Energy Transition in Smart Seas

Ivana Lukic, Senior Maritime Policy & Planning Consultant,
s.Pro - sustainable projects GmbH/
SUBMARINER Network for Blue Growth EEIG

ESPON Conference on Blue Growth: From Marine Services to Maritime Spatial Planning

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SUBMARINER Network for Blue Growth EEIG

The communication & cooperation platform for actors & initiatives in the Baltic Sea Region involved in sustainable and innovative uses of marine resources.

Smart offshore renewable energy combinations

Offshore wind – an untapped potential in the Baltic Sea seeking space and acceptance

- **2 GW already installed** in the Baltic Sea

Germany 1,074 MW

Denmark 872 MW

Sweden 192 MW

Finland 68 MW

- **9 GW by 2030** could be deployed in the Baltic Sea
- **85 GW by 2050** (Wind Europe predictions 2019)

The cumulative potential capacity identified in the Baltic Sea by the European Commission (BEMIP Final Report, 2019) **exceeds 93 GW**

Maritime spatial planning had a key role in offshore wind development to date and will continue to be one of the key tools for a sustainable integration of offshore renewables.

Establishing synergies through multi-use

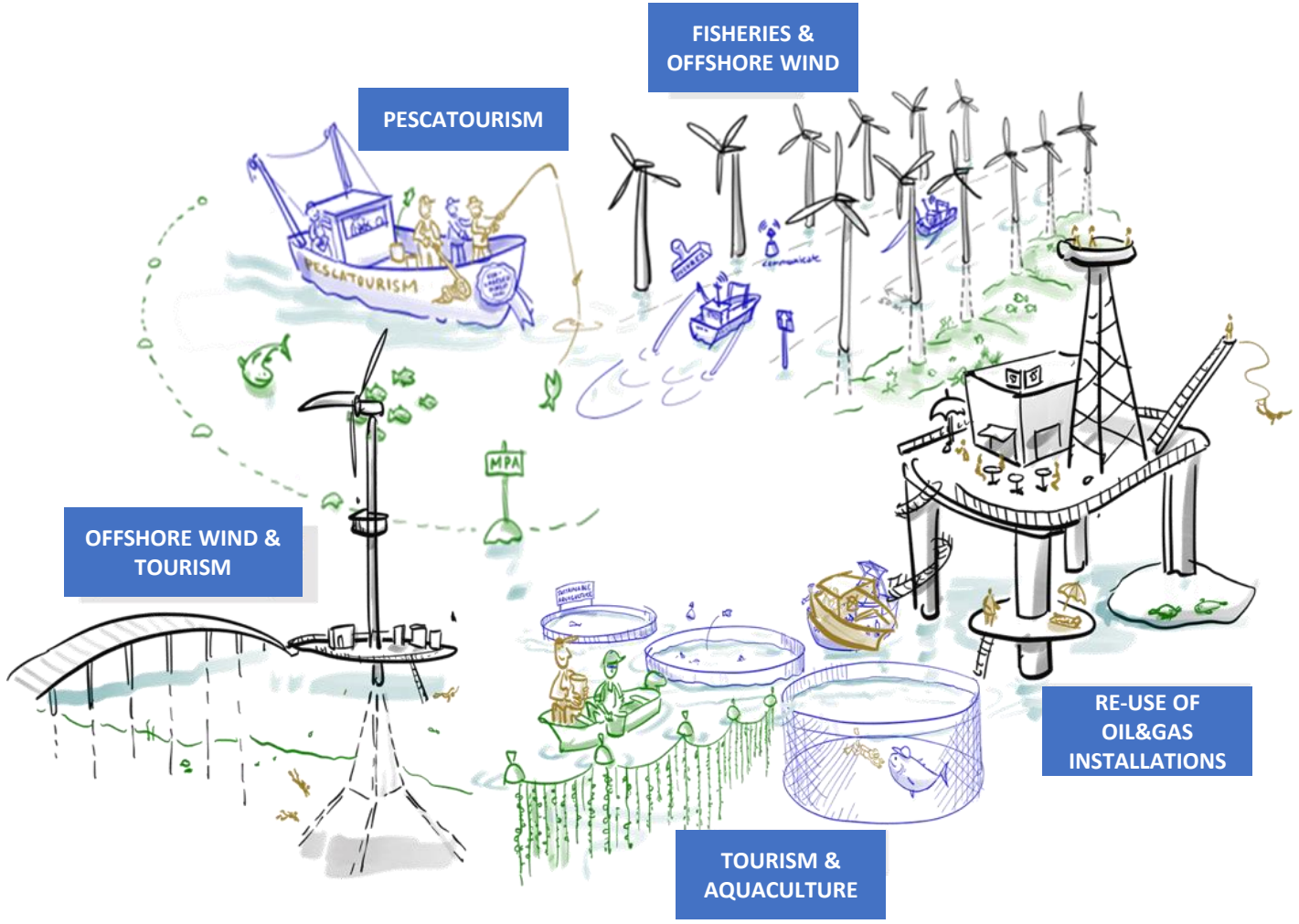
Reduced Demand for Ocean Space

Environmental Benefits

Socio-Economic Synergies

Efficiency & Cost Reductions

More Local Benefits



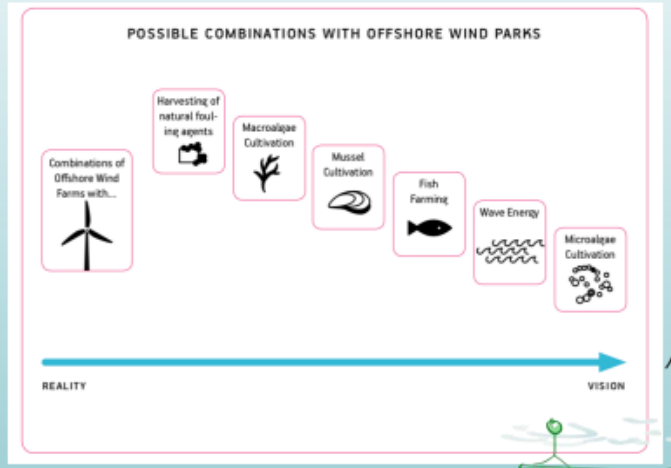
Offshore wind multi-use concept

Benefits:

