

NorthSEE Project



Offshore Energy Planning Provisions and transnational Maritime Spatial Planning in the North Sea Region: *Findings from the NorthSEE project*

NorthSEE Project

Objectives

- 1) Increase **MSP effectiveness** through **transnational coordination** of national marine plans
- 2) Develop an **information and planning platform** to share evidence for MSP
- 3) Develop **transnational coherence** in
 - **Environmental protection**
 - **Offshore energy infrastructure**
 - **Shipping routes**

Key stats:

EU Funded: INTERREG

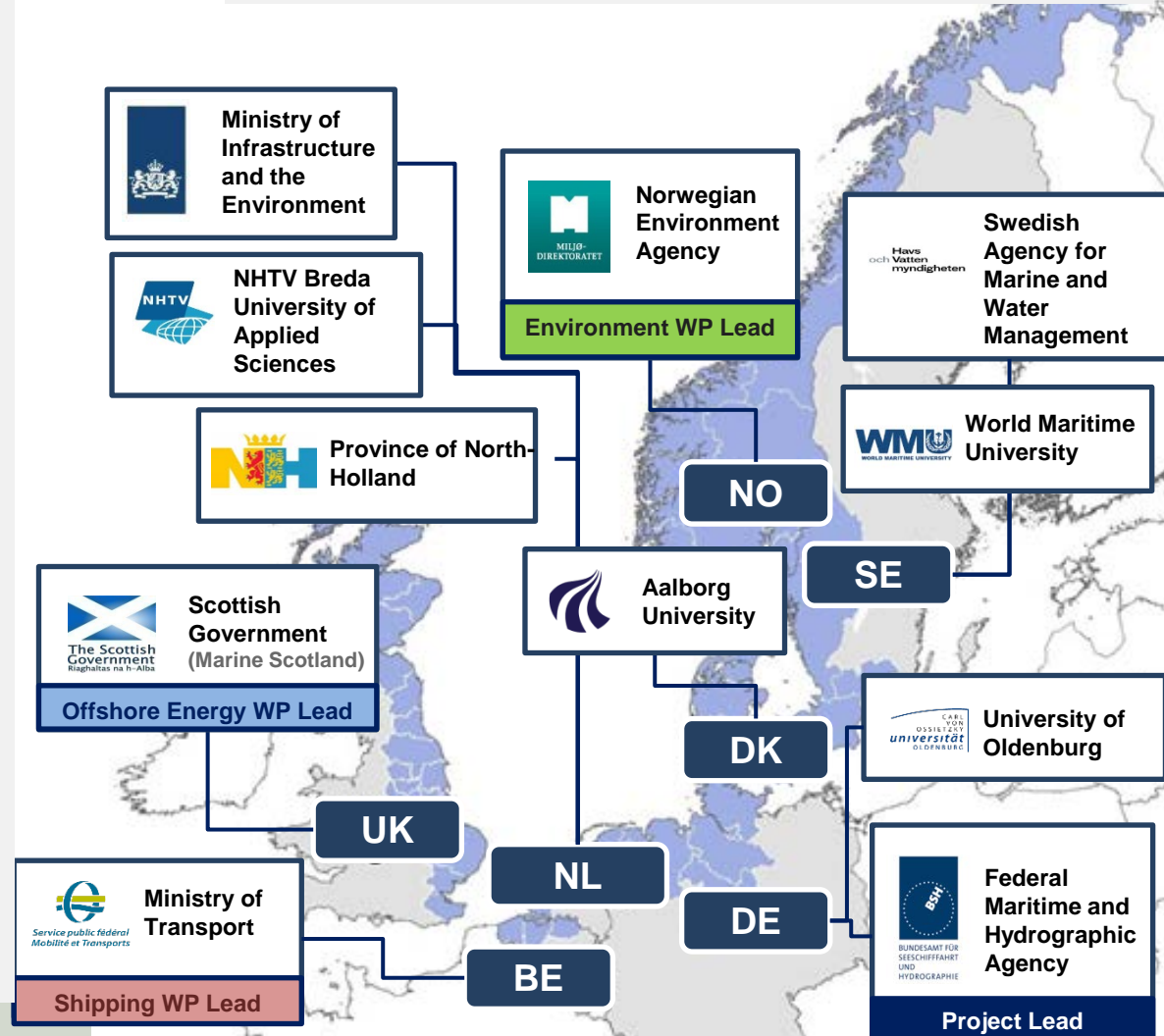
Budget: € 4 million

Duration: 3 years

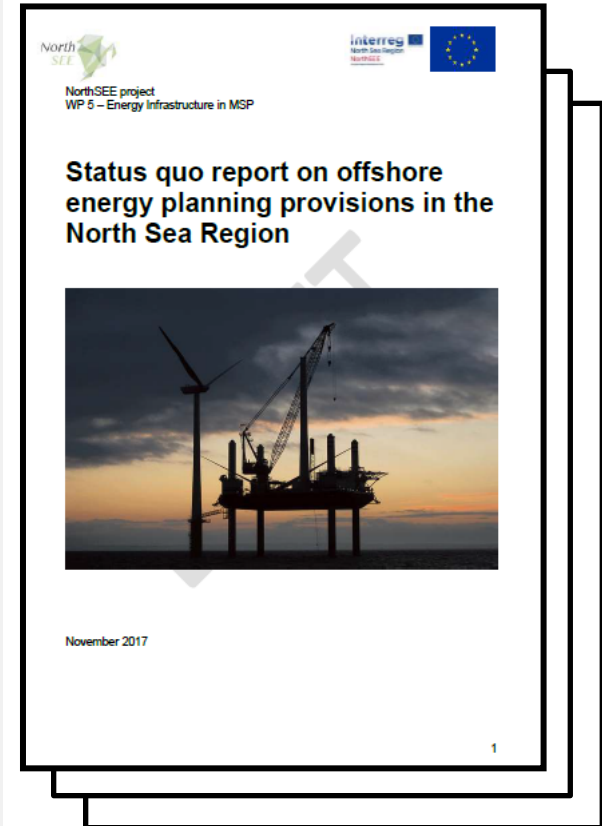
Project Duration:

