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UNITED Project Final Event

What have we achieved? Key results and impacts of UNITED pilots

Date: Tuesday, November 14th, 2023

This workshop presented key findings and insights from five real-world UNITED pilot projects. Participants were introduced to the primary challenges and results related to multi-use (MU) planning and offshore operations. Attendees had the opportunity to discover the concrete impacts achieved by the pilots and engage in an interactive Q&A session.

In the opening remarks moderated by Tim Staufenberger, the UNITED project was introduced, setting the stage for various pilot projects, each offering distinct insights and lessons.

The **Belgian pilot** (Low Trophic Aquaculture and Offshore Wind Farms), presented by Nancy Nevejan, highlighted the challenges and lessons in transitioning from the earlier pilot project, Edulis, where blue mussels were grown, over the UNITED pilot project which tested the growth of flat oysters and sugar kelp, to the ULTFARMS project, cultivating flat oysters, blue mussels and sugar kelp in a challenging offshore environment. Key outputs from these pilots include the technological evolution, as well as an increase in confidence that this MU combination is commercially viable.

The **Dutch pilot** (solar energy and seaweed), presented by Zinzi Reimert, showcased advancements in seaweed farming, including automatic seeding and efficient monitoring techniques. One of the main results of this pilot is the development and deployment of a small data buoy which increases monitoring possibilities and makes offshore projects more feasible.

Eva Strothotte, presenting the **German pilot** (Low Trophic Aquaculture and Offshore Wind Farms), shared experiences from an 80 km offshore location, addressing challenges in logistics, transport, and safety protocols. She highlighted the development of synergies to enhance the viability of offshore MU and the engagement of stakeholders in the German pilots through workshops, involvement of schools and TV appearances. Furthermore, Rieke Santier presented the preliminary findings of her PhD, on the offshore aquaculture site suitability assessment. Key learnings were: Continuous preparedness to adapt and refine systems in response to emerging needs. The significance of planning cannot be overstated, with particular emphasis on the necessity of planning backups. Early and robust collaboration with stakeholders, regulatory bodies, distributors, and contractors is paramount.

Hans Chr Sørensen, presenting the **Danish pilot**, focused on increasing public interest in offshore wind farms through guided tours to the OWFs and other innovative approaches like virtual visits. This pilot has advanced to a technology readiness level of 8, making it a commercially viable business. In the course of the project, one more boat operator was included in the tours and 2 additional guides were trained. A guidebook for future tour guides was also developed which supports the adoption of this MU in other offshore wind farms.

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Finally, Evaggelia Labrakopoulou, presenting the Greek pilot, explored the intersection of tourism and aquaculture, introducing the idea of diving around a fish farm. The pilot introduced innovative marketing and engagement strategies, such as setting up a QR-code diving game to enhance the acceptance of local aquaculture and developed an advanced monitoring system to increase the productivity of the fish farm.

In the panel discussion focusing on the key take aways from the different UNITED pilots, the main questions revolved around overcoming challenges, project viability, and the overall public interest for MU. The key messages include:

Collaboration with vessel operators and explored MU synergies:

•To make far offshore activities viable, transport and maintenance trips should be aligned as much as possible between the offshore users. Ideally the same vessel adapted to different offshore activities should be used.

•Fruitful discussions with the vessel operator sparked the idea of a potential future market, leading to the recent acquisition of a dedicated MU offshore vessel in Germany. As a result of this discussion a closer cooperation between the Belgian and German pilot has been developed this week leading to a combined request at several shipping companies for the next sea mission.

•A Dutch boat company expressed willingness to support MU activities, indicating broader support from operators in the industry.

Key challenges faced by MU pilots

•The challenges encountered in previous projects in Belgium, including issues like systems dismantling and instances of stranding on the beach, heightened skepticism among the local population regarding low trophic aquaculture. The techniques employed were not well-suited to North Sea conditions, and addressing these issues was the focus of the Belgium UNITED pilot.

•Projects aiming to move offshore faced criticism initially, due to the problems near shore. However, demonstrating successes played a crucial role in building confidence.

•The Belgian pilot project consistently showcased lessons learned, progress, and positive results, leading to increased interest in MU projects in Belgium.

•Going the first step is hard but necessary, it took longer than expected but good relations and mutual trust was formed among suppliers, permitting agencies and stakeholders in the German Pilot.

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Aquaculture sector in MU implementation

•If there is space near shore- start near shore. As the near shore areas are very crowded, an increase in aquaculture in the North and Baltic Sea will necessarily also mean moving further offshore, which may be more feasible in an MU setting.
•Growing interest in the aquaculture related multi-use was noted, although there are still open questions regarding risk assessment