

Marine business parks: efficient area use for nature and business

Co-locating ocean industries is an important measure in Norway's ocean, nature and energy policy

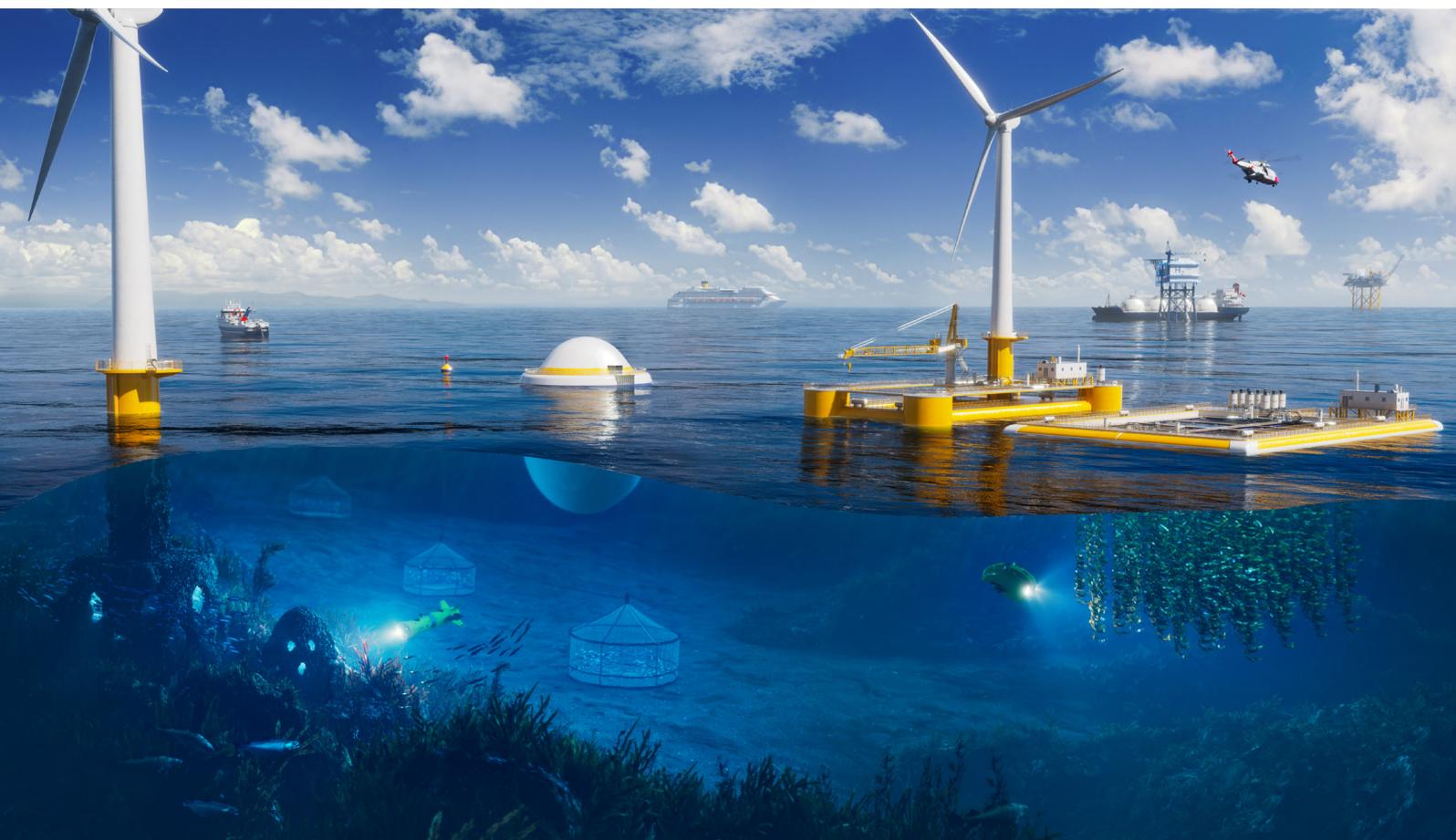
Main authors

Sigri Aurora Stokke Nilsen
Jan-Gunnar Winther (Centre for the Ocean and the Arctic at UiT
The Arctic University of Norway)

