

# Seasoil

Value creation and ecosystem services of European Seaweed industry by reducing and handling potentially toxic elements from breeding to soil

## About the Project

The overall project aim is to promote value creation, including ecosystem services, and further expansion of the seaweed industry in Europe. It will fill knowledge gaps on Potential Toxic Elements (PTE) in farmed sugar kelp and As in collected bladderwrack and fucus, in addition to impact of using seaweed material in soil on elemental uptake in crop plants and Carbon Sequestration and Storage (CSS). SeaSoil takes a holistic value chain approach according to the RRI framework, and will:

- 1) Estimate heritabilities and genetic correlations in contents of Cd, As and I in sugar kelp (*Saccharina latissima*) from two areas in Norway, and evaluate potential selection response of their reduced contents. Estimate the phenotypic correlation between PTE concentrations, growth rate and biofouling in farmed sugar kelp (WP2)
- 2) Study the impact of seaweed application rate and water saturation on the As dynamics in soil to determine chemical reactivity and potential bioavailability of labile As using a grass field experiment (WP3)
- 3) Estimate the potential of seaweed amendments for CSS in agricultural soils (WP3)
- 4) Study the impact of seaweed production on the environment (primarily climate change) using LCA, and conducting a cost-benefit analysis of the seaweed industry, including ecosystem services (WP4)
- 5) Study the economic feasibility, and regulatory incentives, for production and use of (residual) biomass from farmed seaweed (WP4)
- 6) Ensure multi-actor approach and integrated cooperation, communication and human capacity building in line within Responsible Research and Innovation (RRI) (All 5 WPs).

The project mobilises a total of 12 partners (including five industry partners) from five countries (Norway, Denmark, Ireland, Croatia and Estonia), covering a broad range of disciplines and expertise, to ensure food and feed safety of seaweed products and realise the potential of the seaweed value chain to support the European circular bioeconomy.



## Project Overview

### 2. Additional Call | 2022

#### Project Partners:

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#### Keywords:

potentially toxic  
elements, genetic  
parameters, seaweed,  
carbon sequestration,  
soil organic matter

#### Priority Area:

Sustainable and resilient  
biomass production and  
processing.



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