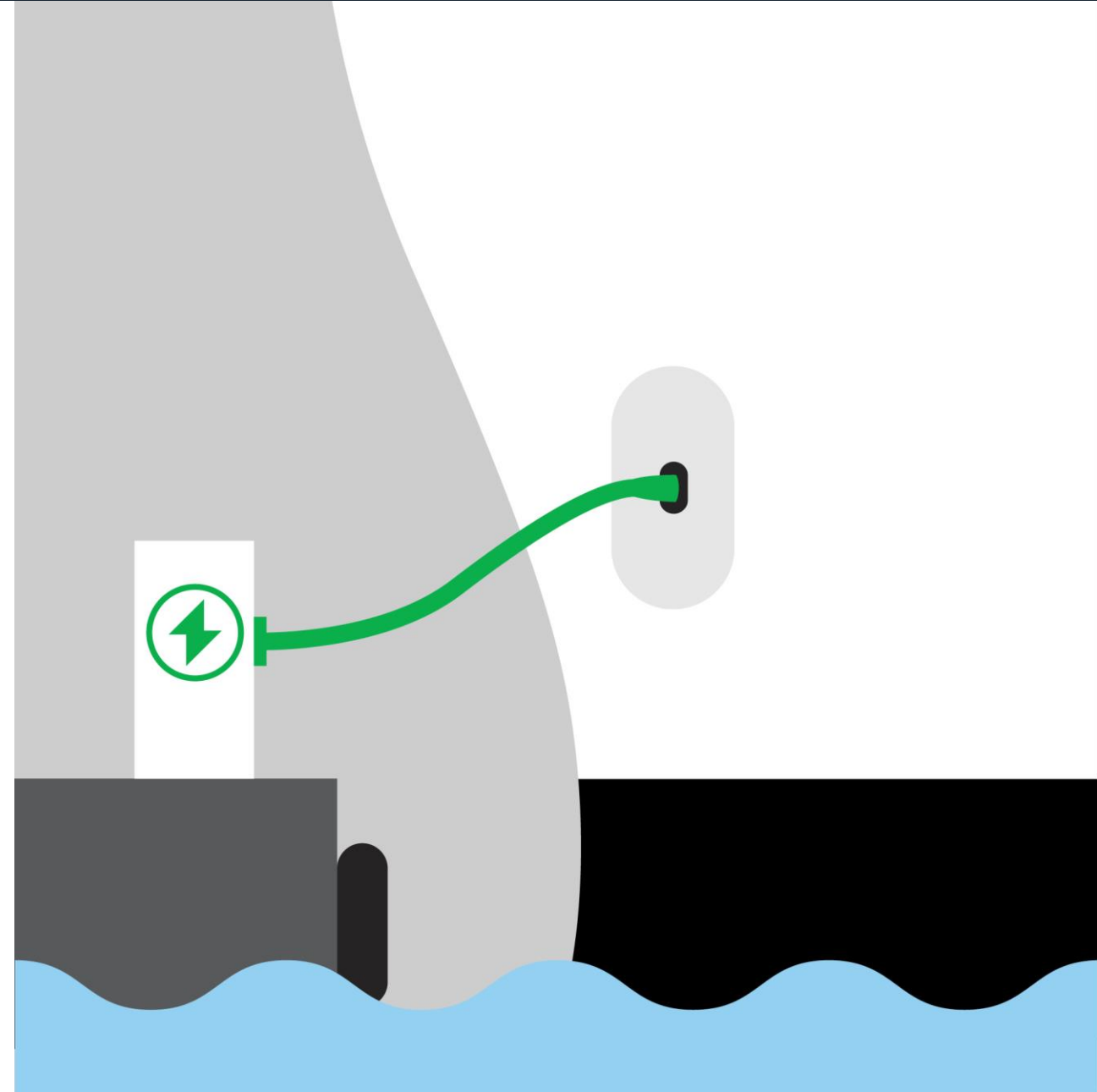
NGO Peace Boat (Photo: NGO)



Passenger transport

Development opportunities

- The waterfront in Stavanger centre shall have enough quayside space and land space to be an attractive destination and a good hub for public transport of passengers by sea.
- We shall facilitate good, corresponding mobility services on land.
- Ferries and express boats will most likely be fully electric by 2030 – with many established as early as 2025.
- We must therefore establish systems for shore power and charging for vessels along the quays.





Passenger transport

Sustainable fleet development

The world's first fully electric express boat from Kolumbus will start sailings in 2022. It will sail from Fiskepiren. The TrAM project is supported by EU funding.

Hydrogen:
The hydrogen ferry vessel, MF Hydra will start sailings for the Hjelmeland-Nesvik-Skipavik link in 2021.

Fully electric recreational craft:
Private customers can now not only choose to buy an electric car, but also a fully electric boat, with Rand Leisure 28 from Danish Rand Boats.

Electric self-propelled water bus:
The Port of Stavanger is collaborating with the county council and other parties to develop a fully electric and self-propelled water bus for the central port area in Stavanger.



The TrAM boat (Photo: Hydro)



MF Hydra (Photo: Morten Vika)



Rand Leisure 28 (Photo: Rand Boats)



Water bus (Photo: Seabubble)

Infrastructure and plant and equipment



Main principle behind **investments**, **innovation** and **development**



We shall provide clean energy for all parties.



We shall invest in the services required by shipping.



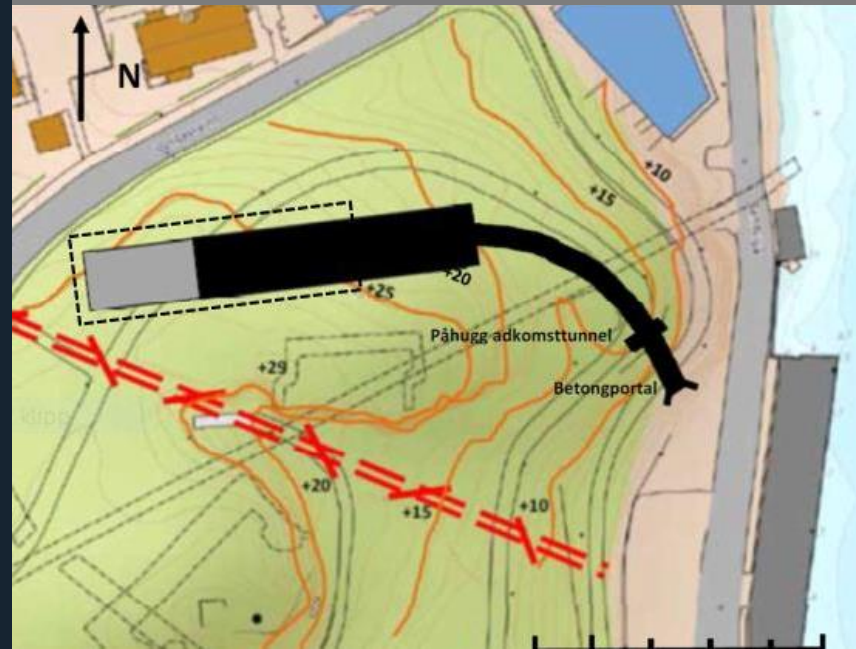
Infrastructure and plant and equipment that already exist

- Mekjarvik has had an electric crane for a number of years already.
- Shore power connections for offshore vessels, charging stations for express boats and bunkering with LNG.
- Shore power for offshore vessels is available at Strandkaien and Konserthuskaien quays in Stavanger, and at the port facilities in Risavika. In total, 10 shore power connections for simultaneous use; three vessels in Stavanger and seven in Risavika.



