Multi-Use Procedure
Multi-Use in Dutch Offshore Wind farms

Efficient use of space · Synergies between functions · Avoid collisions · Ecosystem services

seaweed · mussels · crab and lobster fishing · floating solar (panels) · nature development
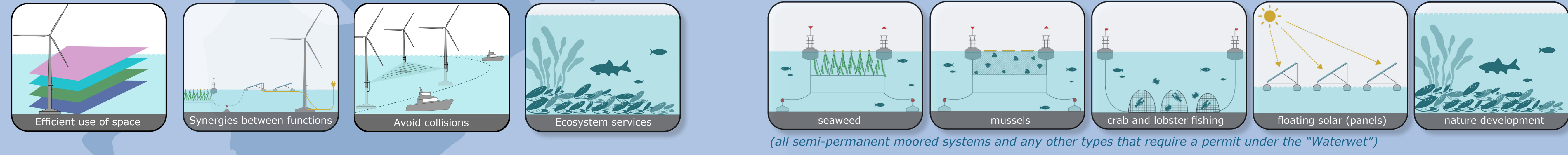
(all semi-permanent moored systems and any other types that require a permit under the "Waterwet")

Overview of the planned wind farms in the Dutch part of the North Sea. Wind area Borssele is indicated with red and is the basis for the examples in this infographic. For more information on the (planned) wind farms, visit www.Windopzee.nl
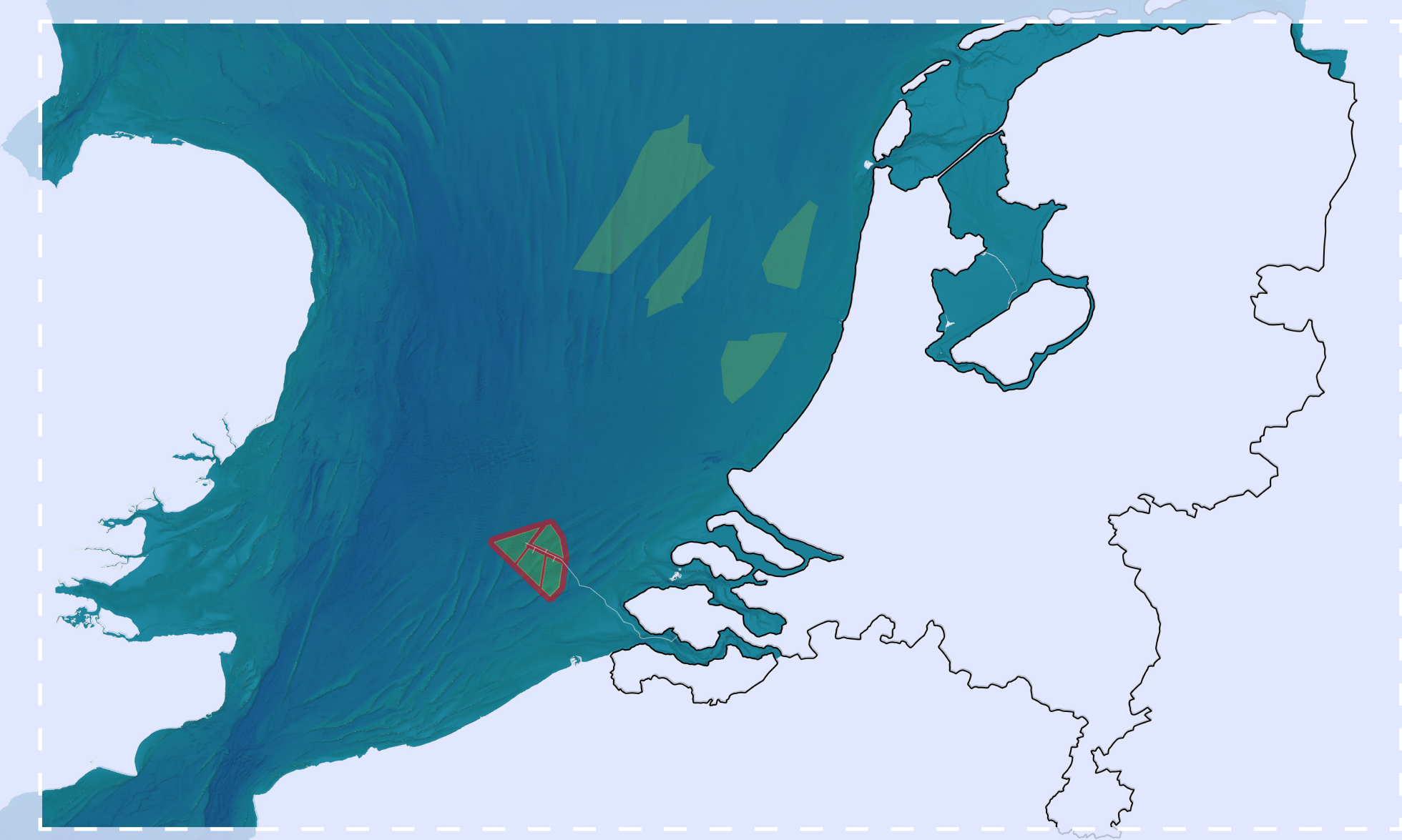
WHY (MULTI-USE)