April 2016 – April 2019

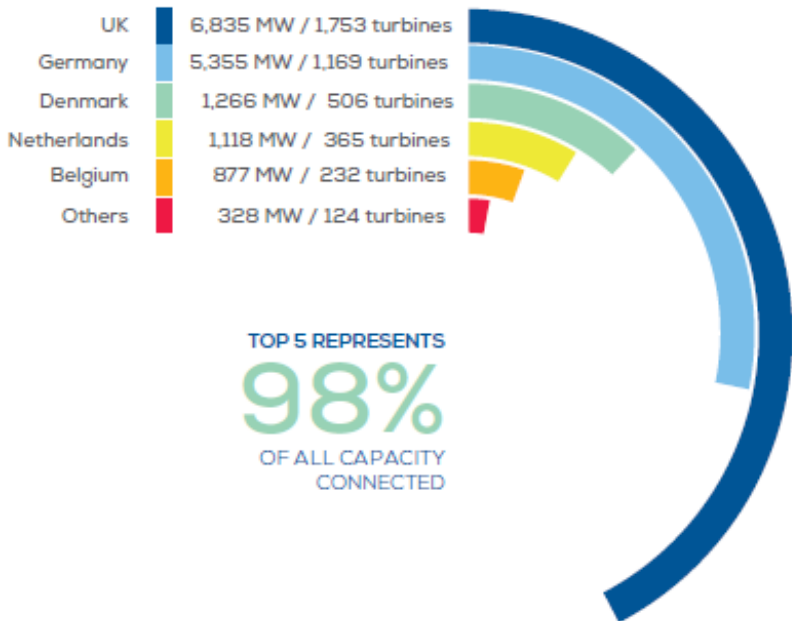
(+6 months extension i.e. Aug '19)



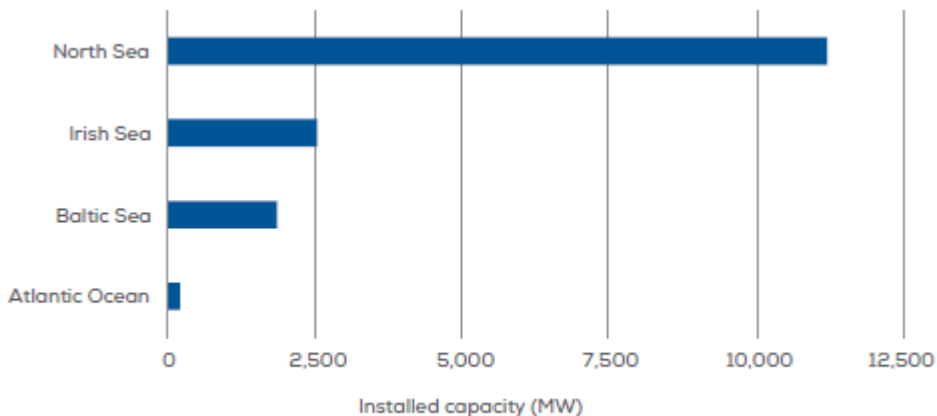
- 1) Status Quo for offshore renewable energy in the North Sea. What's already here?
- 2) Future outlook for the North Sea? What's coming?
- 3) What are the spatial implications?
- 4) How do we plan for this?



Installed offshore wind capacity in the North Sea (2017)