Co-authors

Anne Marit Hansen (Equinor)
Fredrik Myhre (WWF World Wildlife Fund)
Harald Solberg (Norwegian Shipowners'
Association)
Inger Johnsen (Troms Kraft)

Ingrid Lomelde (Mainstream Renewable Power)
Maria Pettersvik Arvnes (The Norwegian
Fishermen's Association)
Nina Jensen (REV Ocean)
Ole Fretheim (Norwegian Seafood Federation)



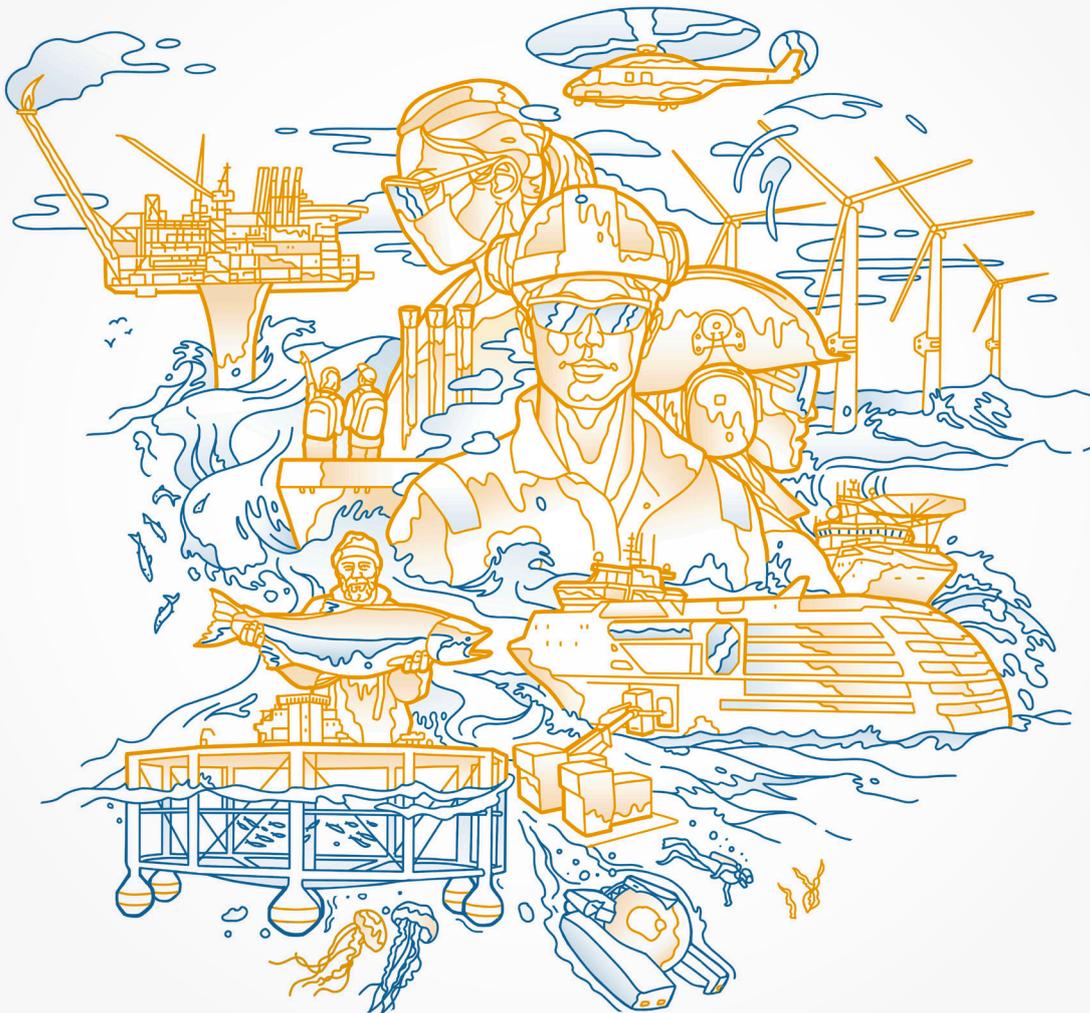
The Norwegian Government has major ambitions for the ocean

Co-location in marine business parks may be one way of achieving efficient utilisation of ocean space, providing synergies while helping combat the climate and nature crisis.