Whether it is for seaweed, solar energy, nature development or any other type of innovative "blue economy" activity, it is worth considering a multi-use setup in offshore wind farms:

• Using the otherwise unavailabe or unused areas between wind turbine structures keeps areas outside the wind farms available for other stakeholders on the North Sea. And within the current and planned wind farms there is significant scale-up potential;

• Most blue economy activities are anchored floating systems, not extending far above the water line and therefore generally badly visible for any ship traffic. On the other hand, wind farms are mostly not open for ship traffic and are easy to recognise for anyone in almost all weather conditions. Therefore, operating a for instance a seaweed or solar farm within the wind farm, will significantly reduce the risk of an accidental collision with a ship;

• Over time there will be more multi-use project with larger scale. This will also lead to more synergies with adjacent multi-users and with the wind farm operations (vessels, harbour facilities, personnel, etc.).

Wind farm vessels

Maintenance vessel
Service vessel

Multi-Use vessels

Seaweed harvester
Mussel harvester
Crab harvester
Small Service vessel

Wind farm and multi-use operators will align on preferred layout for their operations. Each party's production zone will be respected and parties will support each other in achieving safe and efficient operations in the multi-use zone.
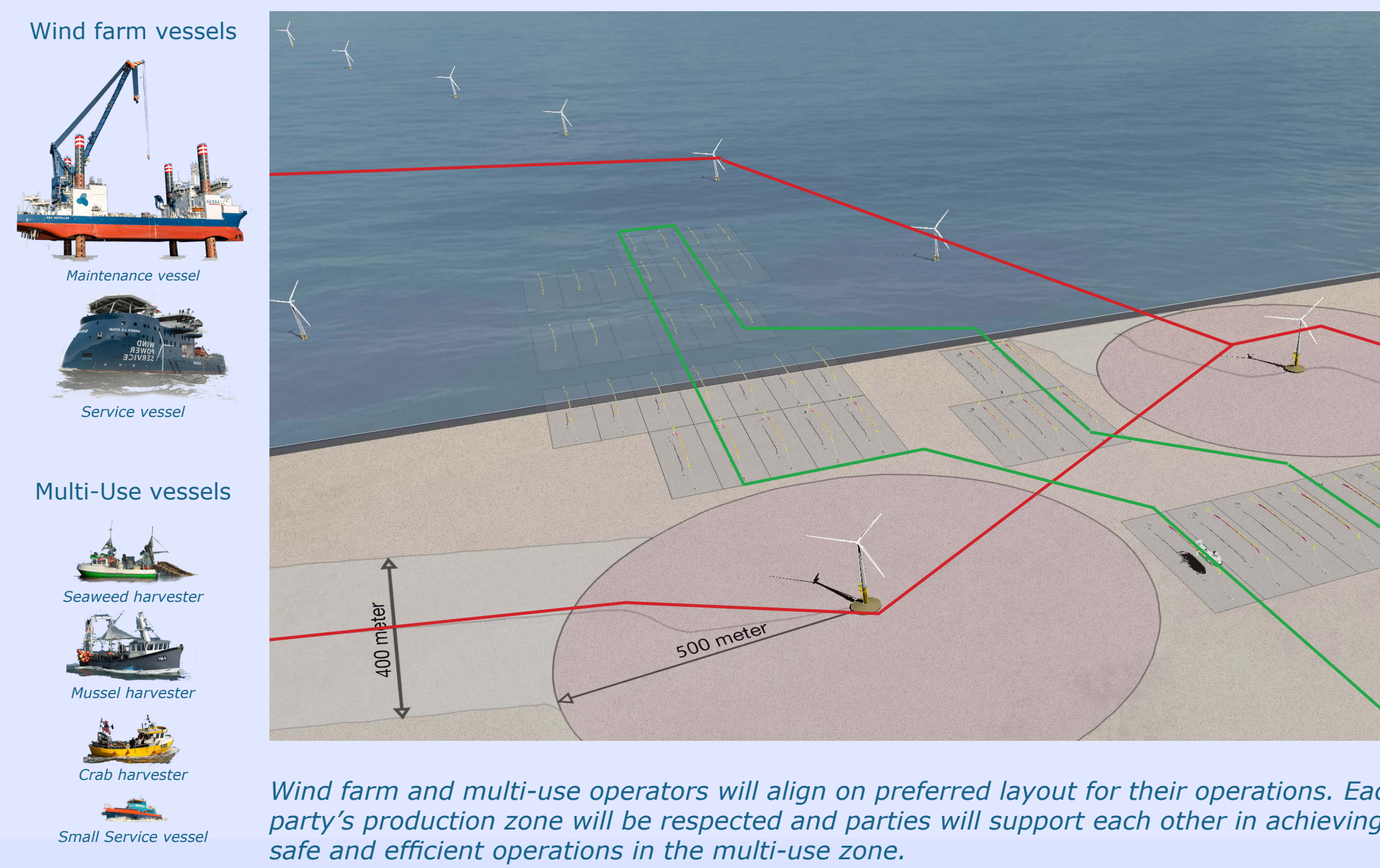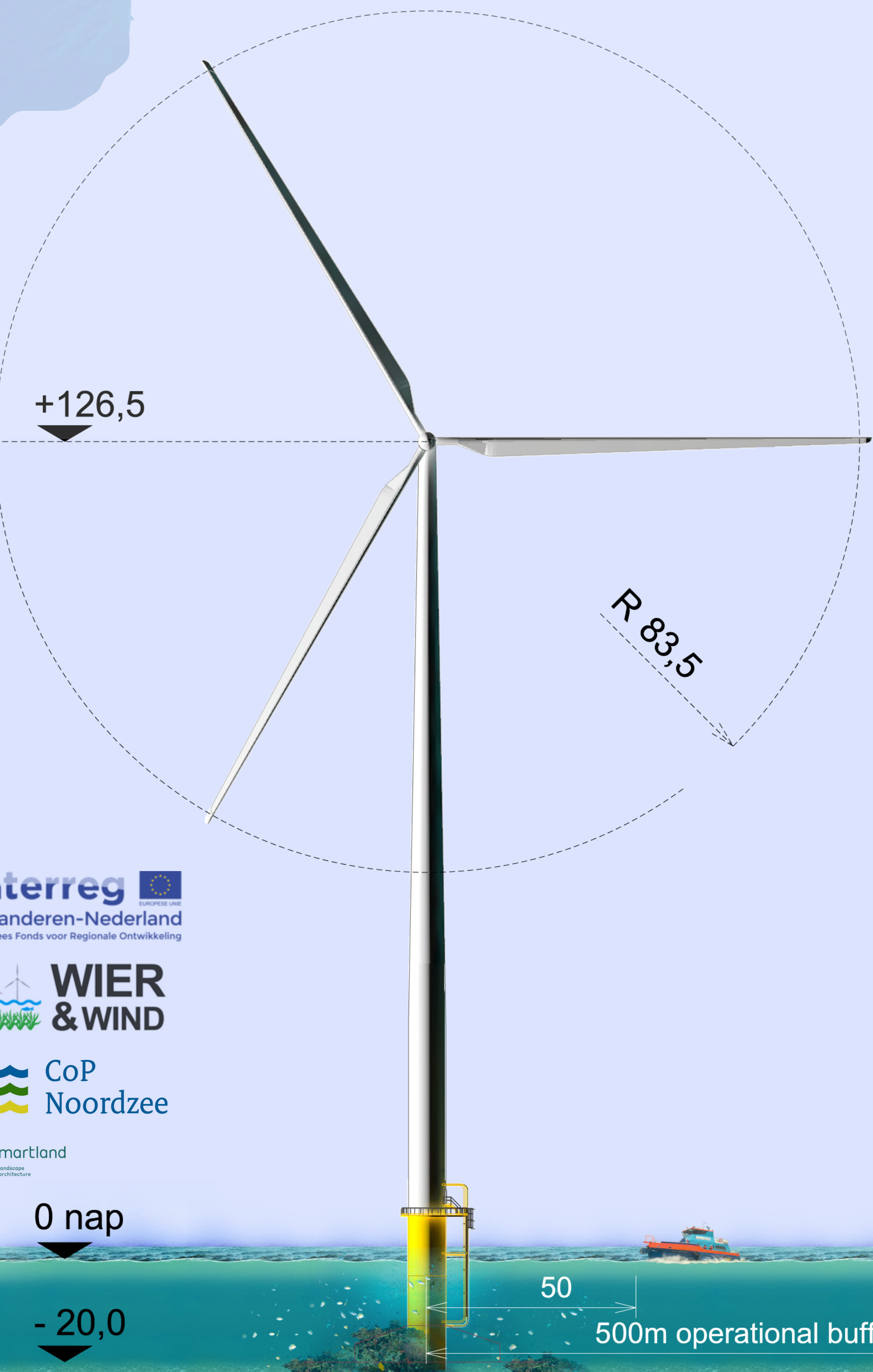
WHAT (FORMS OF MULTI-USE AND WHAT IS THEIR BENEFIT):