Infrastructure and plant and equipment to be established

- New electric working boat under construction for the Port of Stavanger. It can sail 50 nautical miles on one charge (92.5 km).
- Ongoing development work for the shore power facility for cruise ships in the underground hall under Bjergsted park. Can supply power to several quays.
- Micronet (solar cells) to be established on the roof of the international terminal in Risavika. At times, can provide 100% self-sufficiency for power supply.
- Investments under way in charging stations for express boats in Stavanger centre; a collaboration between the Port of Stavanger, Lyse and Kolumbus.



Infrastructure and plant and equipment currently **under evaluation**

- facilities for hydrogen bunkering
- land-based wind power
- increase in electric construction machines used in port operations
- more digitalisation and automated services
- expansion of shore power system



Collaboration and interaction

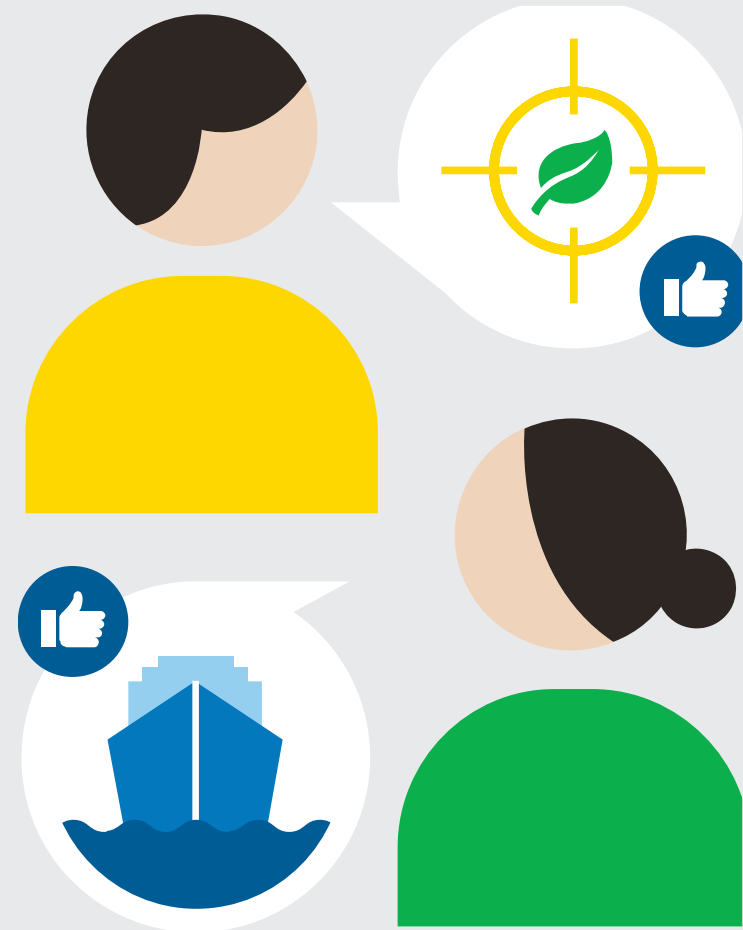


Main principle for collaboration and interaction



The Port of Stavanger shall influence and listen to customers, suppliers and partners in order to reach our environmental goals and those of our owner municipalities

- We shall contribute to business development in close collaboration with the municipalities.
- We have close collaboration with Stavanger Chamber of Commerce, the Confederation of Norwegian Enterprise, New Kaupang, Region Stavanger, logistics associations, business parks, major urban business premises actors, Maritimt Forum, the Federation of Norwegian Industries, Tenketank Sjø, other ports in major cities, neighbouring ports and the owner municipalities Stavanger, Randaberg and Sola.



Examples of interaction

Port collaboration between major cities

- Interaction between the ports in Trondheim, Bergen and Stavanger.
- Shall help ensure that cargo shipping lines are re-directed to West Norway.
- New cargo lines already established for fresh fish, fruit and vegetables.
- One new line directly from Baltic States and Gothenburg to Stavanger.

Maritime Think Tank, Sør-Rogaland

- New collaboration being established.
- Joint regional mindset for logistics and transport chain.
- Make sea transport more visible and more accessible.
- Collaboration between the ports in Stavanger, Sandnes and Egersund.

The Federation of Norwegian Industries

- Collaboration on infrastructure for offshore wind, with close links between the ports in e.g., Stavanger and Sør-Rogaland, Haugesund, Bergen and Trondheim.



Examples of interaction

Elnett21

- Collaboration between Avinor, Forus business park, Lyse and the Port of Stavanger.
- Pave the way for zero-emission and electric transport via increased local energy production.
- Test solutions for storage and distribution of power and smart energy management – to ensure optimal use of existing grid.
- The partners aim to produce and exchange self-produced energy, and at the same time be more robust in terms of power requirement, in a time where consumption is on the increase.




Elnett21

Examples of interaction

Green Shipping Programme

- DnV took the initiative to bring the entire shipping industry together.
- The Port of Stavanger is one of the participators in the collaboration.
- The vision is to *"establish the world's most efficient and environmentally friendly shipping"*.
- The partners aim to produce and exchange self-produced energy, and at the same time be more robust in terms of power requirement, in a time where consumption is on the increase.



Grønt Skipsfartsprogram



Other opportunities

Areas where our interaction can contribute to sustainable development in society:

Cargo

Profile sea transport as an environmentally friendly alternative for cargo transport.

Double capacity at the cargo terminal in Risavika without increasing existing area.

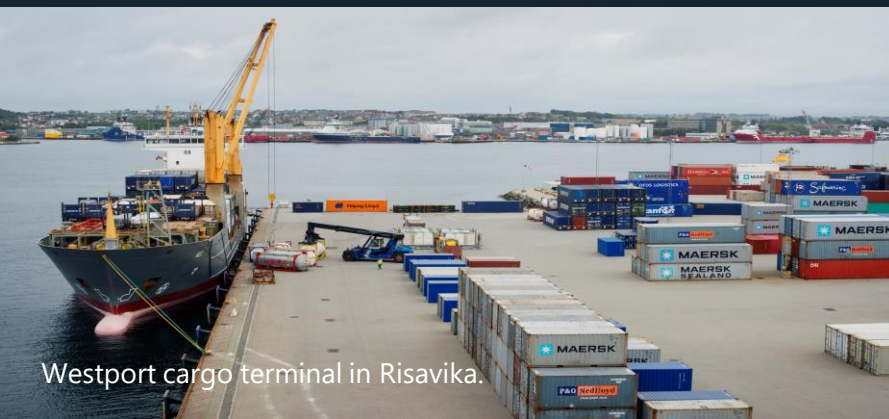
Interaction with business parks and developers of business property when major industries are established.

