

North Sea Renewable Energy: Gaining the Required Ecological Knowledge for the Transition

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NWA ORC 2023 Blue Route – Sea of Turbines
7.6 million €, Starting May 1st 2025

North Sea Offshore Wind Farms (OWFs)

- **Fastest-growing Dutch economic activity in the North Sea.** From 2010 to 2019 = 350% gross added value. Now 44% Dutch wind energy production is OWFs
- **Expanding energy transition:** 2023 = 4.7 GW, 2030 = 11.5 GW (8.5% of nation's energy requirement)
- Dutch government ambition is to create some 5,000 turbines to supply > 70 GW by 2050 (entire Dutch energy demand)
- Netherlands, Germany, Denmark, and Belgium have pact to produce 150 GW by 2050 (~ half of Europe's climate neutrality)
- **Unprecedented human footprint** in the North Sea. Environmental effects and economic impacts (i.e. fisheries) unknown from future ~20% coverage of OWFs

NO-REGRETS at a glance:

- **A 5.5-yr, 7.6 M€ program** - 12 PhD & 5 Post-doctoral researchers
- Whole-ecosystem approach, within OWFs and at ecological hotspots
- Six, 10-day research cruises: spring, summer and fall in 2026 & 2027
- Continuous (fixed) measurements with landers / moorings
- Includes economic analyses, risk assessment, climate projection
- **Creative stakeholder engagement**, co-creation of decision support
- Program will **test 6 ecological and social/economic hypotheses**
- Collaboration (fisheries, offshore wind, co-created with stakeholders)
- 6-month start-up period for permitting, cruise planning hiring
- **Strong integration phase** in year 4 to combine data streams
- **Co-funded by RWS** (linking to MONS/Wozep) and PFA (fisheries)