The number of multi-use initiatives is steadily increasing. All of these anchored installations will add value to the wind farm area. They will provide local sustainable energy and sustainable biomass but most will also:
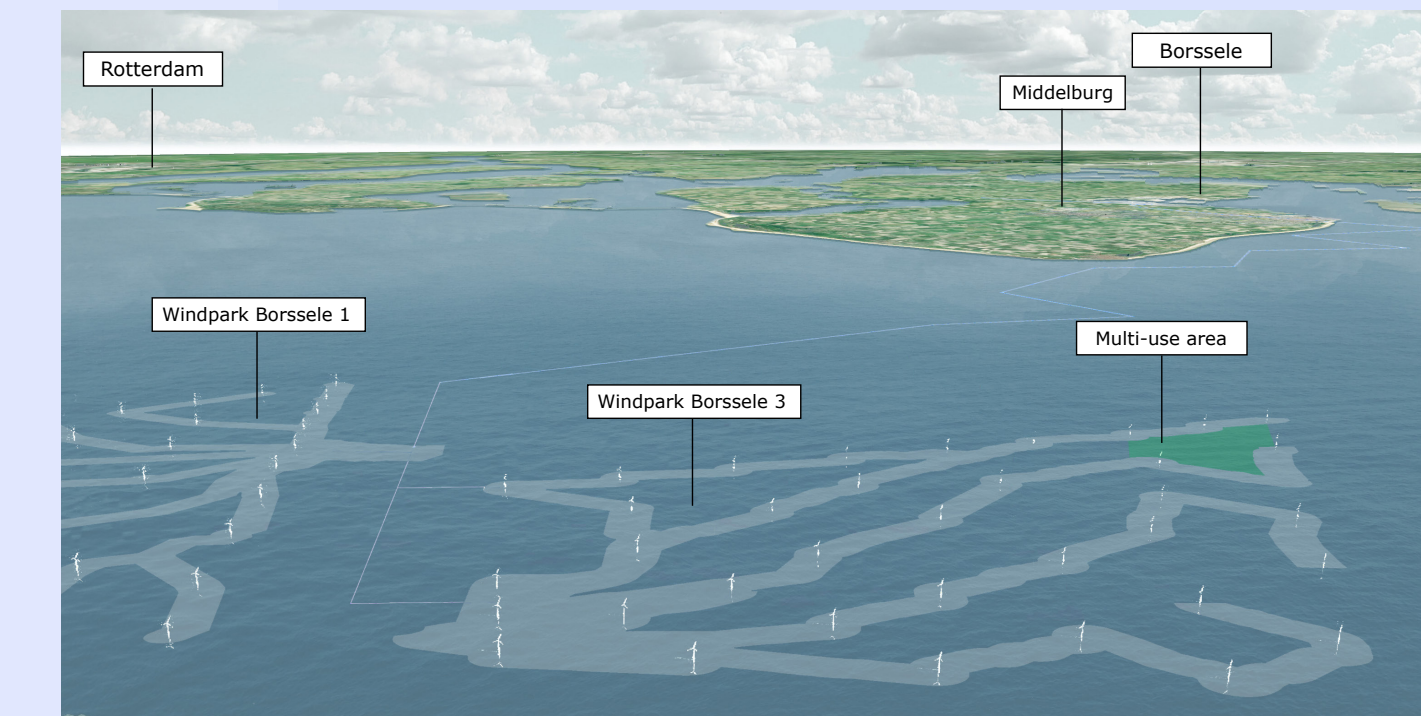
• Provide valuable eco-system services like increased biodiversity,
• Promote nature development (on the seabed);
• Engage and support local (coastal) communities with the North Sea;
• Accelerate the transition to a fossil free and circular economy.

The Borssele wind farm zone is open for various forms of multi-use, more than 90km2 in total. For more information see: www.noordzeeloket.nl/functies-gebruik/windenergie/doorvaart-medegebruik/borssele

First draft setup of multi-use area Borsele 3,4

Border windpark
Windmill
Safety zone windmill
Cables and cable safety zone
Multi-use area
Seaweed farming fields

Combined activities within a multi-use area in Windpark Borssele 3

Potential activities crab fishing, musselculture, seaweed production

This shows a detailed view of multi-use area in Windpark Borssele 3. Directly next to the operational buffer zones of the wind farm. Left is the visualisation of the schematic top view (right)

This is what you could see when approaching a multi-use area in Borssele 3 in the future. In this example the seaweed farm creates a vibrant interaction of energy with green biomass production and nature development