Fish farming

Provide facilities for land-based fish farming, fish exports and imports of necessary materials for the fish farming industry at our port facilities.

Offshore wind

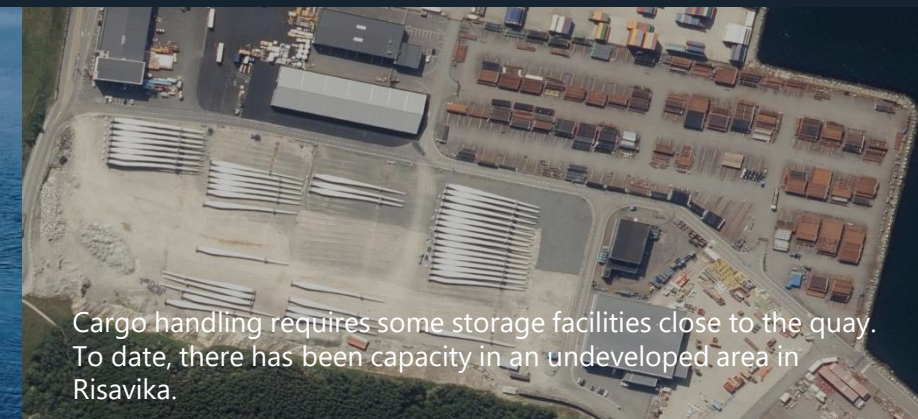
Assembly and construction of offshore wind parks takes up a lot of space, and it is natural to interact with the offshore wind industry and other port areas in order to locate appropriate areas for this type of activity in our region.



Westport cargo terminal in Risavika.



A closed cage design developed locally by Fishglobe.



Cargo handling requires some storage facilities close to the quay. To date, there has been capacity in an undeveloped area in Risavika.

Port areas



Risavika >



Mekjarvik >



Stavanger >

**Risavika**

Current port operations

Core operations

- Cargo terminal, base operator for oil and gas deliveries, international ferries, cargo transport on sailings to Hirsthals and Bergen

Location

- Close to main shipping lane, offshore activities in the North Sea and relatively close to major European ports
- Sheltered port area and good depth at quays
- Close to national and county roads with planned and partly implemented work to improve access/links to E39

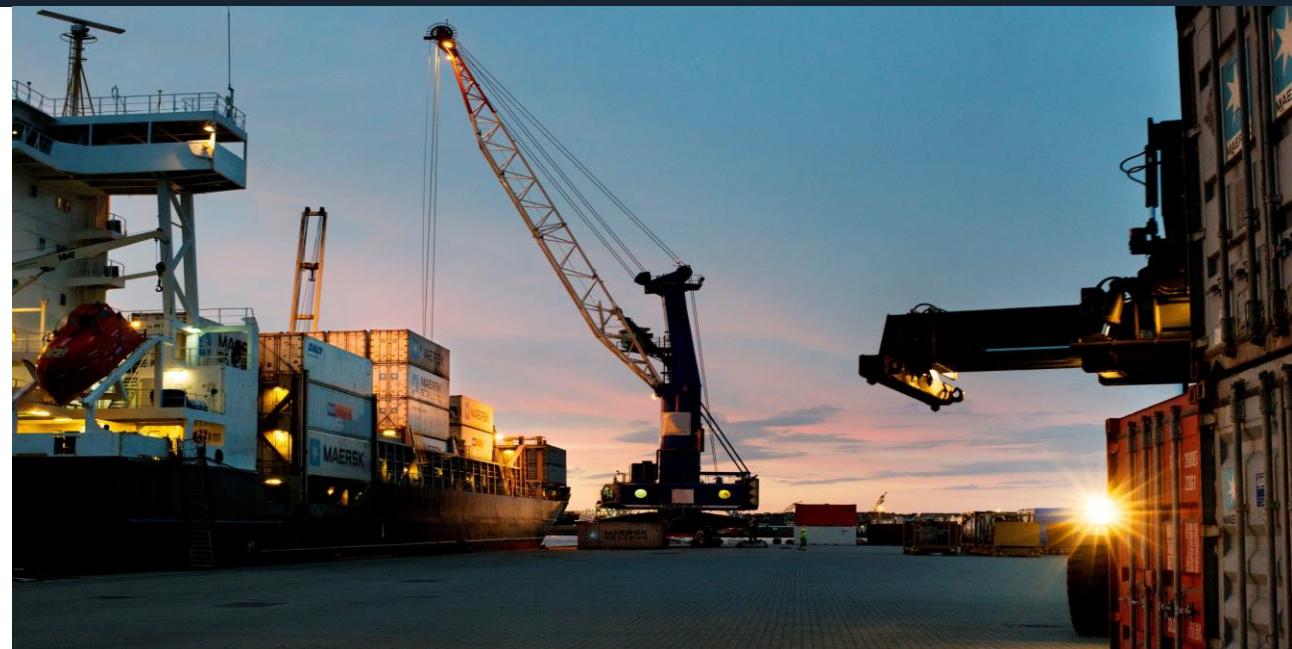


**Risavika**

Current port operations

Unique features

- Largest hub in West Norway for combined transport between sea and land.
- The Port of Stavanger is co-owner of the Westport terminal company.
- Major logistics companies are established here.
- Smart technology provides both efficient land use and cost-efficient and safe cargo management.
- The terminals in Risavika are well-established port areas for offshore base operations.
- Risavika has its own bunkering system, a water depth of 10 metres alongside the quays and more than 2 km of quay space.





Risavika

Current port operations

- 1 LNG
- 2 bulk
- 3 international ferries, passengers/cargo
- 4 logistics
- 5 logistics/supplier
- 6 cargo
- 7 logistics/projects
- 8 transport/supplier
- 9 port development
- 10 supplier
- 11 supplier
- 12 operator
- 13 bulk
- 14 offshore supply base
- 15 project
- 16 bulk
- 17 transport/supplier
- 18 operator
- 19 bulk
- 20 offshore supply base