This policy brief describes seven recommendations on how marine co-location can strengthen Norwegian sustainability and competitiveness. The document indicates conditions required to achieve increased value creation, while Norway takes action to achieve its goals of cutting emissions and halting the loss of biodiversity.

The basic premise for marine business parks is that they contribute to solving both the nature crisis and the climate crisis, while creating positive ripple effects for nearby coastal communities. Both existing and new ocean industries can be part of a marine business park.

The term marine business park is defined as an area or physical platform where two or more marine business activities takes place simultaneously. It could also be an element in marine spatial planning, where different enterprises are allocated the same area, aiming for coexistence and economies of scale.



Recommendations

1

Incorporate promotion of marine co-location in the updated management plans for Norwegian ocean areas, as part of marine business plans and the upcoming Marine Environment Act. In order to increase spatial efficiency and coexistence, multi-use must be planned from the outset, and these must be embedded in overarching national framework conditions and priorities. The management plans for Norwegian ocean space should be further developed to include marine spatial planning for the assessment of area use taking into consideration nature, the climate and various industries.

2

Co-location should be positively weighted in the assessment of all licence applications for marine industries. All new licences for activity in Norwegian ocean space should include prioritisation for projects with plans for co-location that can increase value creation and lower climate and environmental footprints. Weighting may be implemented as obligatory for all agencies assessing ocean licences.

3

Harmonisation of regulations. Existing rules and requirements for impact assessments, climate, nature, technical conditions, concessions and licences must be reviewed and harmonised across marine industries. This will enable planning for the integration of several industrial projects in the same area. Existing sector legislation should be harmonised to facilitate coordination of licences, infrastructure and relevant regulations – both at sea and in the coastal zone.

4

Strengthen Norway's commitment to research and innovation across ocean-based industries. There is a need for both new knowledge and innovative solutions to realise the co-location of several industries in the same area, while cutting emissions and strengthening marine ecosystems. Research and development related to green, cross-sectoral solutions such as The Research Council of Norway's Green Platform programme should be strengthened, and research on marine co-location made an explicit priority area. Testing and early implementation of innovative solutions are prerequisites for achieving the goals of increased value creation and increased biodiversity, and these can be promoted, among other things, via the use of ENOVA funding.

5

Make Norwegian ocean data more accessible. Data collected from Norwegian ocean space should, as far as possible, be made publicly available across sectors. Access to data collected across different industries and through public research projects will facilitate the work involved in planning projects across the board, supporting co-location by helping to reduce data collection costs, and reducing the overall impact on nature. Various environmental parameters should be monitored continuously, preferably using new technology, sensors, and artificial intelligence.

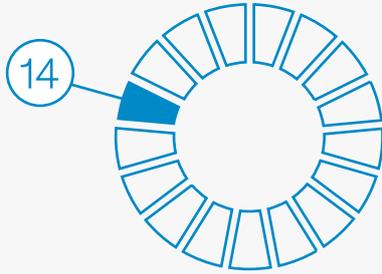
6

Initiate a co-location dialogue forum. The public and private sectors must promote co-location of ocean industries. We propose that the Norwegian Government initiate a dialogue forum for co-location based on the model of the offshore wind coexistence group, and that the dialogue forum receives resources for coordination.

7

At least one full-scale marine business park to be established by 2035.

Why facilitate marine business parks?



SDG 14: The UN Sustainable Development Goals (SDG) are designed to eradicate poverty, fight inequality and stop climate change by 2030. For marine business parks, SDG 14 on life below water is particularly relevant. Through the establishment and leadership of the High-level Panel for a Sustainable Ocean Economy, Norway has committed itself to achieving 100% sustainable ocean management of its own ocean space by 2025. However, according to [The Sustainable Development Report](#) – a global evaluation of the member states' progress towards achieving the SDGs – Norway will not be able to achieve SDG 14 on life below water.