Especially below the waterline, the seaweed farm will create a completely new habitat. Creating new life, biodiversity and a healthier North Sea.
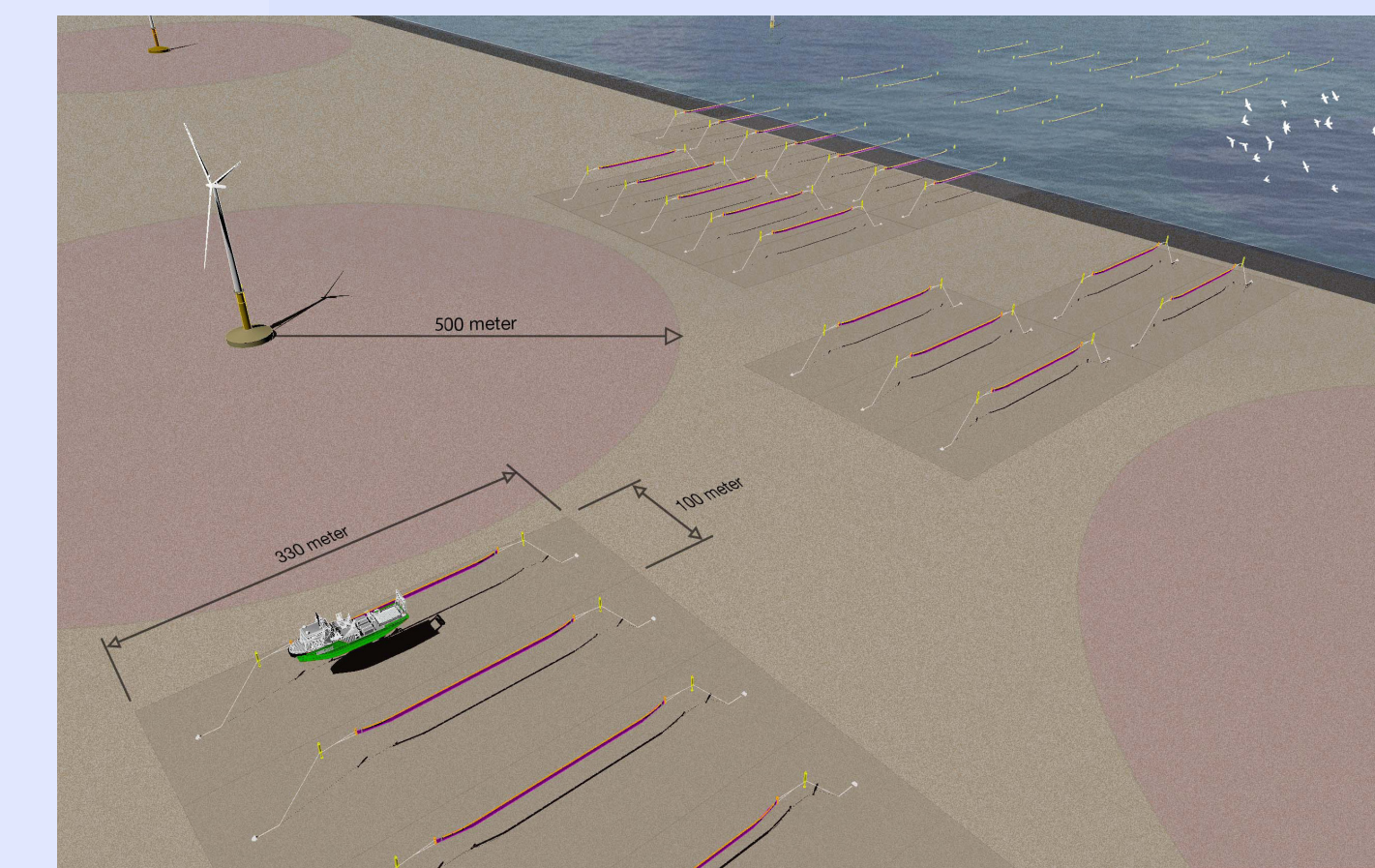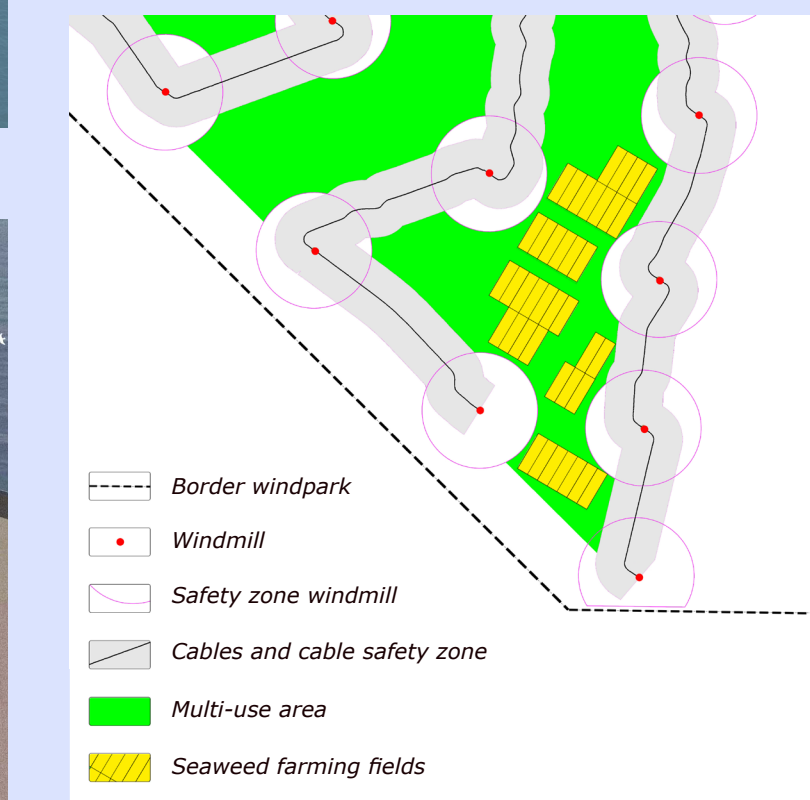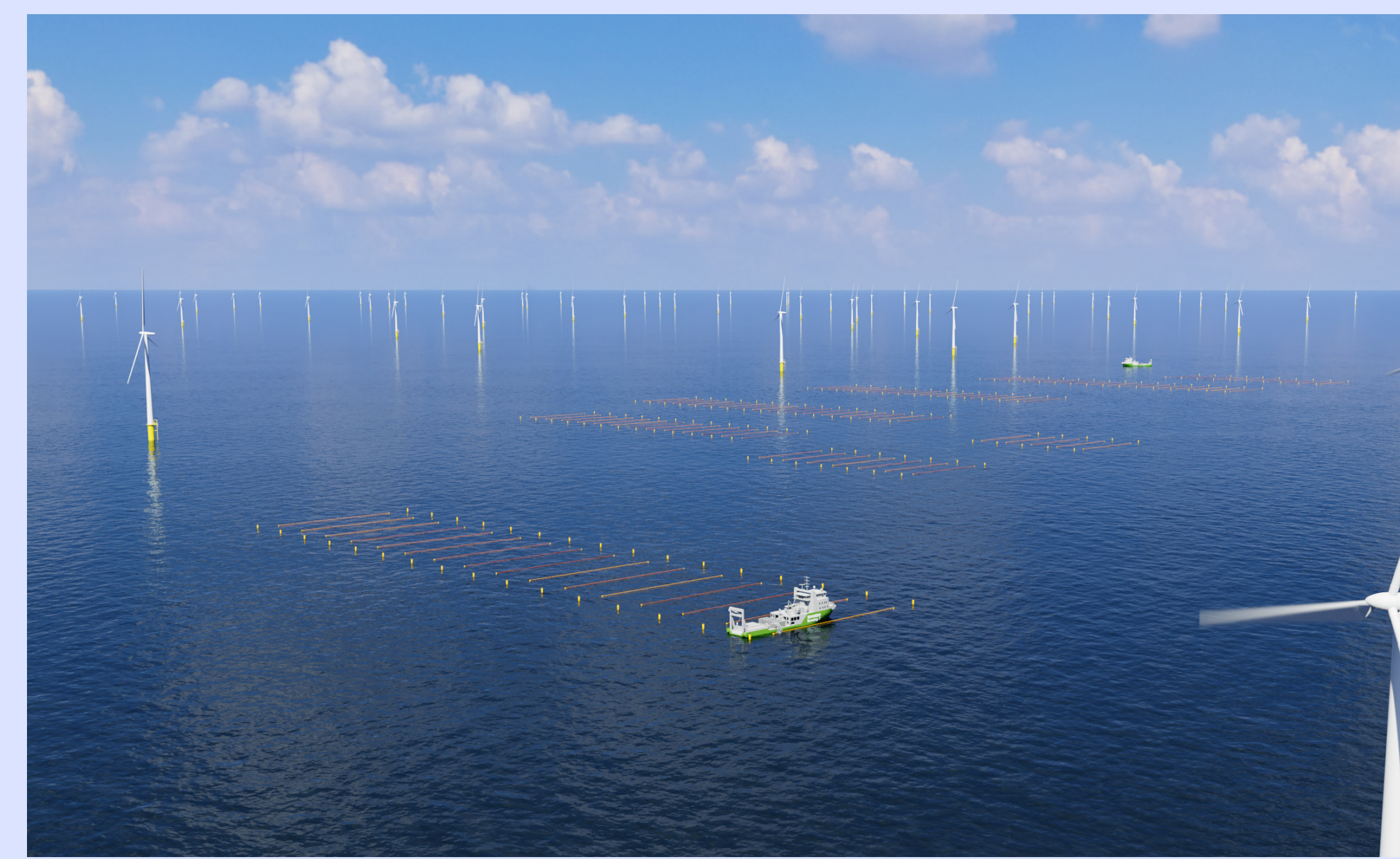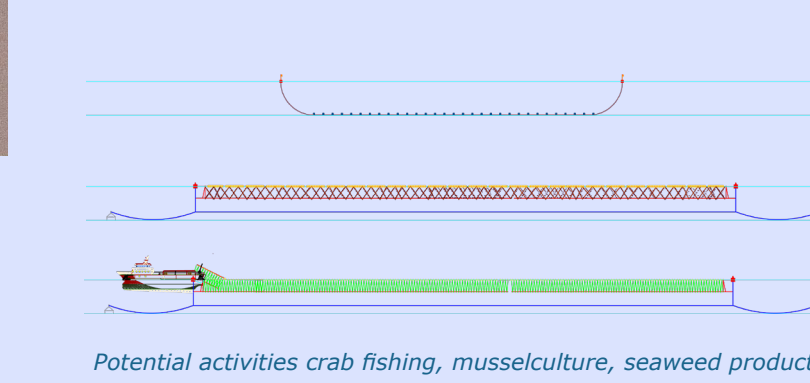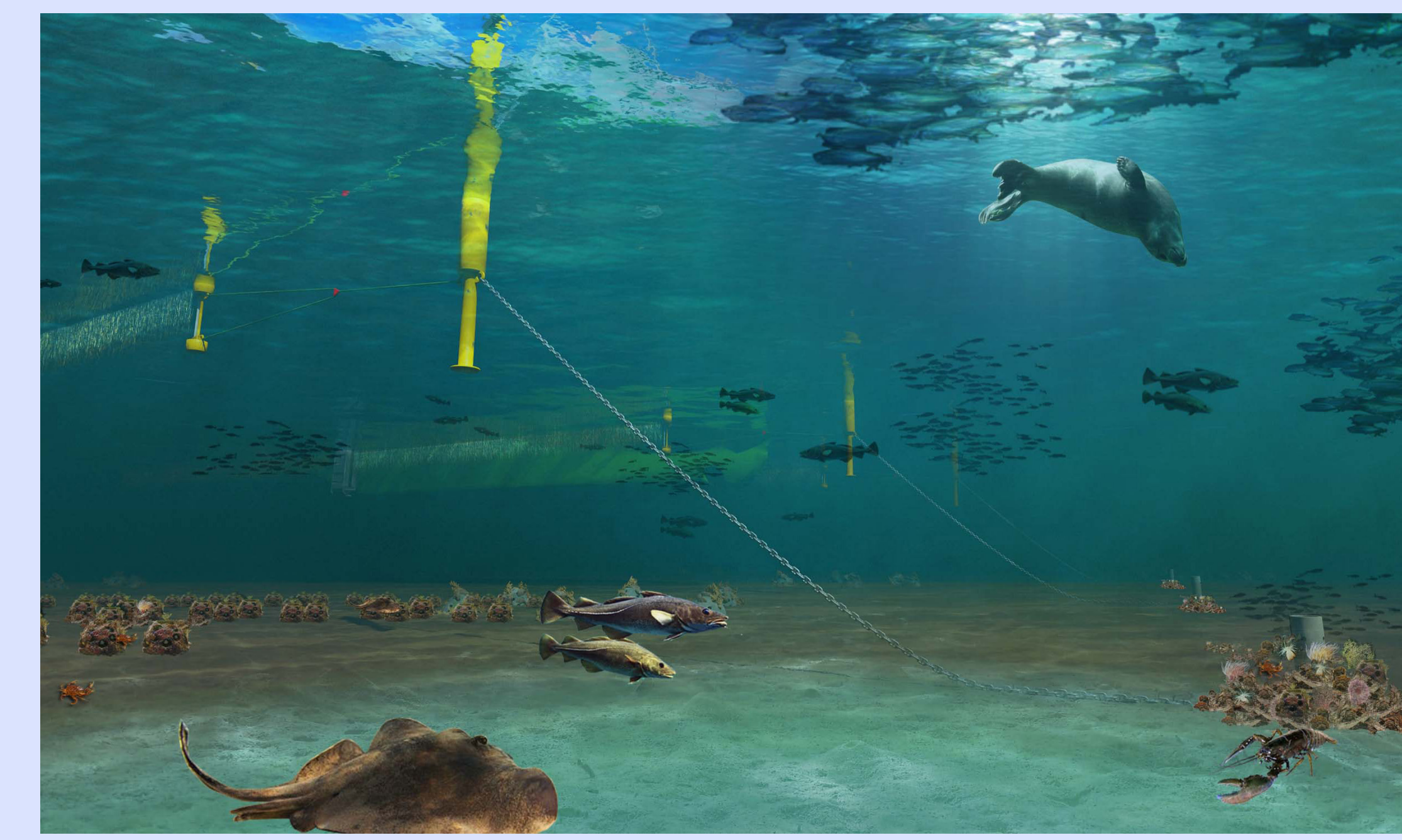