Risavika

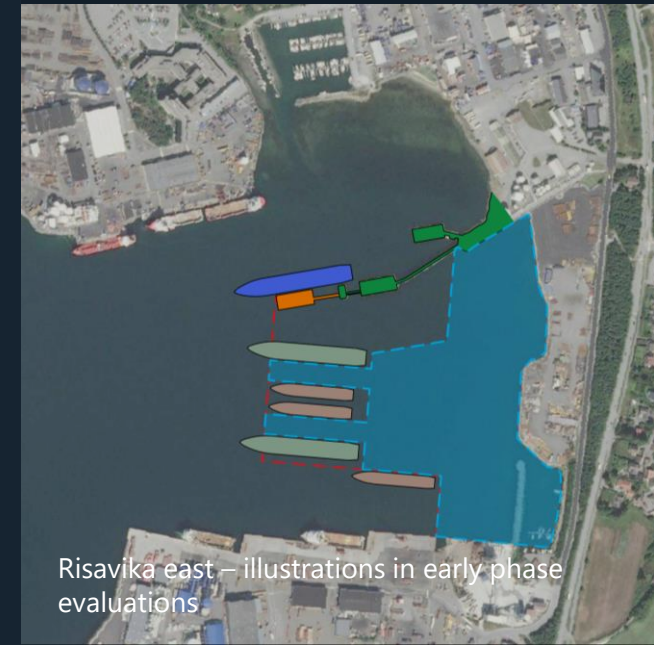
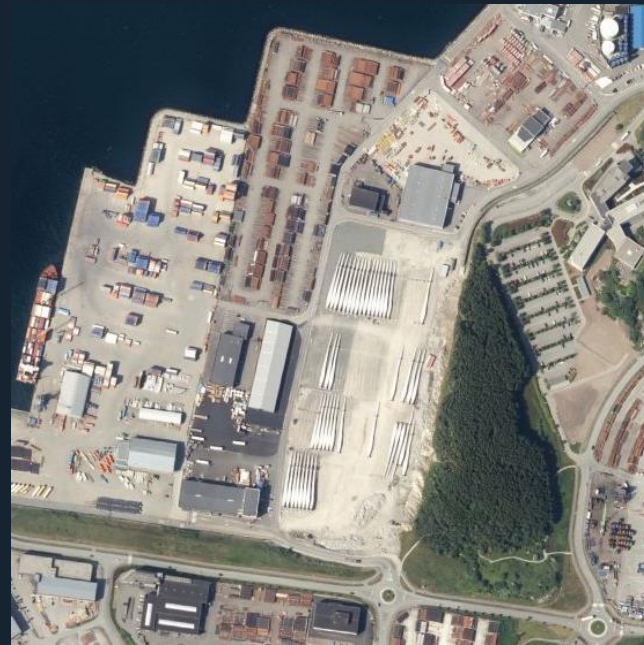
Target areas

- Risavika south and east have the space for further development and new developments, measuring approx. 400 decares and marked in blue in the illustration below.
- We plan to develop “Skogen” (centre of illustration) into a port area.
- 40 decares of rock material can be converted into local filling compound for expansion of land area in Risavika east.

- Potential to expand land area in the east and establish more quay space.
- Potential to establish more quays in western end of Offshore Terminal Risavika.
- “Tjora sør” located in southernmost part of Risavika – the final section that can be developed within the long-term border with agriculture. Private detailed zoning plan has been submitted for approx. 100 decares.



Further development and new development



Risavika east – illustrations in early phase evaluations



Risavika

Target areas

Further development of terminal area:

The area has several options for terminal buildings, combined with offices. Space to erect several buildings measuring 5,800 – 11,600 m².



**Risavika**

Target areas

Nautøya:

Westernmost port area in Risavika. An internal port road from quay and terminal currently being established. Combination building under construction, and the area is very suitable for similar new establishments.



**Mekjarvik**

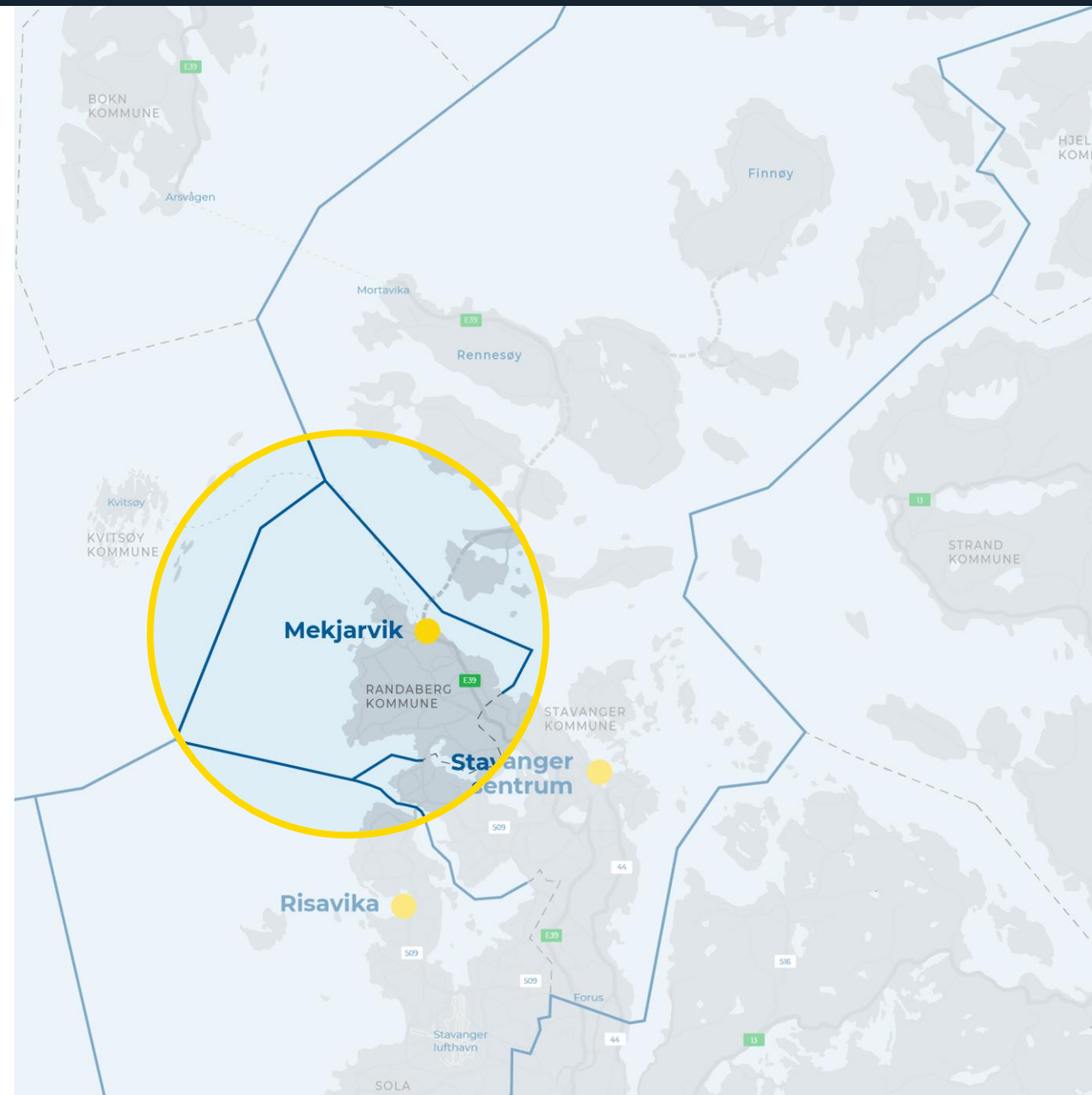
Current port operations

Core operations

- Industry, workshop and recycling – services for offshore vessels, rigs and lifting vessels.
- Developed for business category 3 and has deep-water quays throughout entire area.