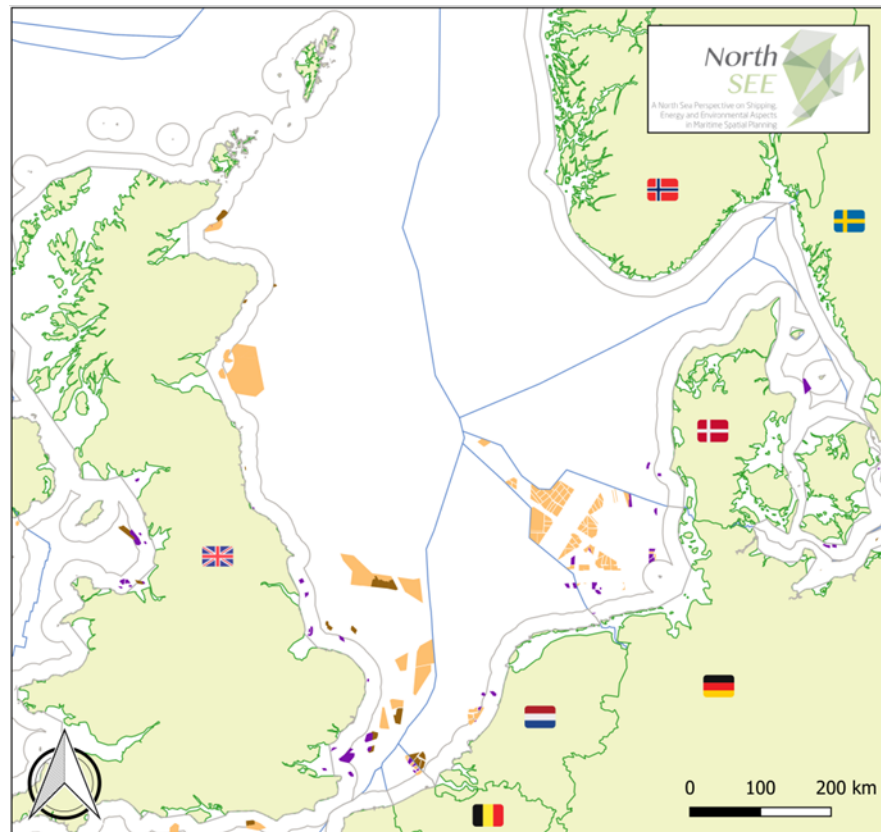


Source: WindEurope



Source: WindEurope

Offshore Wind farms in operation, planning and under construction



Legend

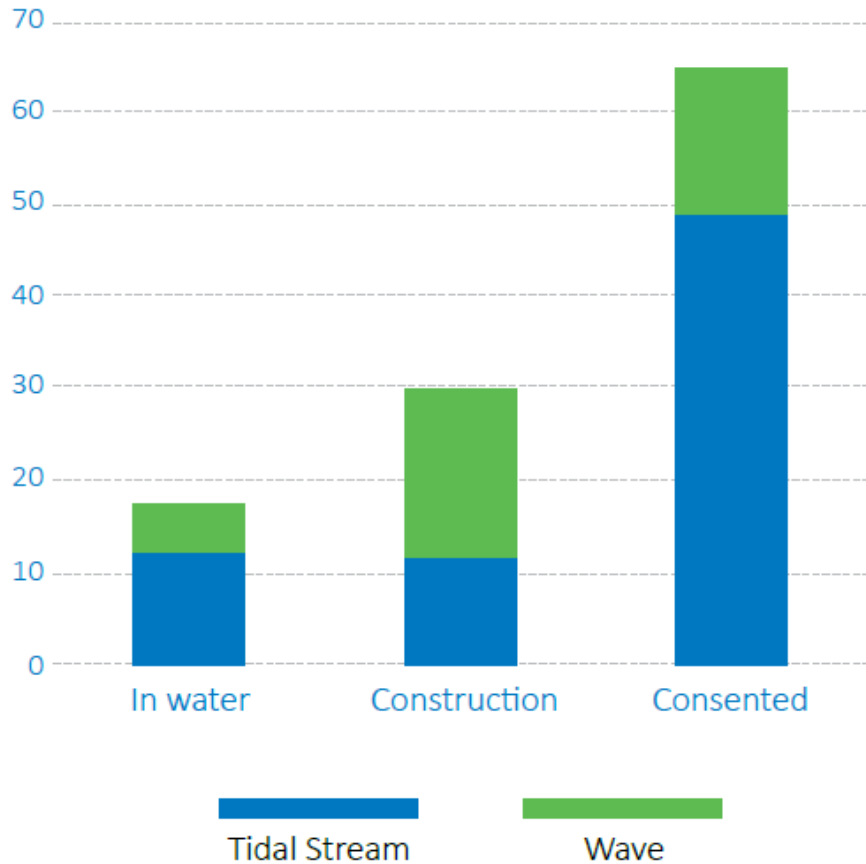
- | | |
|---|---|
| Offshore Wind Farms | Base Layers |
| ■ Operational | ■ Countries |
| ■ In Planning | ■ 12 NM Zones |
| ■ Under Construction | ■ EEZ Borders |

Coordinate Reference System:
ETRS 89 - UTM 32N / EPSG 25832

Date:
29.09.2017

Producer:
COAST - University of Oldenburg

Ocean Energy Status Quo



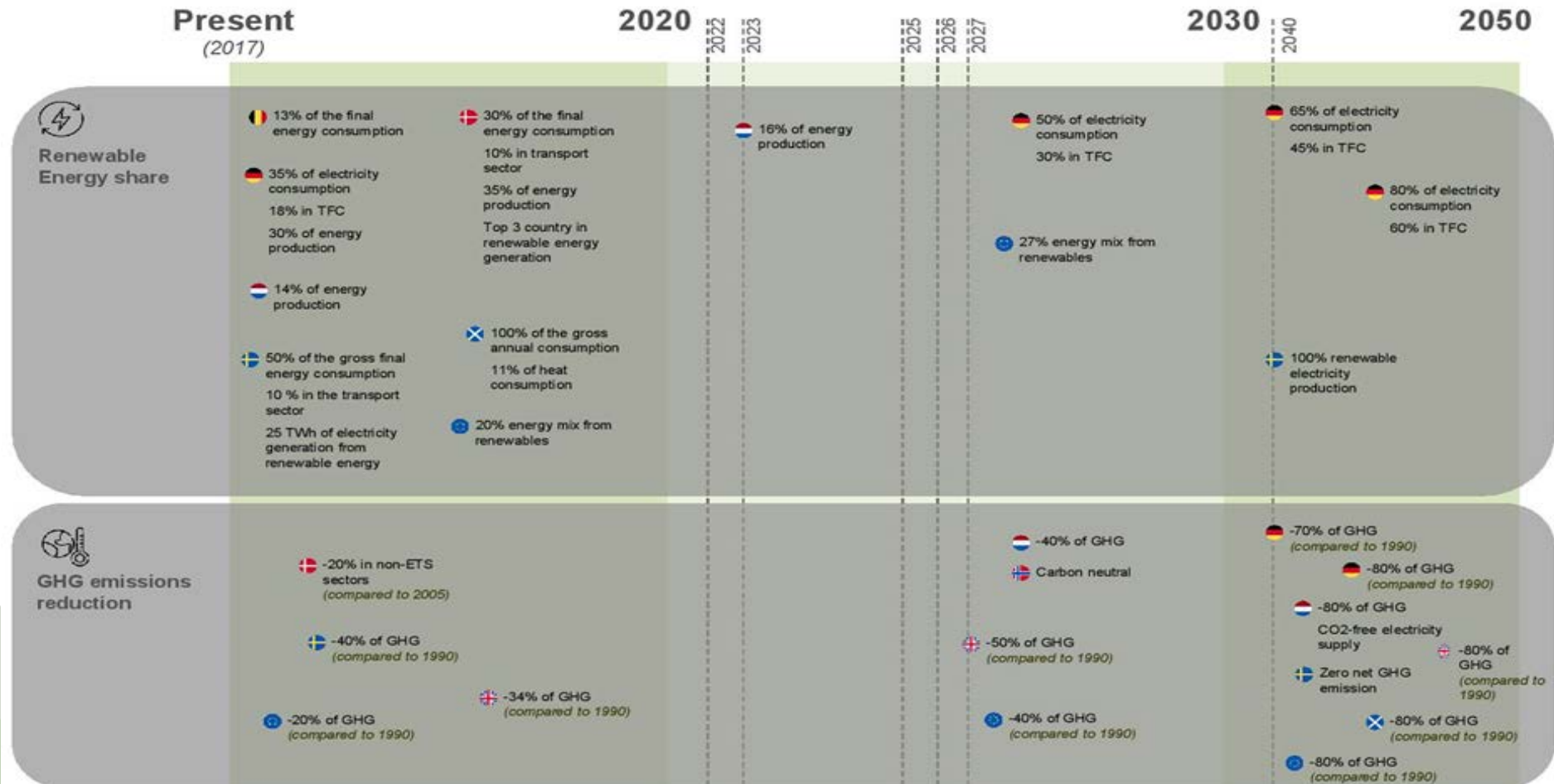
- ① Atlantis - MeyGen
- ② Nova Innovation - Shetlands
- ③ Wello - CEFOW project
- ④ Tocado - Eastern Scheldt barrier



