NS-OSIRIS

North Sea - Offshore Socio-environmentally acceptable Integration of Renewables In 2035, 2040 & 2050 Scenarios



Core Focus

NS-OSIRIS provides a strategic, data-driven framework for the North Sea energy transition to 2050, built on DMEC's OCTOPUS model. Combining geospatial, techno-economic, and environmental analysis with stakeholder engagement, the project produces basin-wide roadmaps that balance renewable deployment with nature and other sea uses.

Challenge

Offshore energy planning in the North Sea is fragmented and short-term, with undefined roles for newer technologies and routes to the 300 GW 2050 target. No existing tool combines the full subsidy and year-on-year investment need with cumulative socio-environmental impacts of offshore wind, wave, tidal, solar and multi-use parks across a whole basin. Viability is treated separately from environmental and social effects, which deters investment.

Key Activities

- ❑ Engage stakeholders and define seven transition scenarios.
- ❑ Model geospatial siting, techno-economics and life-cycle impacts.
- ❑ Optimise scenarios through sensitivity analysis and price forecasting.
- ❑ Educate stakeholders using plain-language scenario narratives.
- ❑ Launch the North Sea Transition Atlas and final roadmap.

Communities Engaged

- ❖ Ports
- ❖ Conservation & environmental protection
- ❖ Enterprises for inclusion & skills
- ❖ Local finance & impact investors
- ❖ Blue tech & digital innovation
- ❖ Maritime infrastructure operators

Organisations: Stichting Dutch Marine Energy Centre (DMEC) (Netherlands)