Location

- Easily accessible from both sea and land with good road infrastructure close to road E39.
- Development of E39 Rogfast link will make the area even more central.





Mekjarvik

Current port operations

Unique features

- important port area with value creation for North Sea operations
- frequently receives large tonnage with long laytime; often up to several months
- mobility/maintenance/repairs
- main base for Saipem 7000 – one of the world's largest lifting vessels
- recycling station for the offshore industry, with oil separator, receipt and sorting of hazardous waste

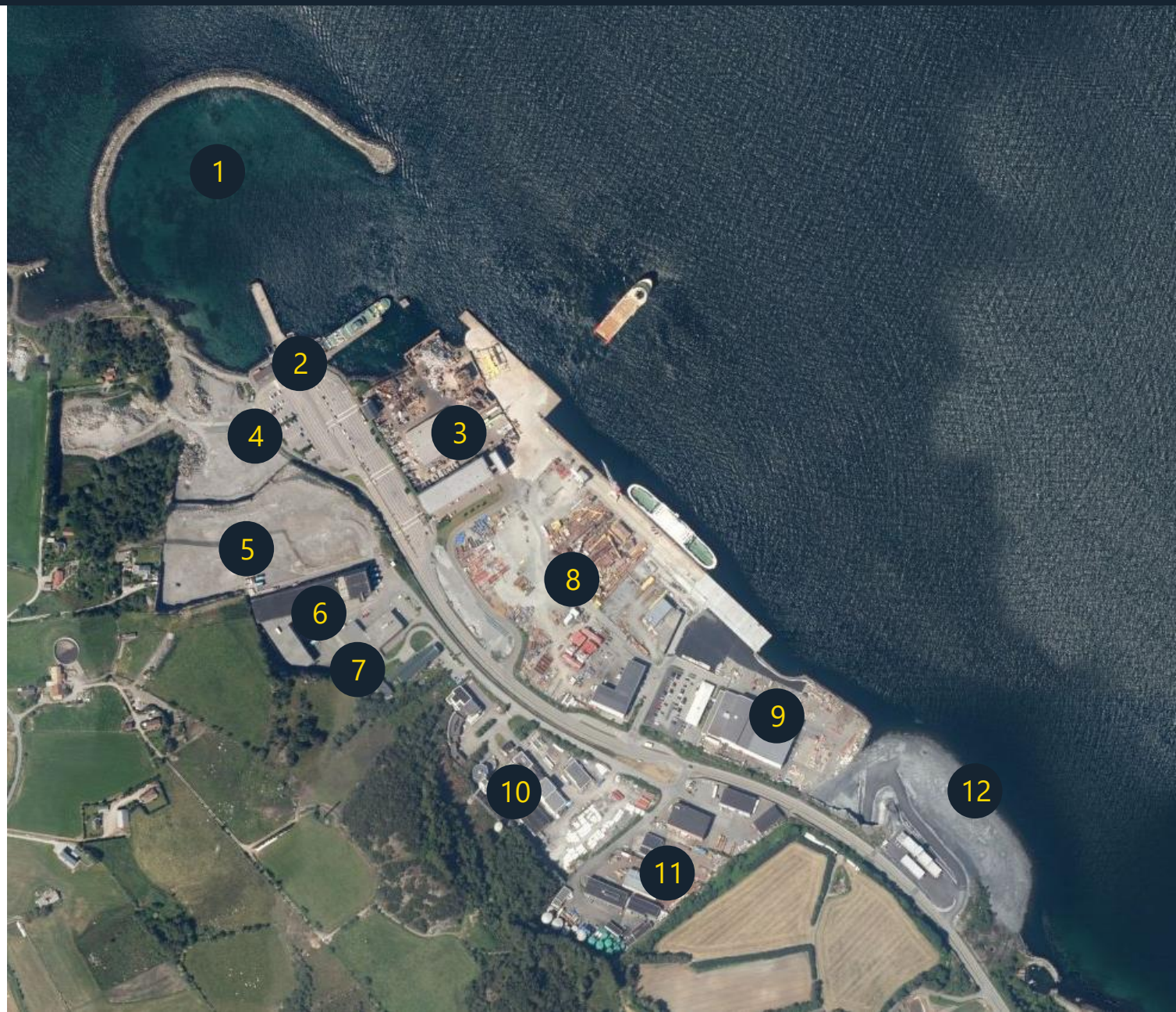




Mekjarvik

Current port operations

- 1 port development
- 2 passenger transport
- 3 recycling
- 4 supplier
- 5 land-based fish farming
- 6 supplier
- 7 research
- 8 shipping agent/supplier
- 9 supplier
- 10 chemical waste management
- 11 shipping agent/supplier
- 12 port development





Mekjarvik

Target areas

- The municipal plan for Randaberg provides opportunities for comprehensive port developments, with expansion of land area and new quay space established in both north and south.
- Business area on southern side of road no. 521 is also under development.
- Major potential for completion of transport corridor West and development of E39 Rogfast northwards.
- Mekjarvik north has potential for new land area of approx. 65 decares and quay space of 180 metres.
- Mekjarvik south has regulated an expansion of land area of approx. 124 decares where material extracted for Rogfast shall be used as filling compound. This opens up for a long quay of 500 metres, and a 150-200-metre quay in the north.



