



Lost oyster reef is being restored

Two centuries ago, about 20% of the seabed of the Dutch North Sea was covered with large oyster reefs. Nowadays, there are hardly any wild oyster reefs to be found in the North Sea. Researchers from the Rich North Sea and Gemini Windpark are joining forces to restore one of the largest oyster reefs that the North Sea has ever had. In the windpark of Gemini, 85 km off the north coast of The Netherlands, they have taken the first steps to rebuild an oyster reef the size of no less than eight football fields.

Due to fishing, a changing seabed and diseases, the oyster reefs were lost in the last century. A worrying situation because oyster beds have an important role in the underwater ecosystems. But development and recovery of oyster beds is complex, which is why research is being done at various locations into the conditions in which oysters and other shellfish thrive best. Wind farms seem to be a suitable location for this, because there is no fishing and the seabed is not disturbed, and because there are enough hard materials for oysters to adhere to.

Above the Wadden islands

The latest research in Gemini Windpark is special for three reasons: never before has a reef of this scale been constructed in the Netherlands, it is the first time that researchers from the Rich North Sea focus on former oyster grounds and it is the first time that the organisation focuses on the northern part of the North Sea, above the Wadden islands. Previous studies took place along the west coast of The Netherlands.

“On a nautical chart from 1883 we have seen how large the area with reefs used to be. I think it's fantastic that we are going to do everything we can here in this location to make the marine life flourish again. Using the techniques of our time and the opportunities that the energy transition offers us, we will do what is so important for the North Sea: restore and strengthen nature”, says Erwin Coolen, programme director of the Rich North Sea.

“Gemini Windpark supplies sustainable energy to thousands of households and businesses every day. In addition, we also consider it of great importance to contribute to the strengthening of biodiversity in the North Sea. This project is therefore wholeheartedly supported by us and our shareholders and we are very happy with that”, according to Bart Hoefakker, director of Gemini Windpark.

Large-scale reef

Preliminary research has shown that the conditions in the Gemini wind farm are favourable for oyster reef recovery. The waves are less high than on the west coast of The Netherlands and the seabed is less dynamic. This means that the seabed structures, like sand waves and mega ripples, are less high and follow each other less quickly than elsewhere on the North Sea seabed. The researchers lowered more than 1500 oysters and 18 tons of shells onto the seabed of the wind farm over an area of five hectares in total, the size of eight football fields. This summer, some 3,000 oysters, hundreds of thousands of baby oysters and 48 tons of shell material will be added.

Comprehensive research

In the next few years, the researchers will return several times to the reef-in-the-making. Check ups will be done to see whether the oysters reproduce, whether they grow, and whether they are moved or buried by waves and currents. The second load of oysters consists of young oysters and 'baby oysters', the so-called 'spat-on-shell', to see if the young oysters also make it.



The shell material and oysters will hopefully form a reef in the years to come and attract other animals such as crabs, squid, anemones and sharks.

In this project, the Rich North Sea is collaborating with research agency Waterproof, Wageningen Marine Research, NIOZ, Bureau Waardenburg, research programme WINOR and shipping company Van Stee.

The Rich North Sea

With the Rich North Sea, initiators Natuur & Milieu and Stichting De Noordzee focus on nature development as a permanent part of the construction of every wind farm. Nature enhancement should become a central part of the energy transition, according to the organisations. With the large number of wind farms that will be built in the North Sea in the coming years, the ecological limits of the North Sea are soon in sight. That is why, at the same time, considerable efforts must be made to strengthen nature in and around the wind farms. In collaboration with the wind and hydraulic engineering sector, science and government, the Rich North Sea is therefore developing a 'nature development toolbox' for wind farms in the Netherlands and in time worldwide.

Thanks to a contribution of the Dream Fund of the National Postcode Lottery, the Rich North Sea can implement this ambition.

<https://www.derijkenoordzee.nl/>

<https://www.geminiwindpark.nl/>