

# Opportunities & challenges in upscaling of multi-use in DK

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## Key messages from the panel discussions

*Panel 1: Marine spatial plan - implications for multi-use of offshore wind and low-trophic aquaculture (LTA)*

**1. We need a more adaptive Marine Spatial planning in DK.** Marine multi-use is currently not functionally facilitated by the Danish marine spatial plan; as evident by the lack of overlap in areas designated for different users (e.g. shell fish aquaculture zones and offshore wind zones). We need a more adaptive Marine Spatial planning in Denmark to accommodate for multi-use.

**2. We need communication and strategic planning across regulatory bodies in Denmark.** The main regulatory bodies in Denmark are mainly concerned about their direct areas of influence and seem to operate mostly in isolation. Here, there is clear room for improvement in terms of exploring synergies between the different agencies to optimize the use of offshore space.

**3. Include multi-use in upcoming wind tenders.** With a vast expansion of offshore wind areas planned in Denmark in the near future, there is a timely opportunity to address the topics of multi-use and nature conservation/nature improvements in the upcoming offshore wind tenders. Models used elsewhere and that can serve as inspiration include non-price criteria in bids as well as early designation of areas within wind farms for other users (e.g. fisheries, low-trophic aquaculture). Integration of these topics as non-price criteria with sufficient weight into the tenders will facilitate early discussions and planning with stakeholders and stimulate the wind developers to account for these actions in their business cases and eventual project budgets.

**4. We need a Marine Multi-use Policy Brief for Denmark.** Joint production of a Marine Multi-use Policy Brief for Denmark is a task we need to move forward together within the life-time of the projects. It remains unclear in the Danish context who will be “carrying the torch” to facilitate the expansion of multi-use in offshore areas. Here, our EU lighthouse projects OLAMUR and ULTFARMS offer a platform for all partners to contribute by sharing the much-needed learnings from our pilot cases and engage in joint discussions with the Danish regulatory bodies and key stakeholders to convey the actions needed and move toward efficient sharing and use of offshore space in Danish waters.

**5. We need focus on the cumulative effects of marine multi-use.** We need focus on investigating not just the isolated effect of each activity – but the cumulative effects of all activities in i.e the North Sea, which should reach out to activities intended in the Danish Havnaturfonden.

*Panel 2: Seaweed & mussel products and market potential*

- 1. Cultivation technology development is needed.** Scaling up of seaweed production in OWF is possible, scaling up of mussel production in OWF is possible, but in less exposed areas
- 2. Use available site selection tools.** Site selection tools are available to target areas of high productivity and most beneficial impact on marine environment in terms of nutrient removal
- 3. We need to scale-up and scale-out.** We need to consider both scaling up (commercial producers delivering bulk biomass) and scaling out (smaller local producers) to exploit the full potential of LTA in OWF. Both aspects have the potential to deliver sustainable biomass, local value chains, local jobs
- 4. We need to address consumer acceptance of seaweed and mussels.** One major barrier to market is consumer acceptance of mussels and seaweed as food – in particular in Denmark, as there is already a large market for mussels in EU
- 5. Develop process technologies reducing the content of critical elements.** Sugar kelp iodine content can be a barrier for food, feed markets – processing technology is developing

*Panel 3: Current opportunities & challenges with upscaling of multi-use (beyond LTA)*

- 1. Explore options for multi-use involving the fishing industry.** The race for space is an issue not least for the fishing industry, and both developers and the fishing industry would like to have the compensation of fisheries when building OWF standardized in order to create transparency and save time on site to site compensation negotiations.
- 2. Dilemma: Use OWF areas for ‘MPAs’ or multi-use?** In a lot of cases, OWF areas are better ‘protected’/less disturbed than ordinary MPAs as bottom dredging activities cannot take place in most OWF – multi-use or co-location might mean that these areas will be more disturbed.
- 3. Large potential for sharing of data between actors and National Marine Monitoring.** Developers are invited to contribute to the general monitoring of the sea in collaboration with researchers and national monitoring programs – this would advance these programs with more data and longer timeseries. The fishing sector could likewise contribute with data.
- 4. We need a more adaptive management of marine areas.** There is a need for moving away from rigidity and towards more adaptive management for multi-use – also in the context of nature restoration – to flourish.

*Panel 4: Engaging local stakeholders and communities in multi-use upscaling efforts*

- 1. We need a national road-map for Marine Multi-use.** A roadmap for multi-use projects is very much needed, among others to secure that the right stakeholder engagement can be secured and addressed to relevant parts. This should be outlined in detail by national regulation for multi-use as a guide for implementation, operation, ownership and others interests.
- 2. Local stakeholder engagement is key.** Engagement of local stakeholders is a very important tool to support LTA-initiatives, both large but also small projects. Present initiatives have shown

that especially smaller projects are very successful reg. stakeholder engagement through giving stakeholders a share and responsibility in the projects.

**3. Engage stakeholders early.** Another important step is engaging with stakeholders already early in the process, best during idea and design phase so relevant stakeholders are able to contribute their valuable (local) knowledge. On the other side it is important from a multi-use project perspective to be inclusive and respectful to local stakeholders, support with information, coordination and education.

**4. We need to consolidate and share knowledge.** It is important to prioritize focus areas and consolidate knowledge as well as knowledge sharing through the stakeholder communities.