1.Mitigation of potential conflict & increased acceptance of the OWF project	2.Socio economic benefits to local economy: aquaculture/ tourism actors/OWF sector	3.Opportunity to move aquaculture offshore to further exposed sites	4. Potentially ensure green credentials for energy/aquaculture products to be marketed at a premium.	5. Costs saving through joint development and shared operations and maintenance.

Existing Examples:

- OFW and aquaculture: explored in Kriegers Flak, Sweden (MERMAID project) and tests around the Rødsand 2 OWP in Lolland, Denmark (SUBMARINER project)
- OFW and Tourism: in Middelgrunden OWF (Denmark)
- EU projects such as 4POWER, OFF.E.R and Baltic InteGrid are exploring OWE development from tourism perspectives



Examples of offshore wind and tourism synergies

- **Sightseeing boat tours**;
- **Specially designed platforms** serving as a resting ground for seals, facilities for divers…;
- **Unique wind farm design and layout** - a tourist attraction and regional landmark;
- **On land information centres and museums**;
- Boat tour operators can be engaged in **OWF related monitoring activities**;
- **Helicopter flights** around OWF.

Examples available in Denmark, Belgium, Sweden, Germany and the UK
→ BUT regulation differs across countries, and
→ offshore wind farms also host different conditions and designs

UNITED project pilot visit, Middelgrunden,

September 2020

Benefits of ‘combined development’

Mitigation of potential conflict
OWF project acceptance and the “NIMBY” phenomenon (Not In My BackYard)

Improved awareness about the importance of renewable energy

Additional income for local tourism operators & can support tourism all year round

Source of pride for locals
esp. if the design and layout is done in an innovative visually appealing way