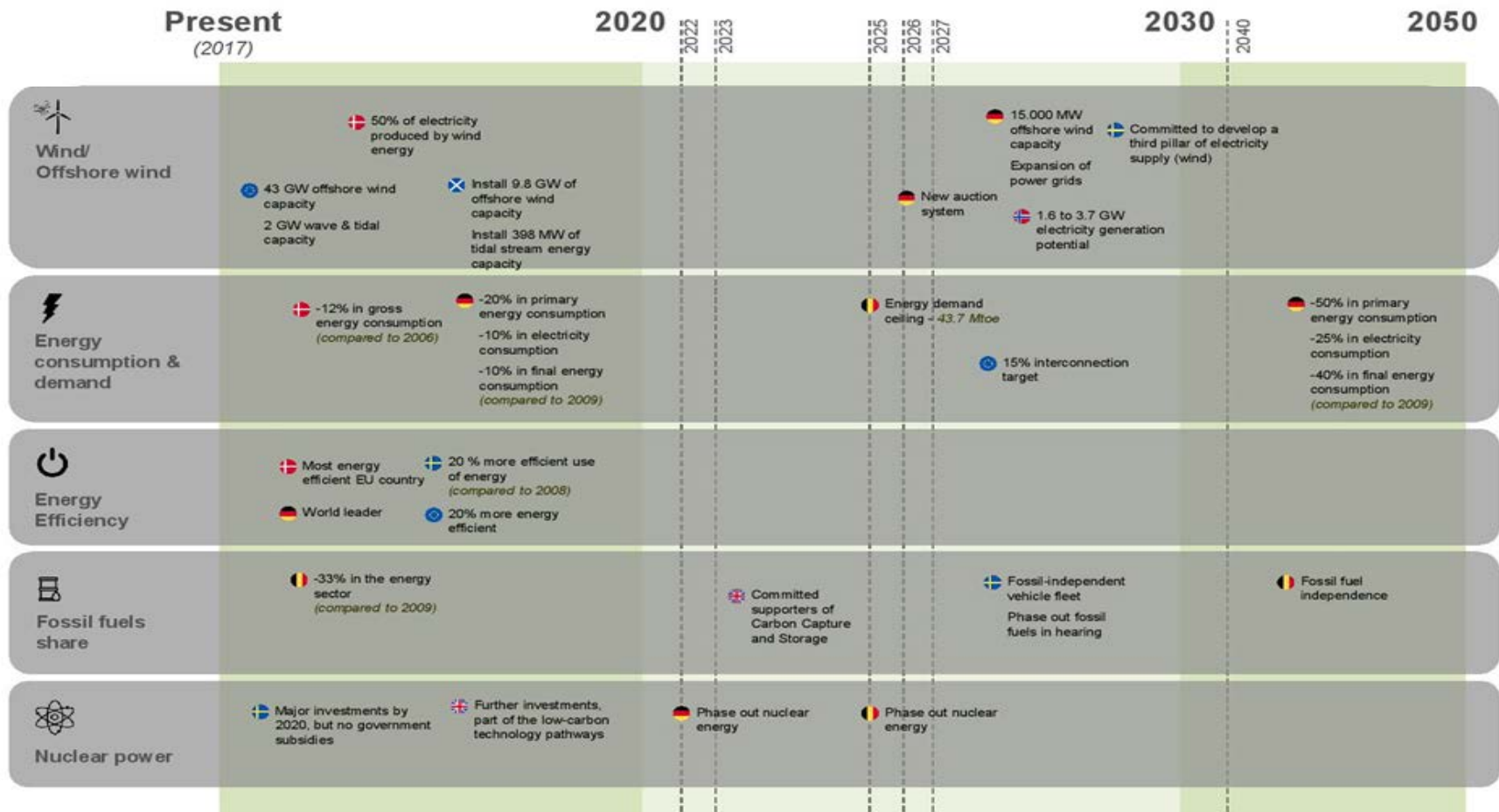
European wave and tidal energy projects at the end of 2016.
Source: Ocean Energy Europe, 2017



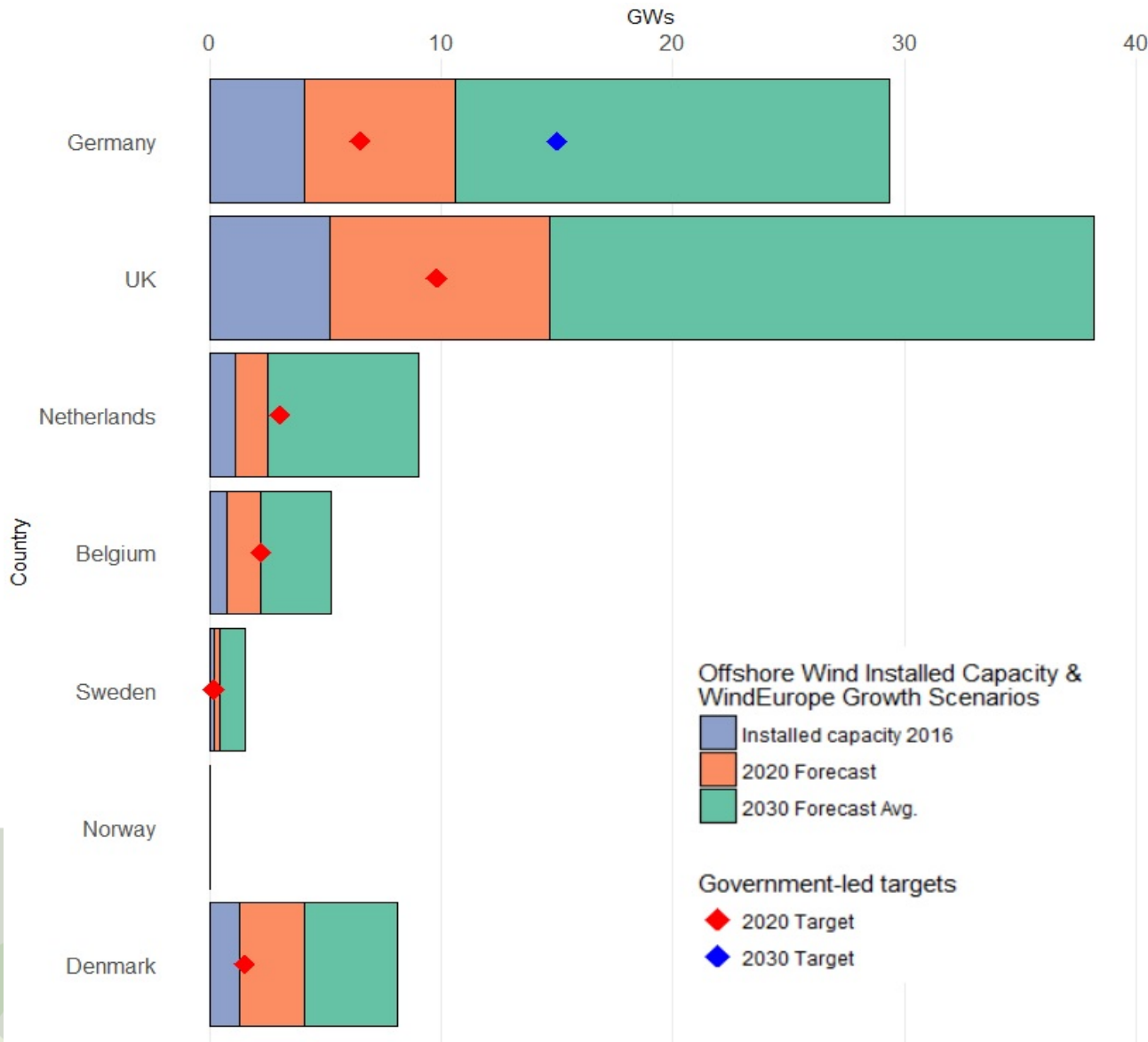
Timeline horizon of environmentally friendly energy policies in the North Sea



