



# AMBERSEA

## BACKGROUND

Water shortage in various regions of the Blue Planet. Heavy weather phenomena, viruses and bacteria destroy harvests. EU dependency on seafood imports. High demand in controlled and traceable high-quality food and industrial raw materials.

## SCOPE

AMBERSEA is a seawater aquaponics solution to grow **Greater Amberjack** (*Seriola sp.*), a highly valued fishery resource, together with **macroalgae**, namely **sea lettuce** (*Ulva sp.*) and **nori seaweed** (*Porphyra sp.*), in a novel **Integrated Multi Trophic Aquaculture** (IMTA) circular technology with positive Water and Carbon Footprints. By copying nature-based cycles, major ecologic and economic synergies are achieved. Vertical macroalgae modules saturate seawater with oxygen while taking up the CO<sub>2</sub> generated by finfish and bacteria, converting it to nutritious superfood algae biomass. Evaporated seawater is recovered in a Sorption-Condensation-Process, allowing the controlled low-energy heating of seawater, providing optimum growth conditions for the selected species and co-produce freshwater. Local unproductive barren land is converted into fruitful property with water availability.

## BUSINESS CASE

Each AMBERSEA sustainable factory has a payback period of about 2 years and an average annual ROI of 50%. The main market is Central and Western Europe and sources of income are:

1. Certified fresh **Greater Amberjack** with a current B2B market price of 11 €/kg
2. Certified **Macroalgae** at constant quality with an average B2B price of 10 €/kg
3. **Freshwater**, e.g. for nearby conventional greenhouse horticulture projects or drinking water
4. **Cooling energy**, e.g. for nearby greenhouse horticulture or solar power plants
5. **Organic compost**, e.g. for nearby organic horticulture
6. Potentially: **Carbon Certificates** of EU Emissions Trading System (ETS)

## IMPLEMENTATION

Nearby Lisbon, Portugal, a **demonstration project of 650 m<sup>2</sup>** will be constructed and operated as proof of viability for a **1.85 ha AMBERSEA Seawater Sustainable Seafood Factory** on the south coast of the Iberian Peninsula:

	DEMONSTRATOR	SERIES A (1 FULL SCALE UNIT)	SCALE UP (5 UNITS)
Size	650 m <sup>2</sup>	1.85 hectares	5 x 1.85 hectares
CAPEX	539 000 €	14 500 000 €	72 500 000 €
OPEX Year #1	132 511 €	2 115 514 €	10 222 800 €
FINANCING DEMAND	560 000 €	15 200 000 €	76 000 000 €
Revenues per Year *	283 802 €	14 736 859 €	73 684 295 €
Net Profit per Year *	24 909 €	7 288 700 €	36 768 025 €
Net Profit on Sales *	9%	49%	50%
ROI *	5%	50%	51%
Payback period	6 years	2 years	2 years
FTE	3	31	150
Fresh finfish	6 tons	300 tons	1 500 tons
Organic fresh seaweed	19 tons	940 tons	4 700 tons
Volume of water recovery	180 000 liter	19 500 000 liter	97 500 000 liter
CO <sub>2</sub> emissions reduction	28 tons	1 400 tons	6 900 tons

ANNUAL PRODUCTION

\* Considering revenues only from finfish and seaweed sales. 5-year average from the 2nd year onwards.

One of the 6 potential game-changers for EU aquaculture!

300 tons/year

940 tons/year

## TEAM

The team originates from two expert companies in aquaculture, biology, engineering, water treatment, renewable energies and finance with more than two decades of experience.

## INVESTMENT OPPORTUNITY

We are now seeking **funding** for the **demonstrator**, a minimum technical and commercially viable unit.

Get in touch with us and ask for the detailed business plan!



GLOASIS

[www.gloasis.com](http://www.gloasis.com)



[www.aquaponicsiberia.com](http://www.aquaponicsiberia.com)

[ambersea@aquaponicsiberia.com](mailto:ambersea@aquaponicsiberia.com)

# SEAWATER SUSTAINABLE SEAFOOD FACTORIES