Offshore wind and fisheries

Denmark – allows passive fishery

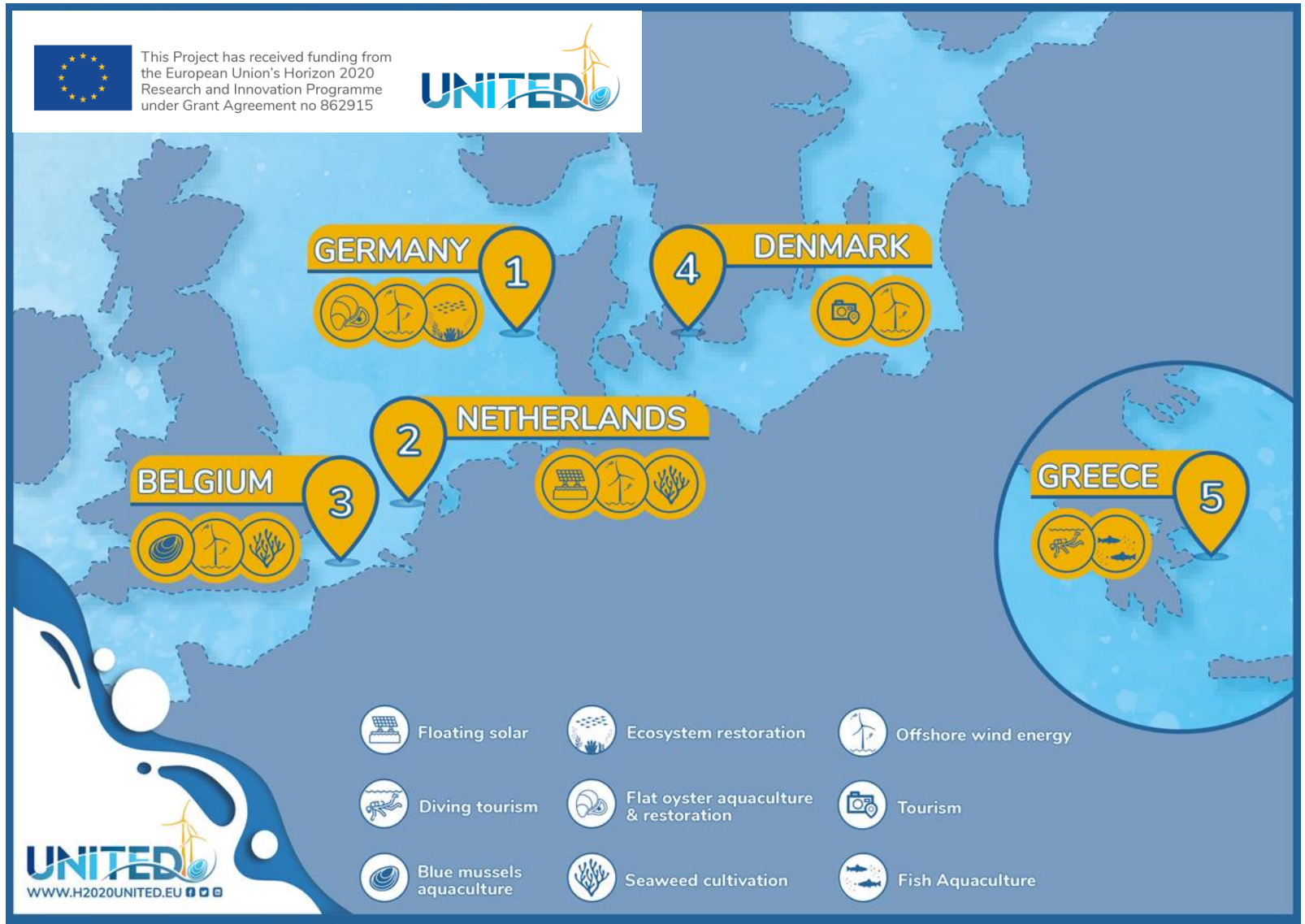
- **Consultation process** between developers and fishing industry to discuss mitigation measures: e.g.
  - **Inclusion of fishermen** in the construction and operation of the OWF
  - **permitting passive fisheries** inside the OWF
- **Cooperative organizations for insurance:** the membership is mandatory for all parties involved.

Germany – in the negotiation process

- **From 2020 onwards, navigation allowed under certain conditions** (minimum 50 metres distance to turbines, good visibility, etc.),
- Negotiations about passive fishing techniques within 500 metres of the OWF are still ongoing in the course of the MSP revisions

Netherlands, Belgium – focusing on nature restoration with offshore wind farms

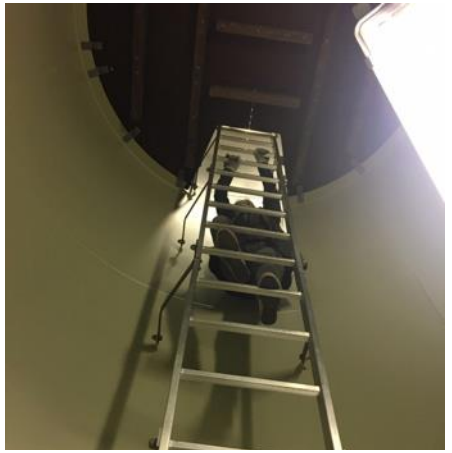
UNITED project multi-use pilots



Danish Pilot: Offshore wind & tourism








This Project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement no 862915

UNITED Danish Pilot: Offshore wind & tourism

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KEY FACTS

THE MIDDELGRUNDEN WIND FARM IS LOCATED OFF THE COAST OF **COPENHAGEN**

IT IS ELECTED AS THE SECOND MOSTIMPORTANT CITY LANDMARK

MORE THAN **150 PEOPLE CLIMB THE TURBINE**DURING ITS OPEN DAYS

IT HAS AN ESTIMATED **POWER OF 40 MW**: 20 TURBINES, EACH PRODUCING 2 MW

THE FARM HOSTS **MORE THAN 30 BOAT VISITS ANNUALLY**

THE FARM PRODUCES **3% OF THE TOTAL POWER USED IN COPENHAGEN**

50% OF THE WIND FARM IS OWNED BY A LOCAL COOPERATIVE WITH 8,553 MEMBERS AND 50% BY THE UTILITY COMPANY HOFOR

Lessons learned

- It is possible to move away from a one-time compensation of impacts towards long-term solutions that respect the local culture, economy and environment.

- Benefit sharing structures e.g. cooperative ORE ownership, can work even for offshore projects and can provide important benefits to the local economy → Danish example!

- Consideration of local needs and benefits should be built in into the ORE solutions right from the onset - at the ORE planning/ design stage!

Key recommendations

1) **Improve involvement of the local tourism, fishing, and aquaculture sectors** early in Maritime Spatial Planning and offshore renewables planning to jointly identify opportunities;

2) **Facilitate transfer of good practices** across Member States/ sea basins, generated from existing examples of co-existance and multi-use;

3) **Support the development of viable business models and capacity building** for local tourism/aquaculture/fishing operators.

Thank you

Ivana Lukic
il@sustainable-projects.eu