Driving force for the growth of offshore renewable energy



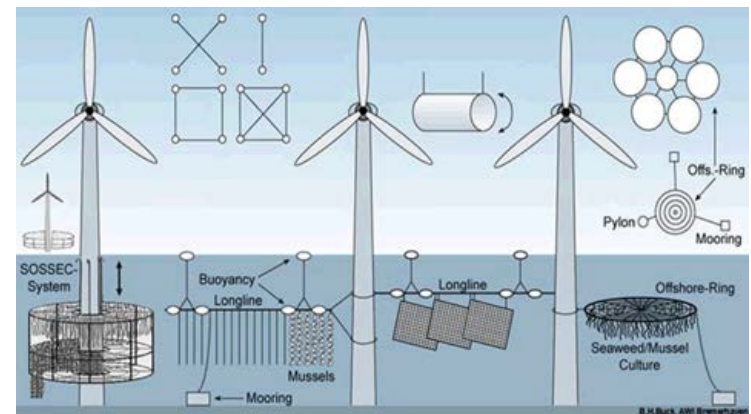
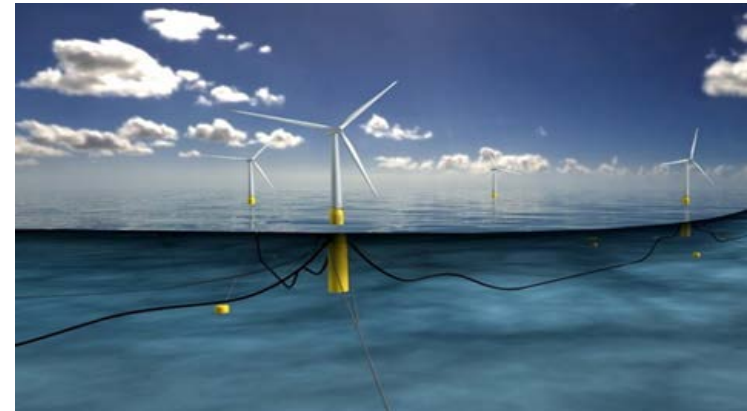
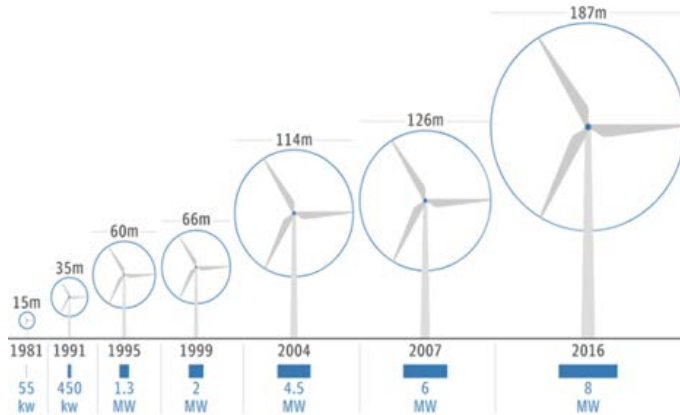
Future Outlook – Growth Scenarios



Growth in offshore wind but mismatch in the level of aspirations between government and industry