Mekjarvik south



Mekjarvik north



Stavanger

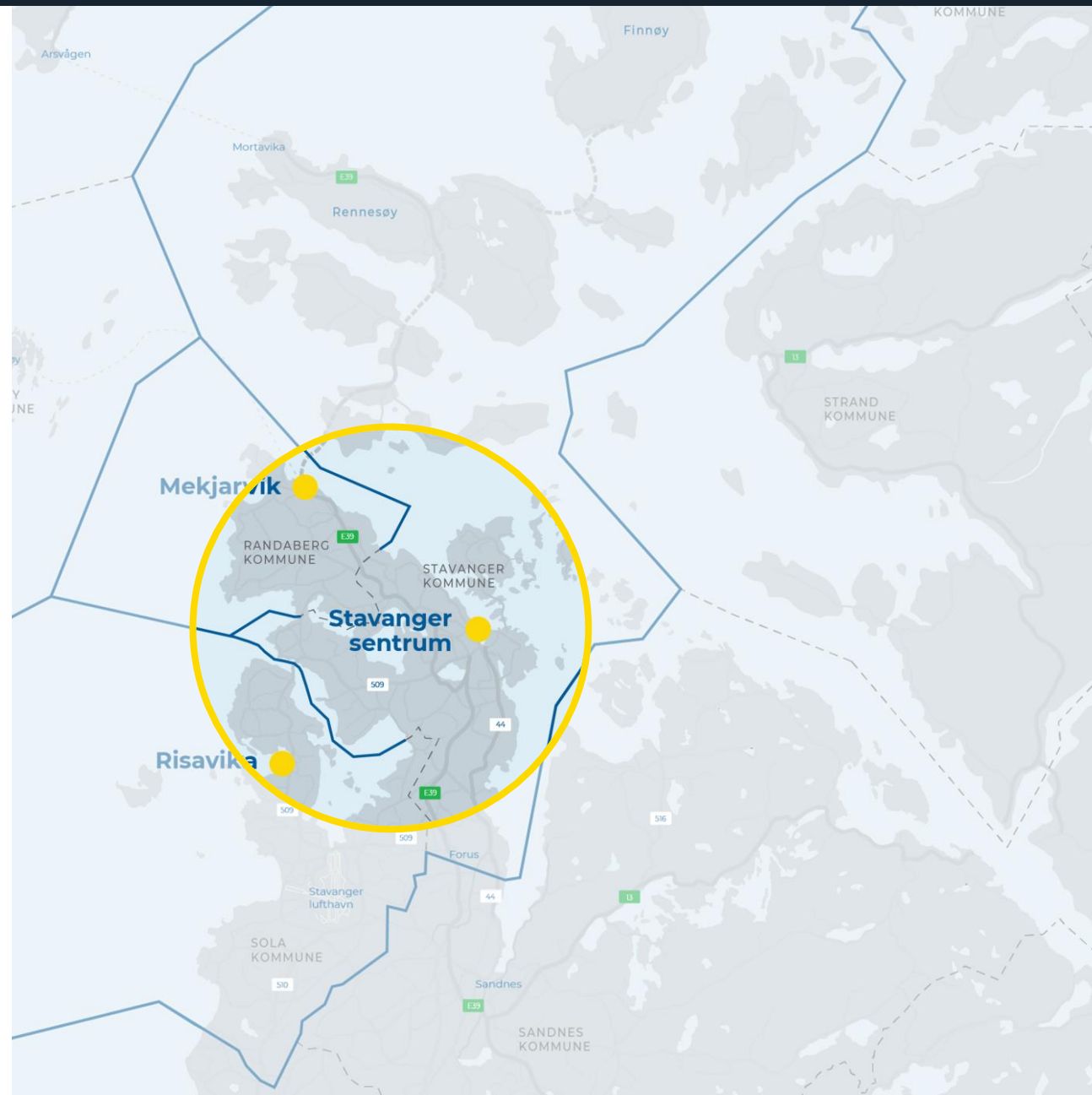
Current port operations

Core operations

Waiting quay for many types of vessels, tourist destination for cruise ships and charter boats, public passenger transport with ferries and express boat, harbour for small boats. Some ship calls require ISPS security with fences.

Location

Sheltered port, close to city centre, long quays and good water depths at quays.



**Stavanger**

Current port operations

Unique features

Waterfront area within city centre area, and need for co-use for urban purposes. Many features shall be transformed for urban development, but port traffic shall continue in the area.



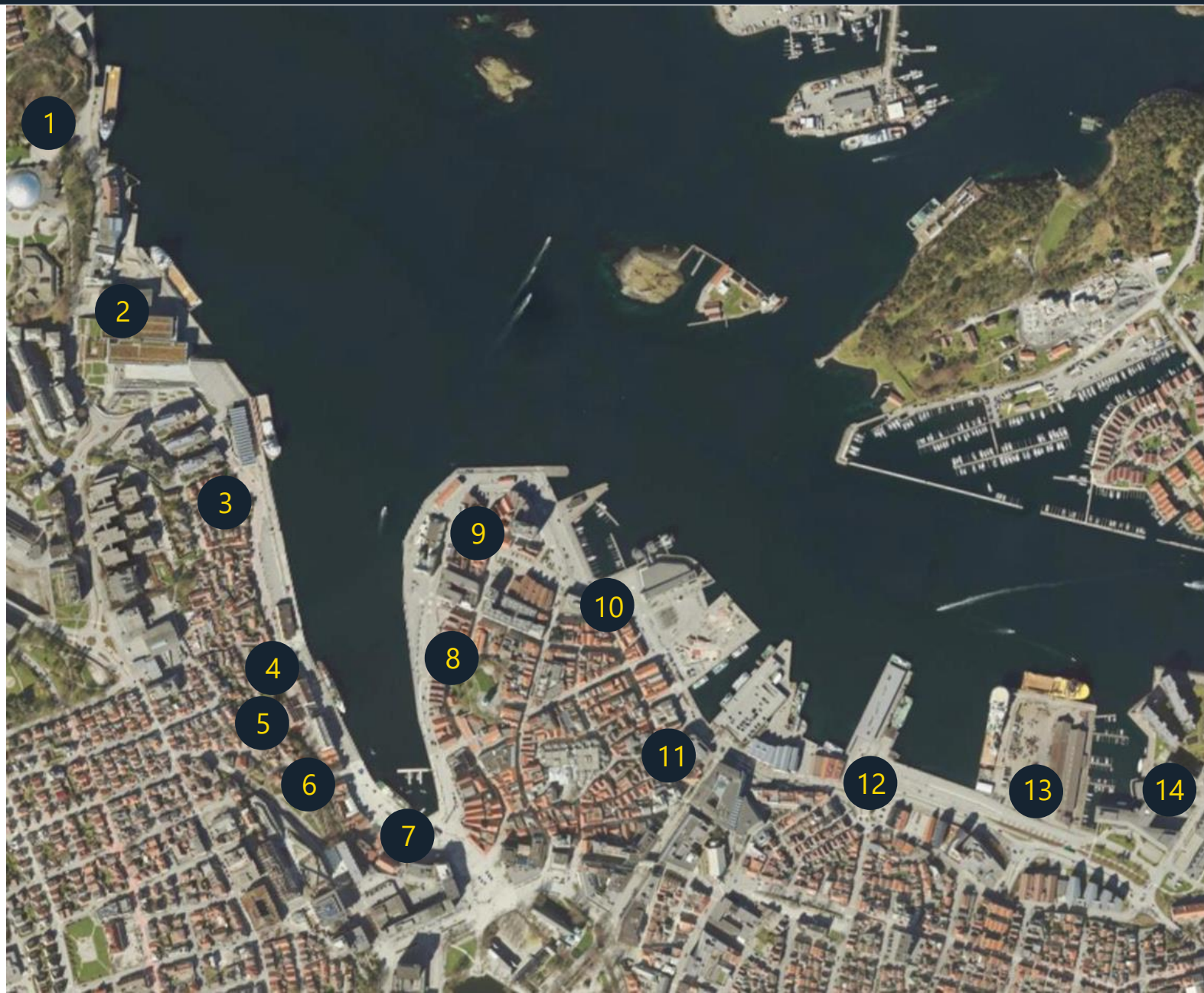


Stavanger

Current port operations

- 1 ISPS quay*
- 2 ISPS quay
- 3 ISPS quay
- 4 Head office for the Port of Stavanger
- 5 veteran boats/express boats
- 6 loading/unloading zone
- 7 recreational boats
- 8 ISPS quay
- 9 ISPS quay
- 10 recreational boats
- 11 fishing boat harbour, waiting quays, emergency services
- 12 passenger traffic
- 13 ISPS quay
- 14 recreational boats