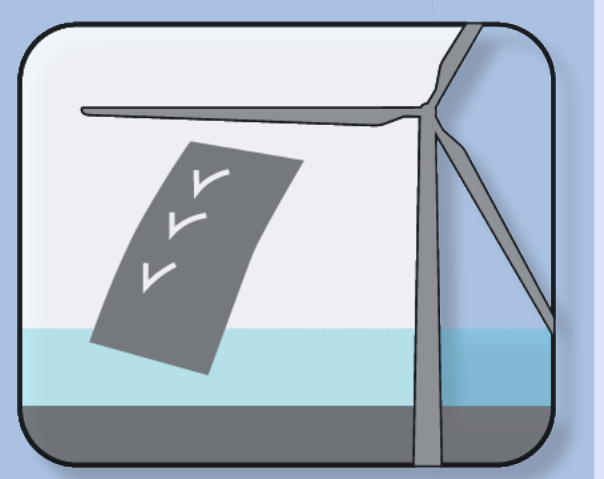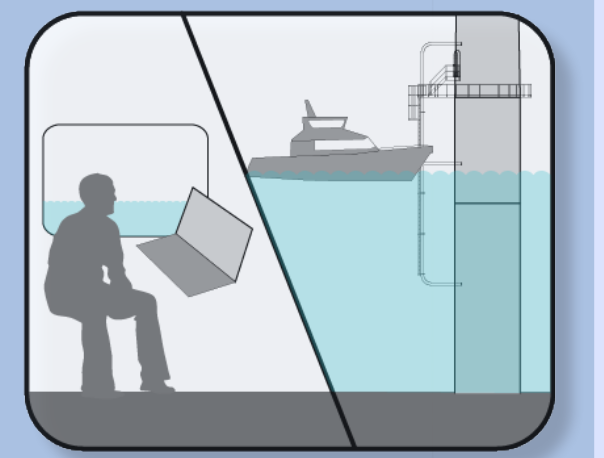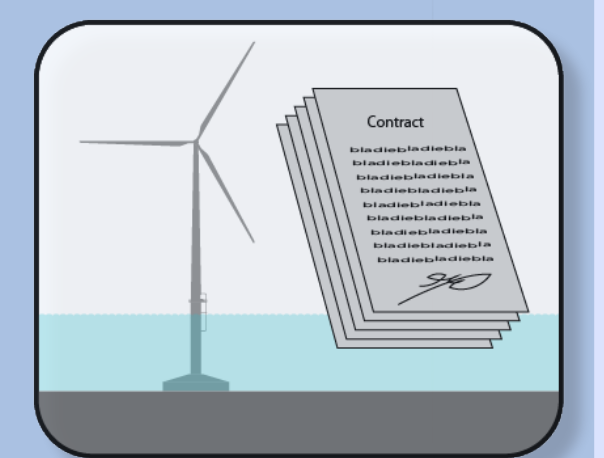
HOW (DO YOU OBTAIN A MULTI-USE PERMIT):