The following may be achieved upon establishment of marine business parks:

- Circular economy, where as much waste as possible is reused
- Provision on thorough mapping of the seabed and continuous monitoring of temperature, ocean acidification and other physical, biological and chemical parameters
- Provision on a testing site for gentle fishing methods and new harvesting concepts ¹
- Reduction of establishment and operating costs by sharing infrastructure and services ²
- Reduction of area use conflicts and alleviation of pressure on areas for activities such as fishing, shipping, and training grounds for the Armed Forces ³
- Reduction of conflict between different offshore industries, increase innovation and interaction in the value chains ⁴
- Positive ripple effects on land and along the coast
- Stimulation of a holistic approach to public administration to maximise predictability across ocean-based industries and contribute to the harmonisation of legislation and licenses in relevant sectors
- Development of restoration measures and methods such as artificial reefs and kelp forests to increase biodiversity and ecosystem services
- Contribution to achieving other sustainability goals, such as affordable and clean energy (7), zero hunger (2), climate action (13) and partnership for the goals (17)



Climate: Norway aims to cut greenhouse gas emissions by 55 percent by 2030, compared to 1990 levels. To achieve this, we need to produce more renewable energy. The comprehensive process of electrification and the transition from fossil energy sources increases the need for renewable energy both in Norway and in our largest export markets. Ocean-based solutions can contribute to one-fifth of the necessary global emission cuts by 2050. ⁵

A marine business park could contribute to this by:

- Providing the starting point for the production of offshore renewable energy
- Being self-sufficient in terms of renewable energy
- Accelerating scaling processes and cost reductions for ocean-based energy
- Providing a testing site for nature-based solutions to capture CO₂
- Being a refuelling station for carbon-free fuels for ships
- Creating ripple effects for nearby coastal communities, including the creation of jobs and the production of renewable energy for onshore business activities
- Co-locating the use of infrastructure such as ports and networks to reduce nature footprint, carbon footprint and costs



Nature: The UN landmark agreement for global action on nature was signed by Norway in Montreal in December 2022, entailing a commitment to conserve and manage 30 percent of the world's oceans through protection or other conservation measures by 2030. This is in addition to the agreement to halt and reverse the loss of biodiversity by having a plan to restore 30 percent of degraded nature by 2030. Norway is now working on the development of a national action plan for nature. A white paper planned for 2024 will present the Government's measures to conserve nature, including in the oceans, achieve sustainable management and use, and combat the causes of dismantling and degradation of ecosystems. Efforts are also being made to develop a Marine Environment Act that will provide more tools to help preserve marine nature, by making it possible for the first time to protect marine areas up to 200 nautical miles from shore.

A marine business park could contribute to this by:

- Ensuring efficient area use and freeing up areas for conservation and other sustainable uses ⁶
- Restoring nature through testing and scaling of customised nature-based solutions ⁷



Production and national export targets: The Norwegian Government aims to increase exports, excluding oil and gas, by 50 percent by 2030. Ocean-based technologies are one of Norway's comparative advantages. We have developed and deliver world-class solutions for ocean industries. Increased pressure on offshore areas, combined with increased demands for conservation of ocean areas, means that the world will be seeking good solutions for co-location. Solutions that are positive for the climate and nature are now important criteria in assessing new ocean licences in a number of Norway's European export markets.

A marine business park could contribute to this by:

- Providing a testing ground for innovation related to the oceans, including for technology, dialogue or nature-based solutions
- Developing new industries, such as products (macroalgae and other low-trophic species, biomarine ingredients), technology (energy carriers, structures) and services (expertise, planning, management)
- Contributing to the upscaling and commercialisation of solutions that can increase Norwegian companies' competitiveness in and export opportunities to a Europe that focuses on including the climate and nature-positive solutions in new green industrial developments

What is the best solution for facilitating marine business parks?

