



Sweden
Marine aquaculture.
Seaweed.



Industry partner: Nordic SeaFarm



Research partner: IVL



Stakeholder: Seaweed aquaculture industry

Challenges

1. Reducing the climate impact of seaweed production

Life-Cycle Assessments (LCA) done by Nordic SeaFarm identified **material used for settlement** and **initial growth phase** of *Ulva* seedlings as **climate impact hotspots** within their production system.

2. Fouling organisms

Rising temperatures are affecting the growing season of seaweeds. Increased temperatures result in **faster and earlier growth of fouling organisms**. This causes quality decline of the biomass. Today this is mitigated by earlier harvest, which causes lower yields



Proposed solutions

S8A: Adapt and develop new seeding material and techniques to reduce carbon footprint



Test of **low emission seeding material** (natural fibers and recycled plastic)



Explore **direct seeding techniques** to bypass the emission heavy hatchery phase of production

S8B: Demonstrate how kelp deployment in deeper water can reduce fouling and extend growing season



Evaluate the feasibility of **increasing the cultivation depth** of seaweed to exploit **cooler waters** to avoid fouling organisms



Investigate the capacity of **co-cultured oysters** to reduce fouling pressure on cultured seaweeds

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