It all starts with a solid (business) plan and incremental innovations, for instance with pilots in the NSF Offshore Test Site. However, when the time to scale-up is growing nearer, it is time to secure your multi-use site for multi-use operation and scale-up. Following these 5 steps will help you to select a suitable wind farm and to achieve alignment with the wind farm operator. This will be an important ingredient for a successful ("Waterwet") permit application with Rijkswaterstaat:
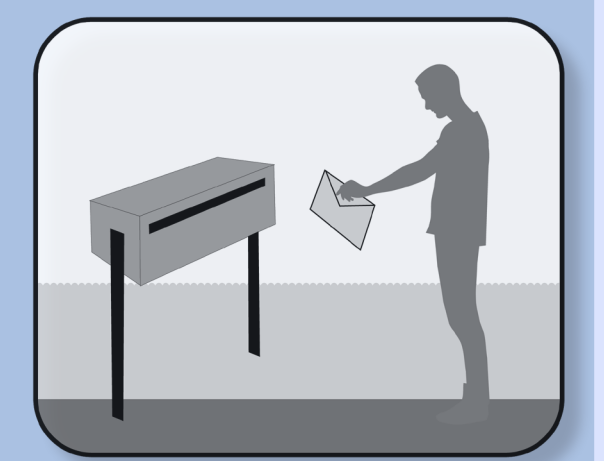
1. Select your preferred wind farm.

2. Define your multi-use farm operations.

3. Setup a proximity agreement with the wind farm operator.

4. Submit your permit application.

5. Start your seaweed, mussel or solar farm.

+126,5

R 83,5

0 nap

- 20,0

50

500m operational bufferzone

50 · 50 · 50 · 50 · 50

multi use area