Culture of a wide range of low trophic species to boost sustainable production of Blue Food and reduce environmental footprint.

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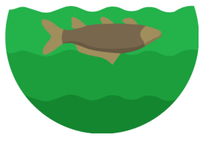
Sustainable Blue Economy Partnership

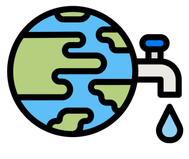
Co-funded by the European Union

1 The problem

The increased intensive aquaculture production of recent decades raised concerns about its environmental effects:



decreased water quality



depletion of natural resources

greenhouse gas emissions

In addition, farming high-trophic species in monoculture requires the use of limited resources and space.

2 The challenge

•Increase the aquaculture industry´s uptake of technologies for the culture of **low trophic species together with established fed species**.

•Describe and quantify the **environmental and economic benefits** of the culture of a wide range of low trophic species together with established fed species.

3 Objectives

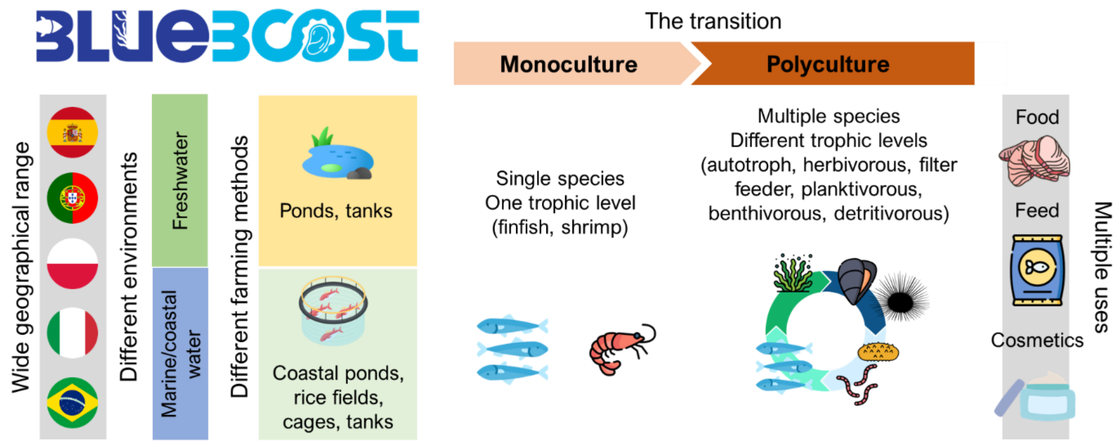
To **develop IMTAs from monocultures**, considering a wide range of **low-trophic species**

Use **LCA** and **economic analysis** to quantify and optimise the **performance** of IMTA systems towards producing carbon neutral seafood

Demonstrate to the aquaculture industry, policymakers, and consumers that low trophic species in **IMTA can boost blue-food production, while reducing environmental footprint**

4 Implementation

Integrated Multi-Trophic Aquaculture (IMTA) combines **fed** (e.g., fish) with **non-fed** aquaculture (e.g., shellfish), which helps to **minimize** aquaculture **waste** and **enhance** system **circularity.**



IMTA systems could have lower environmental impacts and bring other benefits:

- ✓**Reduced carbon** emissions
- ✓**Reduced nutrient** emissions
- ✓**Reduced wastes**
- ✓**Increased productivity**
- ✓**Decreased feed-food competition**

1 The project will develop six IMTA systems in Europe and South America.

2 It will use LCA and economic analysis to quantify and optimise the performance of IMTA systems towards producing carbon neutral seafood.

3

- **Optimisation** of the environmental and economic sustainability of the aquaculture sector
- **Development** of novel methods for the assessment of circularity in IMTA systems
- **Demonstration** of environmental and economic impacts of IMTA systems
- **Communication** to the industry and civil society of the challenges and opportunities that carbon neutrality brings to food security
- **Dissemination** to inform policies on future development of such systems
- **Education**: multidisciplinary and industry relevant training to students