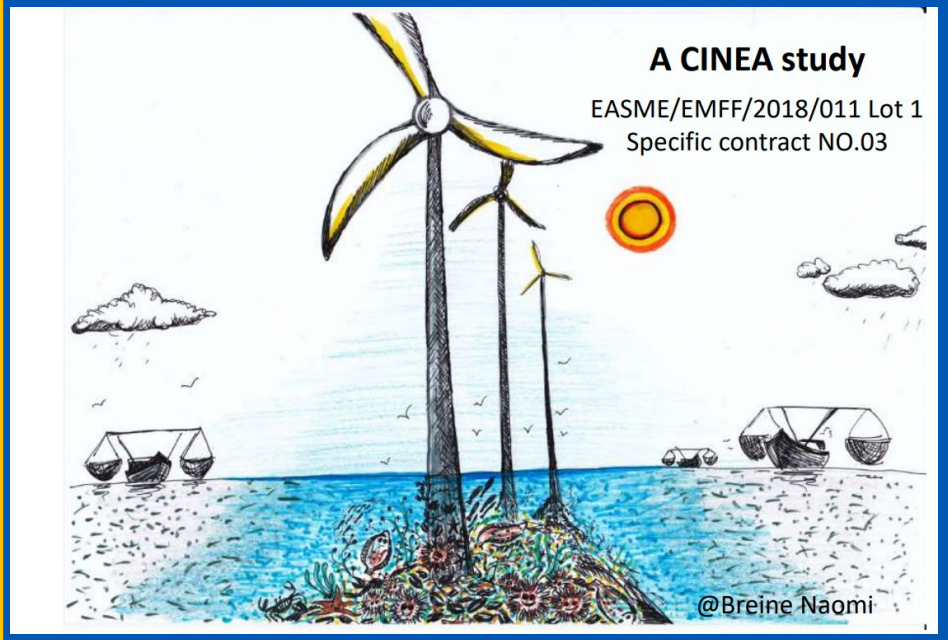
Overview study of the effects of offshore wind farms on fisheries and aquaculture



Inter-advisory councils meeting 19/01/2022

Céline FRANK – MARE A2 on behalf of the study team:

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Policy context

EU targets for offshore wind adopted in 2020: **12GW=>60 GW (2030) => 300 GW (2050);** North Sea & Baltic Sea, soon in all sea basins

+ wave and tidal energy, 1GW (2050)

- **EP initiative**: Resolution of 7 July 2021 on the impact on the fishing sector of offshore wind farms and other renewable energy systems (2019/2158(INI))
- Joint Resolution on impact of offshore wind farms on fisheries by the **European Social partners** in the sea fisheries sector
- **Maritime Spatial Planning (MSP) Directive** : Implementation currently being reviewed by DG MARE
- **e-MSP project**: Set up a community of practice on MSP, notably to discuss offshore renewable developments

Lead partner:
Wageningen Marine Research

In-depth literature review on ecology, management, legislation and socio-economics.

appropriate understanding of the **existing** and **potential** future **effects** of offshore wind installations on fisheries and aquaculture activities

What do we know?

What are the gaps?

Recommendations.

European Commission

Review the effect on:

Ecology

Management

Legal

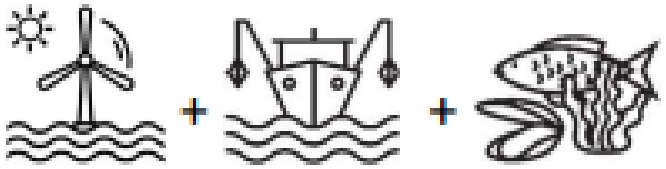
Socio-economic

Stakeholder & governance

Literature review

Questionnaire

Case studies
Belgian OWF
Baltic OWF



Summary / Recommendations

Ecology

Phase	Turbine	Scour protection	Cables	Fishery/aquaculture
Construction	**Habitat modification** leading to altered biodiversity (medium)			
	Increased **sediment resuspension** - negative (medium)			
	High **impulsive sound**, effects on mobile species behaviour - negative (medium)		**Sediment displacement**, impoverishment of sea floor ecosystem - negative (low)	
Operational	**Artificial reef effect -** positive (medium)		Artificial reef effect depending on cable protection - positive (medium)	**Refugium and recovery area** for long-living benthic species and - positive (medium)
	Altered biodiversity **and changes in ecosystem functions and *processes*** - negative (low)			
	Stepping-stone effect, increasing population connectivity (e.g. invasive species, red list species) - negative (low)		**Electromagnetic field effects** - negative (low)	
	Changes in hydrodynamics → **increased suspended material** and local **organic enrichment** - mixed (low)			
	Changes in trophic interactions - mixed (low)			
	Operational sound in the long term - negative (low)			
	Chemical pollution from corrosion protection - negative (low)			
Decommissioning	**Effects are still poorly understood.** Some lessons could be considered from oil and gas industry and wrecks work - negative (low)			

Management

- Maritime spatial planning process
- **Co-location**
  - Fishery: mostly impossible in practice - **Passive fisheries allowed**
  - Aquaculture: clear potential
- Key management strategies
  - **Consultation**: early and better consultation
  - **Compensation**: no simple matter

Fishery: input and influence are minimal, no compensations
OWF developers: multi-use potential is there
Policy: broad consultation necessary & multi-use should be the intention

European Commission

Legal and socio-economic aspects

- Construction: **navigation is in general forbidden**
- Operation: variable rules exist, **vessels <24 m can be exempted** from safety zone
- Need for quantitative studies to assess the **monetary value of the loss of fishing** and aquaculture
- **Case-by-case** arrangements between developers and local fisheries organisations: possible change of design, compensation, monitoring, etc.
- **Early engagement in discussions and planning**, on a continuous basis and by taking into account the fishery and aquaculture needs → MSP

Main conclusions

- **Strong progress in knowledge** (offshore wind companies, regulators, conservationists, fishery, aquaculture sector and scientists). **More is needed**.
- For fishers, OWF tends **to restrict their activities** due to **safety implications** (cable, collision).
- **No negative effect on fisheries** observed based on yearly aggregated VMS-logbook data (**Belgium** 2006-2017).
- For **ecosystems** benefits are noticed **at local scale** (e.g. artificial reef effect, passive refugium in the long-term), no quantification at population level.
- **Increased local production** (cod and pouting) + indication of increased catch rates of plaice around some OWFs.
- Offshore **aquaculture**, potential and strong interest in multi-use, challenges to make a viable business.

Thank you. Questions?

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Publication and additional material:

- Overview of the effects of offshore wind farms on fisheries and aquaculture - Final report
- https://ec.europa.eu/oceans-and-fisheries/ocean/blue-economy/marine-renewable-energy_en
- https://www.emodnet-humanactivities.eu/

European Commission