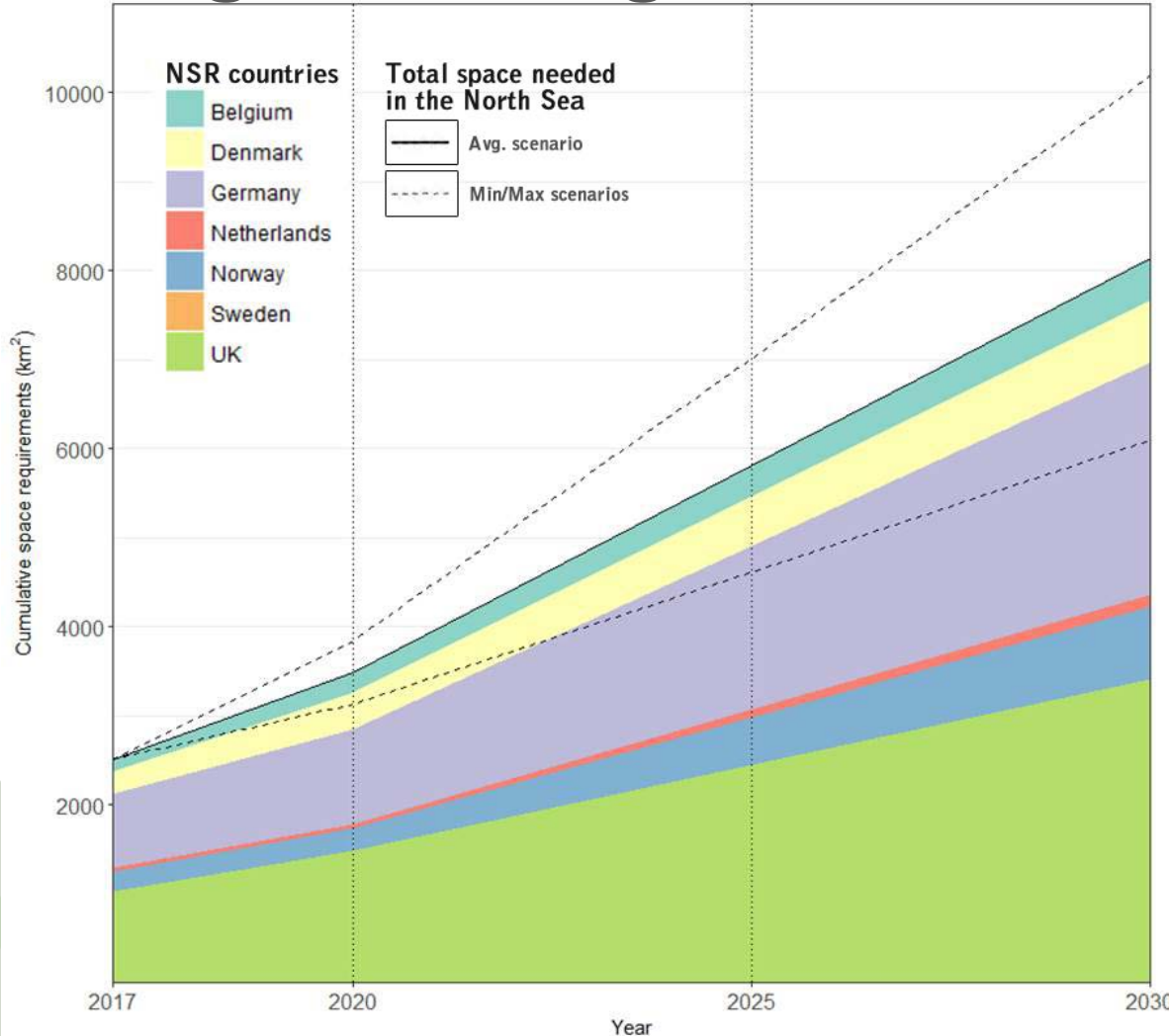
Future energy industry trends



EU target to reach 100 GW of combined wave & tidal capacity installed by 2050



Space requirements for fulfilling 2020 & 2030 growth targets for offshore wind



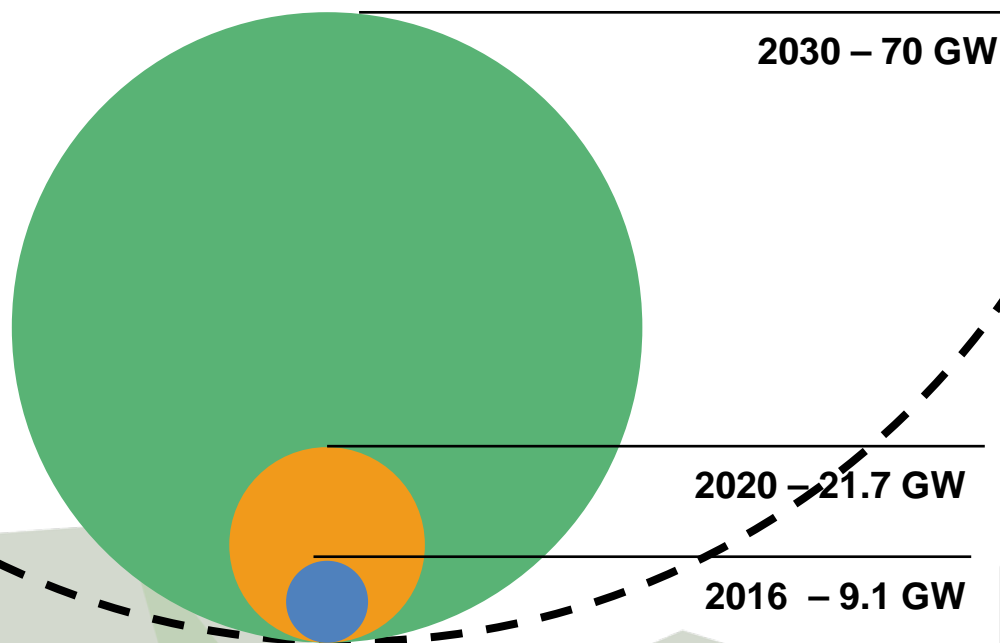
Based on average scenario and assumptions of 1 km wind turbine spacing and incremental increase in turbine size from 7 MW to 15 MW

Total space occupied by offshore wind farms:
3,500 km² by 2020
Over 8,000 km² by 2030





