

JIP ECO FRIEND

Publieke samenvatting / Public summary

Offshore wind energy is becoming increasingly important in our energy transition. The costs of offshore wind energy are not only influenced by environmental factors (e.g. distance to coast, water depth, seabed structure) and technical development, but also by ecological conditions. The Dutch Ministry of Agriculture, Nature and Food Quality intends to use the development of offshore wind farms to strengthen the North Sea ecosystem by enhancement of ecological functioning in offshore wind farms to improve the status of policy-relevant species. This is part of the North Sea 2050 Spatial Planning Agenda (Min I&M and Min EZ, 2014) and is being operationalized through permit-obligations. This has resulted in Wind Farm Site Decisions (WFSD) for recently permitted wind farms.

Objective

The ECO-FRIEND project aims to:

1. Monitor pilots with restoration of European flat oyster beds in offshore wind farms;
2. Develop new monitoring methods to assess the effectiveness of these pilots, reducing cost and increasing scientific output;
3. Understand the environmental background of the pilots by intensive monitoring and modelling of the surrounding parameters (e.g. temperature, salinity, food availability);
4. Analyse, discuss and publish the findings in scientific and industrial literature;
5. Advice on eco-friendly design of future wind farms.

Projectinformatie / Project information

Projectnummer / Project number

TEWZ118017

Subsidiebedrag / Grant amount

€ 430.531,00

Algemene informatie / General information

Penvoerder / Secretariat

Stichting Wageningen Research

Publicaties en materialen / Publications and attachments

- 09.10.2025

Eindrapport TEWZ118017

Links

- Presentation Matchmaking Day (2019)

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Short description

The European flat oyster (*Ostrea edulis*) and flat oyster beds are the species and habitat that are suggested for restoration projects to strengthen the conservation of species and habitats that occur naturally in the Netherlands. Until early in the 20th century, flat oyster beds were extensively present as biogenic hard substrate habitat offshore in the Dutch part of the North Sea. As a result of fisheries the offshore oyster beds that extended over thousands of square kilometres, decreased and went extinct.

The ECO-FRIEND project aims to develop and study new methods to re-introduce offshore flat oyster beds and related biodiversity in offshore wind farms in cooperation with industry.

The ECO-FRIEND aims are reached by joining current initiatives at nearshore locations and within the Gemini wind farm. Researchers involved in ECO-FRIEND will design a scientific monitoring programme to investigate the following:

1. Survival, growth, reproduction of the introduced adult flat oyster using novel techniques such as valve loggers (klepstandmonitors) and mini-ROV systems;
2. Presence of flat oyster larvae in the surrounding waters, using visual identification and novel eDNA technique

Result

The expected impacts from the ECO-FRIEND project are:

1. Economical - The gained experience with eco-friendly design in offshore wind farms will increase competitiveness of the involved industry partners in future wind farm applications, where it is foreseen that ecological requirements will become more strict;
2. Economical - Cost-efficient methods developed to monitor the effectiveness of biodiversity stimulation through flat oyster re-introduction will provide a competitive

advantage for Dutch research organisations and industry;

3. Ecological - Establishment of a viable population of flat oysters in offshore wind farms, kick-starting offshore oyster bed restoration in the Netherlands and related biodiversity, increasing the feasibility of large scale offshore flat oyster restoration, one of the aims of the OSPAR convention;
4. Scientific - The increased knowledge base on flat oyster restoration will provide Dutch research organisations and industry the ability to export and facilitate similar initiatives in other North Sea countries (e.g., through the Native Oyster Restoration Alliance - NORA).

De data in deze applicatie is afkomstig van de Rijksdienst voor Ondernemend Nederland (RVO) en wordt in samenwerking met de Topsector Energie ontsloten.

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