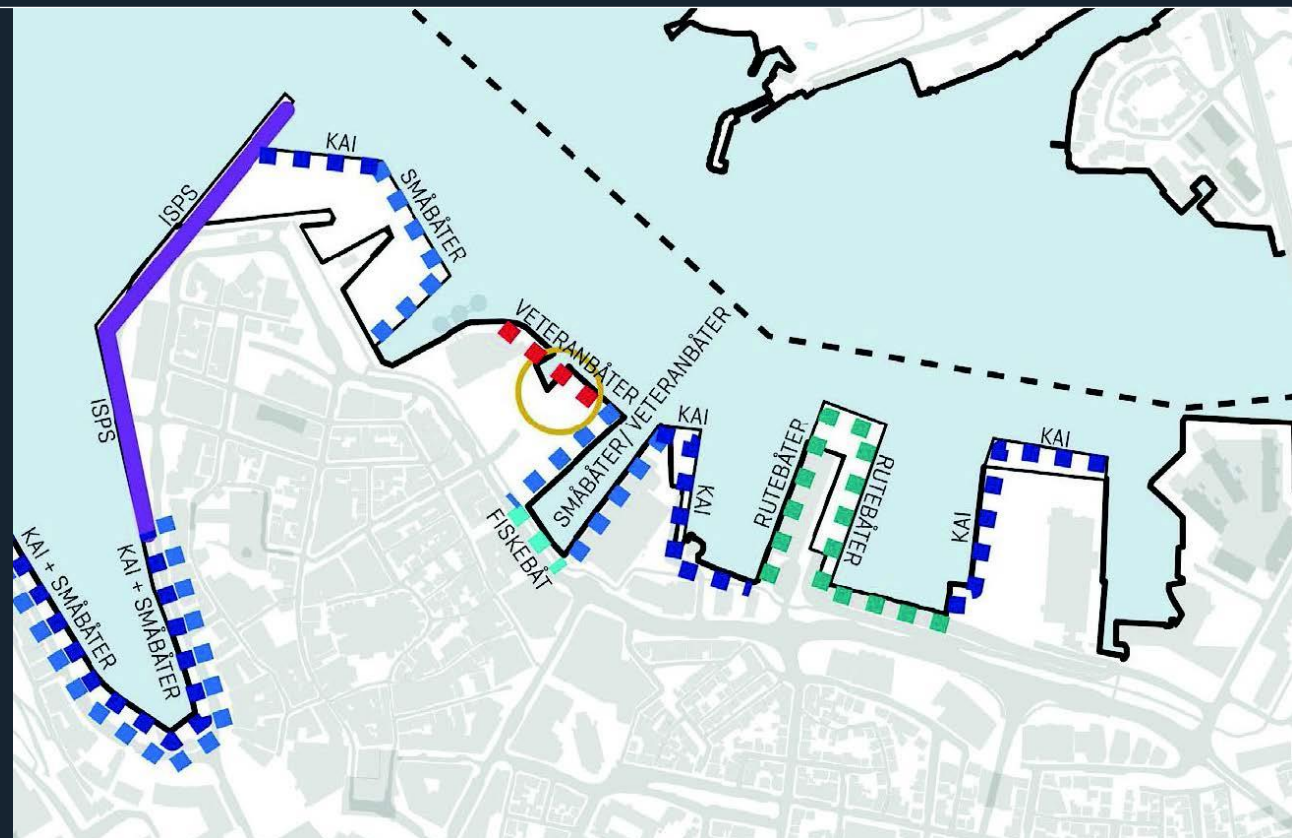
* ISPS quay: Quay that can receive calls from vessels sailing in international waters.





Stavanger Target areas

- City centre plan paves way for transformation of major parts of the waterfront area.
- Some port activities have to move, but most shall remain as is.
- The Port of Stavanger shall develop the waterfront area in a sustainable manner in line with the city centre plan.
- Close collaboration with many actors.

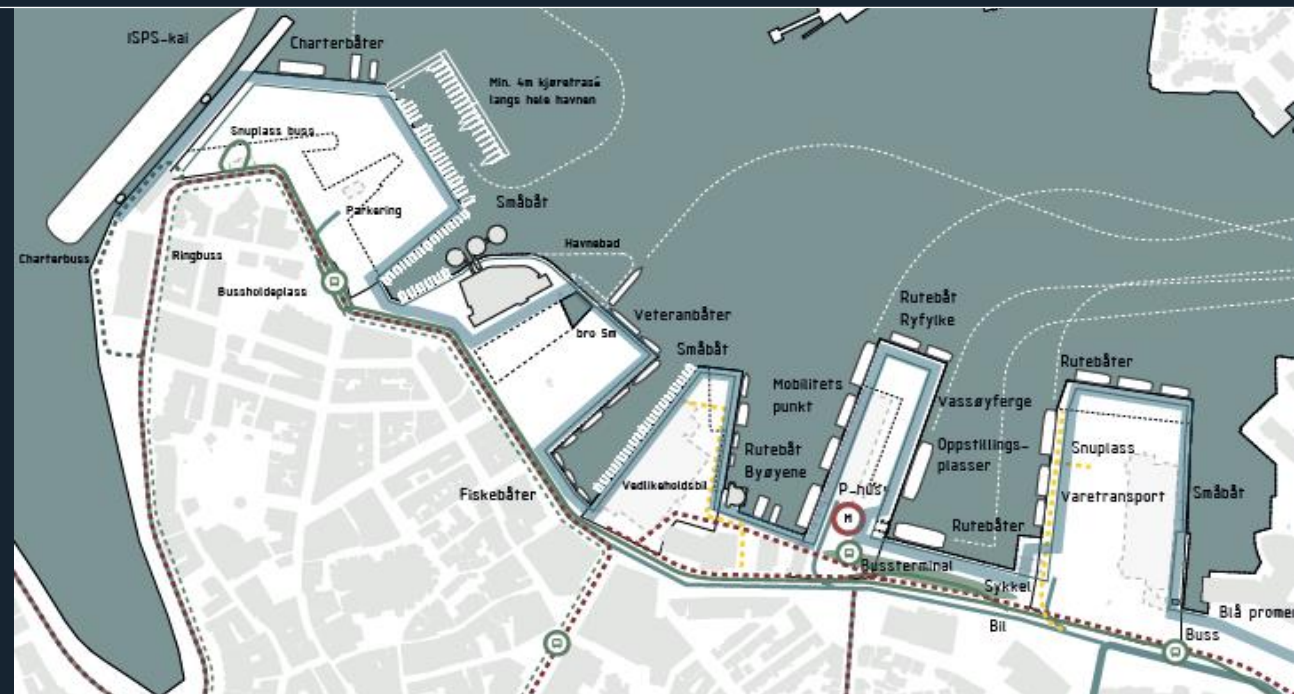




Stavanger

Strategic plan programme for Holmen and Østre port

- Most likely to be adopted by the end of 2021, and followed up with detailed regulation for each of the “piers”.
- Political resolution adopted to keep parking at Jorenholmen until sufficient parking facilities have been covered.
- Parking at Fiskepiren abandoned.
- Proposal to recover land at Bekhuskaien and Fiskepiren not likely to be realised within the time horizon in the plan.
- Quays kept as public quays, primarily for domestic traffic.
- New and extended Skanse kai quay in connection with Holmen development.