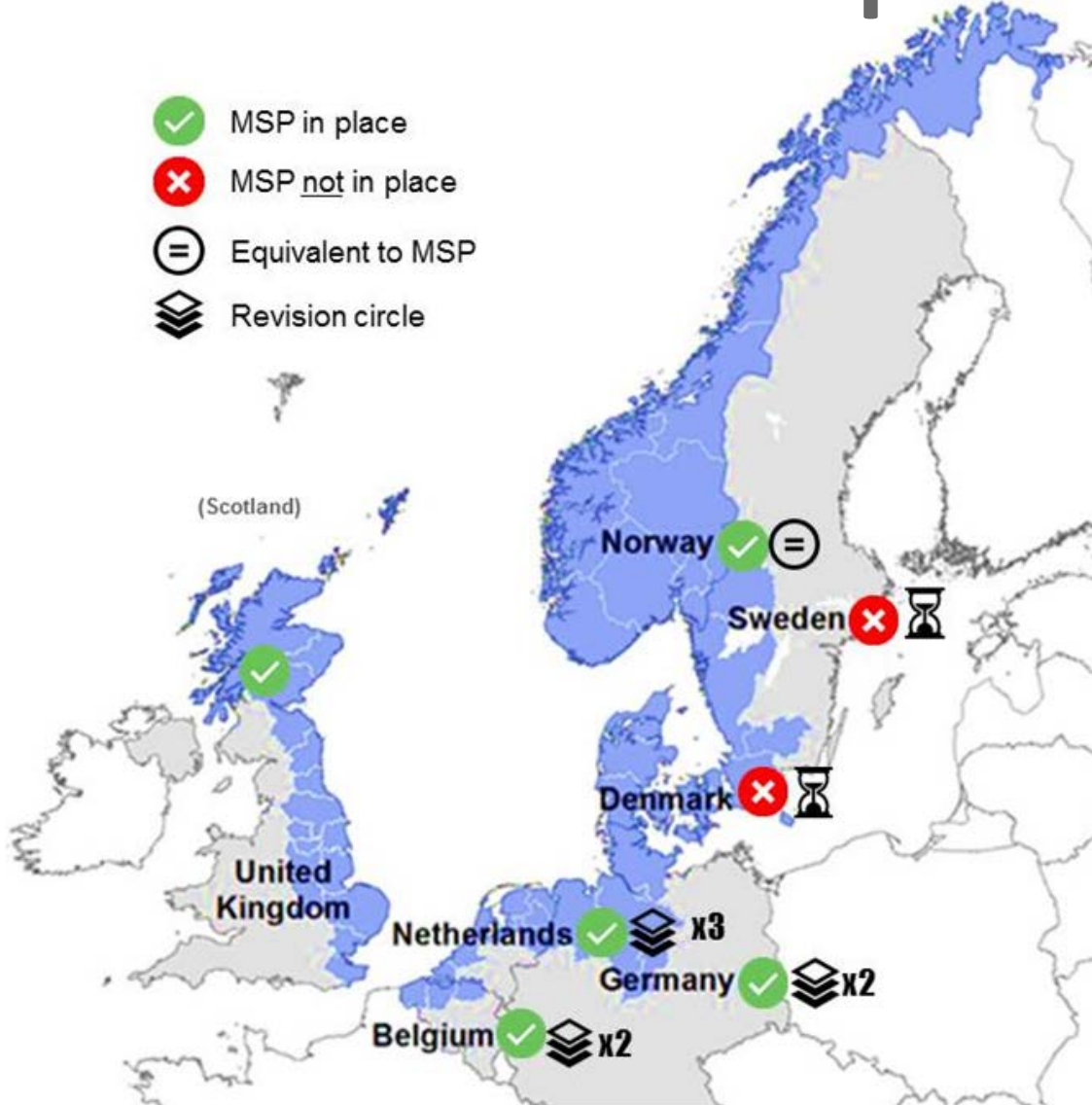
Offshore wind growth targets in the North Sea



How can we plan for this?

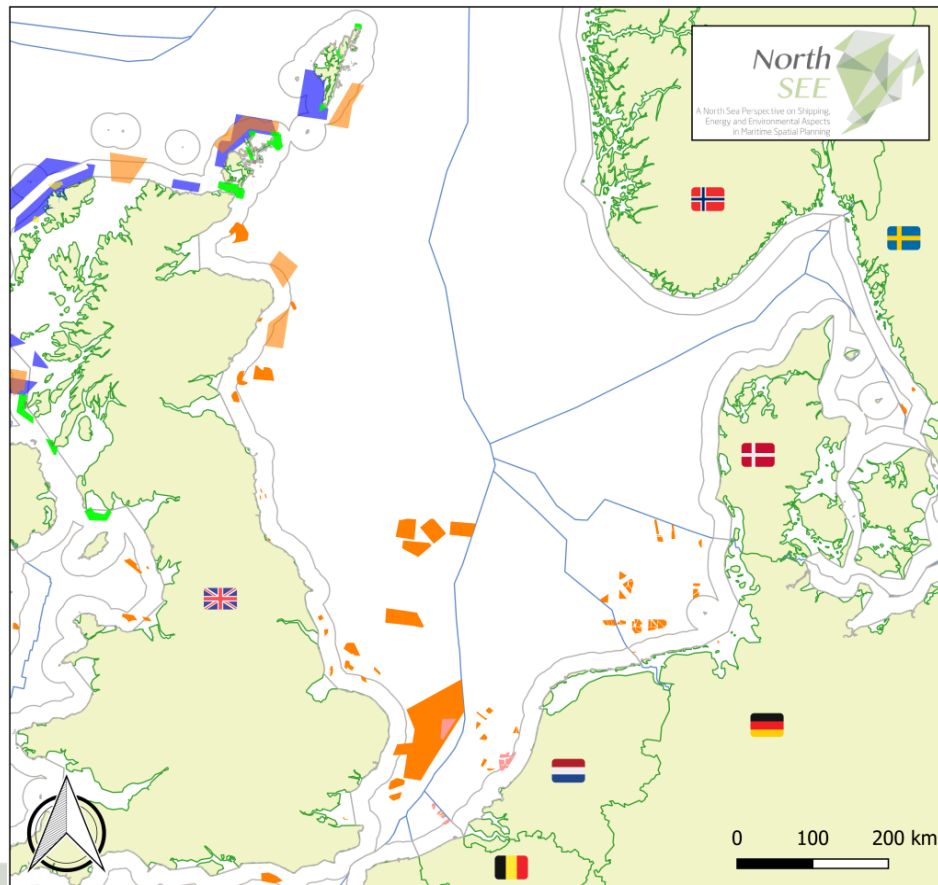
...Maritime Spatial Planning

- ✓ MSP in place
- ✗ MSP not in place
- ⊖ Equivalent to MSP
- ⊞ Revision circle



- MSP is key!
- Helps to reduce conflicts between marine users and the marine environment and identifies synergies
- EU MSP Directive commits countries to have marine plans in place by 2021
- Calls for transnational coherence
- Differences exist – Denmark & Sweden yet to adopt their first national plan, whilst others are going through plan revisions

Wind farms, tidal and wave lease sites authorised and planned



Legend

Offshore Wind Farms

- Authorised
- Planned

Plan Options

- Wave Energy
- Tidal Energy
- Wind Energy

Base Layers

- Countries
- 12 NM Zones
- EEZ Borders

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Designate spatial areas for offshore energy

- Most NSR countries have designated spatial areas for offshore renewable energy, except Norway & Sweden
- Allows energy targets to be met and balance of conflict & synergies
- Dependent on geography and size of marine area – Scotland vs Belgium

Take home messages

- What to expect from offshore renewable energy in the future in the North Sea
 - Significant growth in offshore wind
 - Increased ocean energy
 - New technology
- Spatial implications
- The role of MSP for offshore renewable energy and spatial designations
- Now you know some of the predicted trends for offshore renewable energy – what will this mean for interactions with marine wildlife and the marine environment?
- Scaled up offshore renewable energy developments in the future + other marine activities → collision risk, displacement, increased barriers and noise



Thank you!