The Centre for the Ocean and the Arctic's preliminary study on marine business parks (2022) shows that a marine business park can yield several benefits. One key element is fewer area use conflicts, and more areas available for other uses, including marine protection and fisheries. The preliminary study shows that one requirement for realising marine business parks is harmonisation of laws and regulations, allowing for different activities to be operated in the same area or from the same platform.

Several institutions and companies, particularly in Europe, have analysed multi-use and co-location. Research projects have mainly established pilot studies with different combinations of industries. The following is a summary of some of the main findings from research on the management aspect of marine business parks, with relevance for Norwegian conditions.

The EU project UNITED has identified three different ways in which countries regulate the co-location of ocean industries (multi-use). The first is "control," with strict planning and regulation, where co-location is only allowed in predefined areas. This is a top-down process (Belgian and German pilot study). The second way is "flexible", where location in a larger area is determined by a bottom-up process, and location is adapted to e.g., available innovation (Greek and Dutch pilot studies). The final model is a "hybrid" where the first two methods are used at different administrative levels (Danish pilot study). The management models have different effects but can all result in co-location.⁸

One reason why it can take a relatively long time from pilot studies to commercial operation is that the regulatory framework complicates the establishment of marine business parks. Therefore, regulations must be harmonised. A clear legal framework must be established that simplifies the procedures for obtaining permits, licences and rules for impact assessments for marine business parks. At the same time, the environmental requirements for impact assessments and licences must not be reduced, and the body dealing with this must possess considerable environmental expertise. An assessment is also required as to whether incentive measures shall be used to make coexistence more attractive to actors in the ocean-based industries. According

to the Norwegian preliminary study on marine business parks, the process must comprise "in the Norwegian context [...] both the licensing process (granting of licences), provisions regarding impact assessments, regulation of technical conditions (if a multi-use platform is to be used) as well as provisions concerning health, safety and environment (HSE). Furthermore, a tax and duties regime must be compiled."³

Legislators must provide a clear framework for marine business parks as part of marine spatial planning, in order to reduce risks and costs for actors who want to develop a marine business park.⁹ Clear definition is also required of areas where marine business parks shall not be built. Examples of such areas are important spawning areas, migration routes for birds or marine mammals, important habitats for endangered species, areas with high natural carbon storage, or particularly valuable and vulnerable areas. For Norway, this implies that the comprehensive management plans for Norwegian ocean areas may determine whether or not it is appropriate to establish marine business parks. The management plans should therefore be further developed to include plans that allow for the assessment of area use taking into consideration nature, the climate and various industries.

According to the EU study MARIBE, support for funding, research and development (R&D) is crucial in achieving sufficiently rapid technological progress that will enable the establishment of marine business parks. There will be a need for public support for R&D, mapping of nature and demonstration projects.¹⁰