Above: Programming of design use of quay space. From the report on needs assessment for port operations. Mad arkitekter, 2019.

On the left: The lined area depicts the area for the “Strategic plan programme Holmen and Østre port”.



Stavanger Feasibility studies

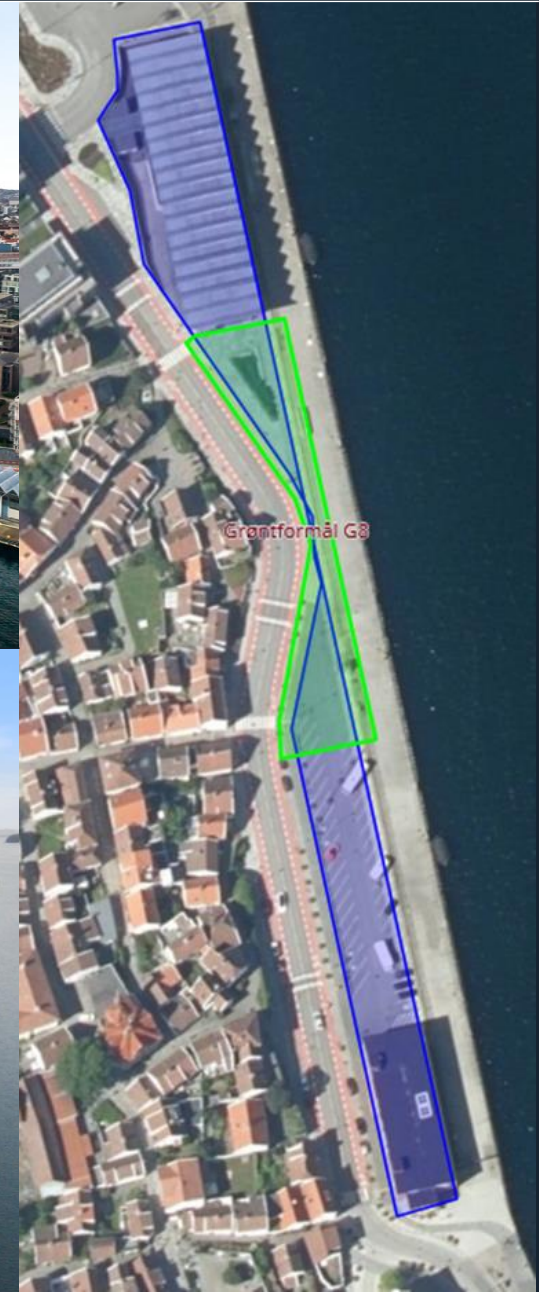
- Possible major increase in services for small boats and establishment of veteran boat harbour in area between Holmen and Jorenholmen.
- Possible improvement of mobility hub and infrastructure in the area nearby Margarinlinjen and Fiskepiren, including charging tower for express boats at the waterfront.
- Paving the way for land recovery along Margarinlinjen to improve conditions for urban spaces. Historical identity shall be made visible during the development.





Stavanger Feasibility studies

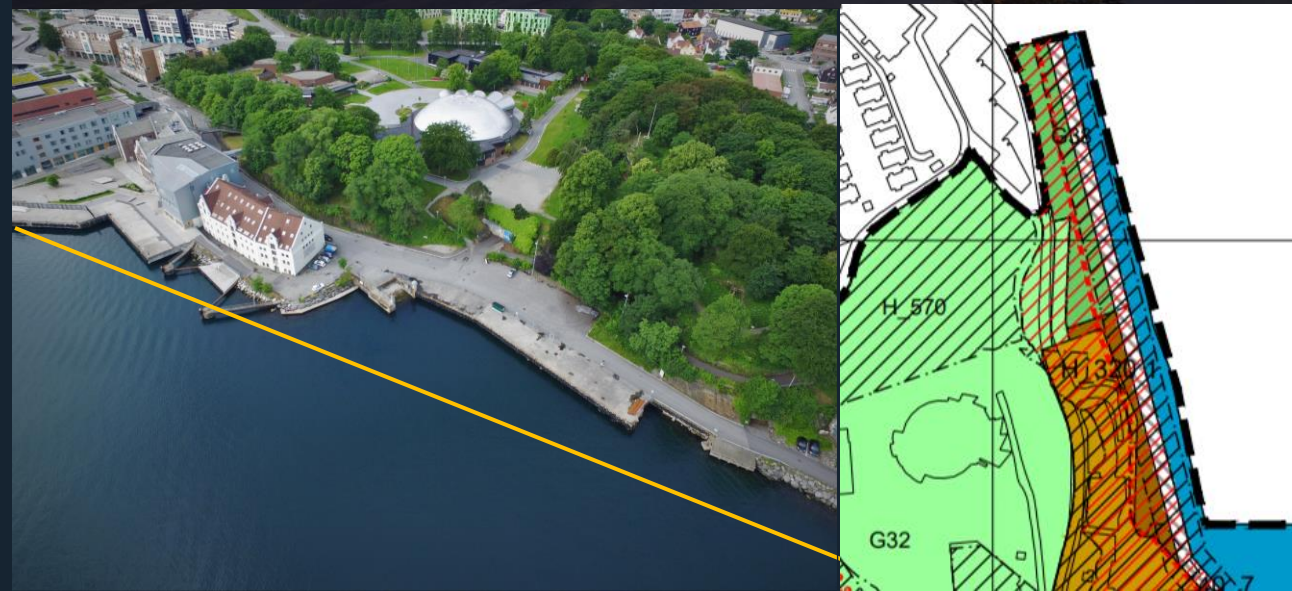
- Strandkaien is an important element in creating more activity between the inner Vågen area and out to Bjergsted, including co-use with port services for tourism and waiting quay.
- Alternative use of current parking area is being studied as a part of the comprehensive urban development and exploitation of the area from Skur 6 to the old international terminal.
- Opening for new building and urban space on the parking area.





Stavanger Bjergsted

- Development of long ISPS quay for large vessels and two building plots in rear area.
- Development potential of approx. 20 000 m² gross area and 350-metre-long quay.
- Regulation work and early-phase engineering under way.
- The old canned goods warehouse is to be rebuilt as a true copy.
- Development of port infrastructure requires a lot of capital – challenging if establishment of the quay does not result in more ship calls to Stavanger.





Stavanger

Alternative quays for cruise calls

Continuous evaluation of alternatives based on requirements for:

- suitability
- infrastructure
- capacity

Outside of Stavanger centre, some calls may be possible to existing quays in Risavika and Sandnes. New building of quay for cruise calls may be possible in Mekjarvik, in area to be expanded with new land recovered using material from Rogfast.



**Thank you for
your time**

CLOSE
TO *everything*