Visit our website:

www.northsee.eu

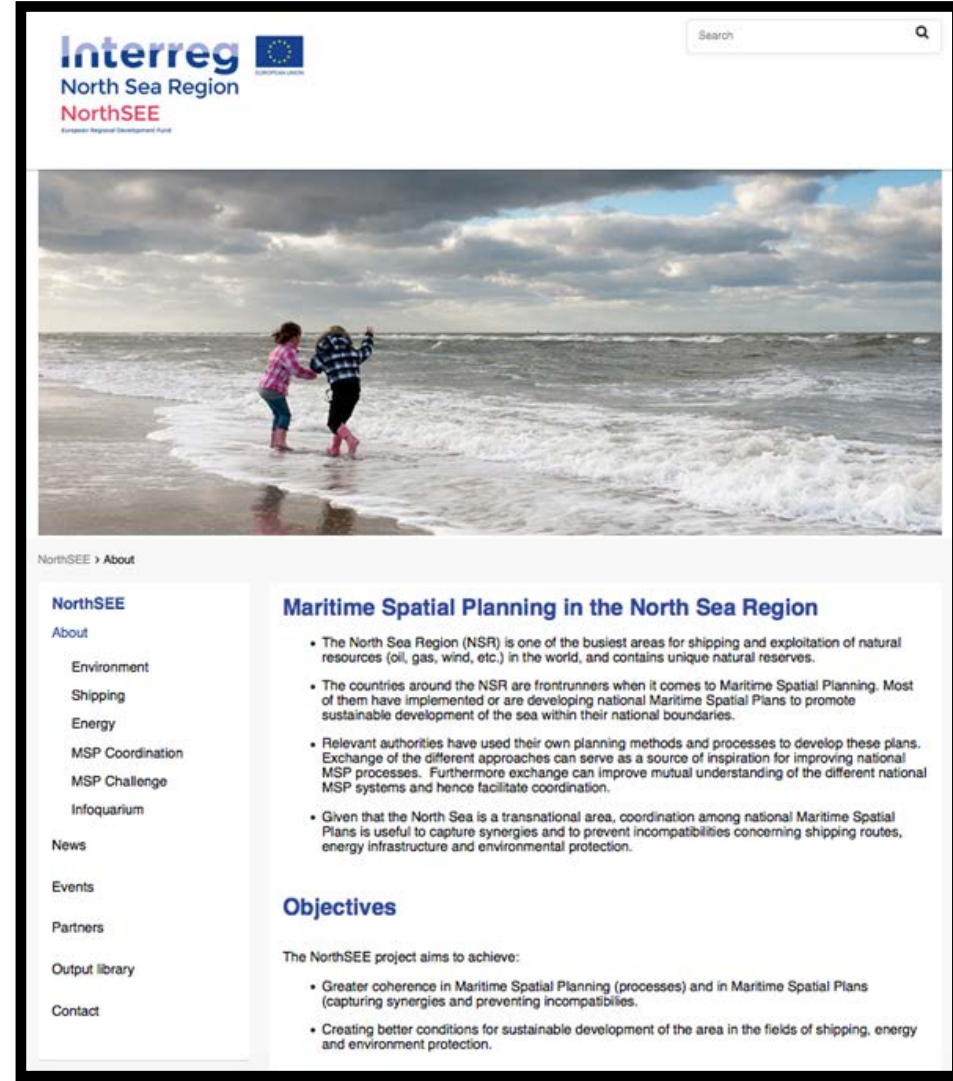


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The screenshot shows the NorthSEE website interface. At the top left is the Interreg North Sea Region NorthSEE logo, which includes the European Union flag and the text "European Regional Development Fund". A search bar is located in the top right corner. Below the header is a large photograph of two children playing in the surf on a beach. Underneath the photo is a navigation menu with the following items: About, Environment, Shipping, Energy, MSP Coordination, MSP Challenge, Infoquarium, News, Events, Partners, Output library, and Contact. The main content area features a section titled "Maritime Spatial Planning in the North Sea Region" with a list of bullet points. Below this is a section titled "Objectives" with a sub-heading "The NorthSEE project aims to achieve:" followed by another list of bullet points.

Interreg North Sea Region NorthSEE
European Regional Development Fund

Search



NorthSEE > About

NorthSEE

- About
- Environment
- Shipping
- Energy
- MSP Coordination
- MSP Challenge
- Infoquarium
- News
- Events
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- Output library
- Contact

Maritime Spatial Planning in the North Sea Region

- The North Sea Region (NSR) is one of the busiest areas for shipping and exploitation of natural resources (oil, gas, wind, etc.) in the world, and contains unique natural reserves.
- The countries around the NSR are frontrunners when it comes to Maritime Spatial Planning. Most of them have implemented or are developing national Maritime Spatial Plans to promote sustainable development of the sea within their national boundaries.
- Relevant authorities have used their own planning methods and processes to develop these plans. Exchange of the different approaches can serve as a source of inspiration for improving national MSP processes. Furthermore exchange can improve mutual understanding of the different national MSP systems and hence facilitate coordination.
- Given that the North Sea is a transnational area, coordination among national Maritime Spatial Plans is useful to capture synergies and to prevent incompatibilities concerning shipping routes, energy infrastructure and environmental protection.

Objectives

The NorthSEE project aims to achieve:

- Greater coherence in Maritime Spatial Planning (processes) and in Maritime Spatial Plans (capturing synergies and preventing incompatibilities).
- Creating better conditions for sustainable development of the area in the fields of shipping, energy and environment protection.