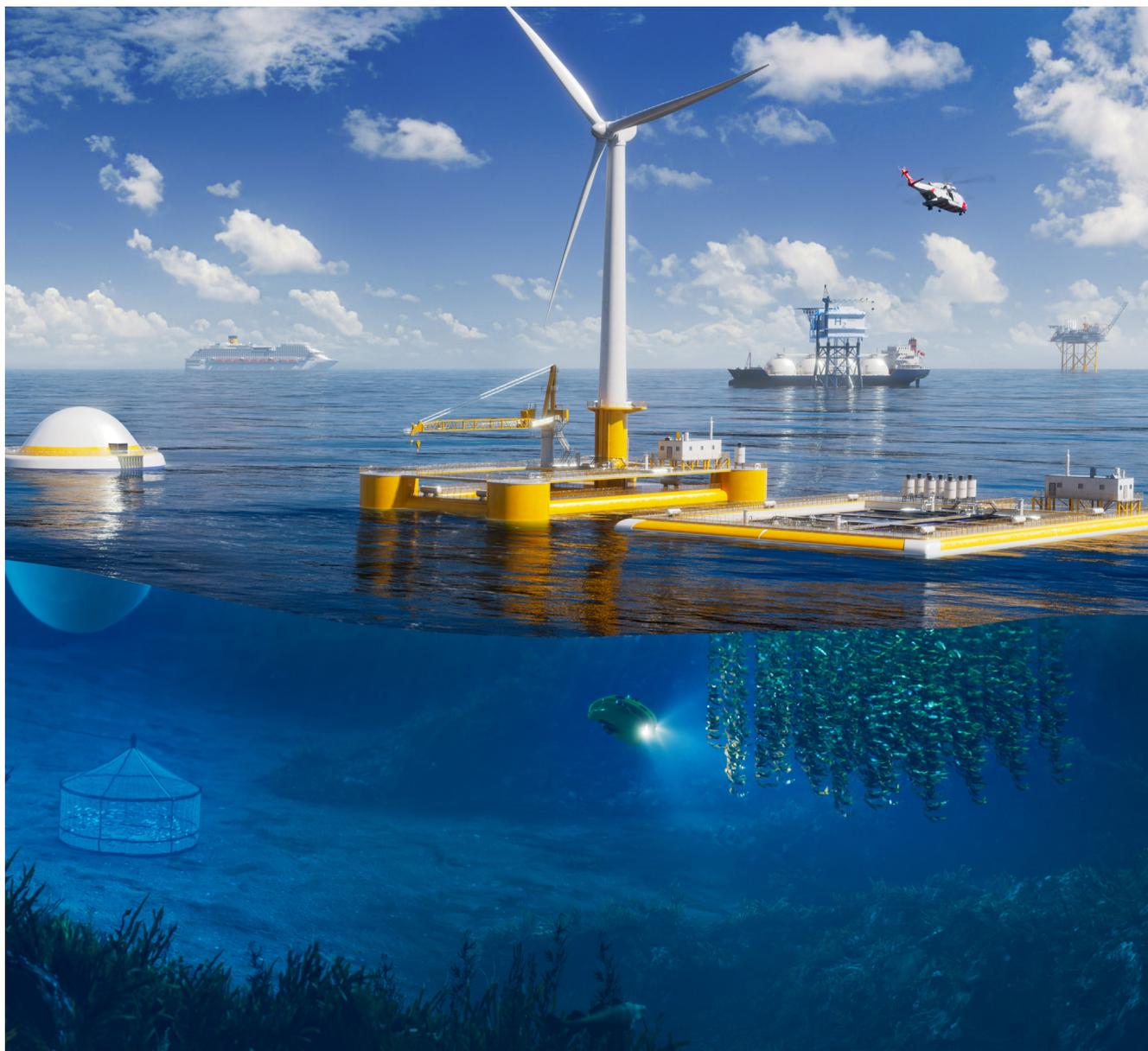
There is a need for more analyses and reviews of Norwegian regulatory conditions, sector legislation and management plans, in order to specify how these can enable the establishment of several different ocean-based industries in one location. If a marine business park is established in the coastal zone, the Planning and Building Act and the Nature Diversity Act apply. In addition, there is the new Marine Environment Act and a number of sector legislative acts.

A dialogue forum for coexistence, recommended in this report, can identify both limitations and opportunities, and make concrete proposals for necessary analyses and studies.

Conclusion

Norway is committed to ambitious offshore conservation targets, where nature is at the heart of all future area planning. At the same time, there is a political objective to ensure maximum value creation within a sustainable framework. We shall produce more renewable energy, more proteins from the ocean and we also have other ambitions that will require space. To achieve the above, the establishment of marine business parks can be a good way to organise activities at sea, aiming to be both climate-positive and nature-positive.

Through a targeted focus on innovation, regulatory harmonisation and positive weighting for sustainable co-location, Norway can become a pioneering nation as the world takes measures to fulfil SDG 14. Due to scarcity of time to achieve our common goals for greenhouse gas emission cuts and nature conservation, we cannot wait for the market alone to drive forward the solutions required. Political facilitation in close cooperation with industry actors is crucial when it comes to cutting emissions, creating jobs and safeguarding our unique marine nature.



Endnotes

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