

New



AMBERSEA



CHALLENGES

Demand for (sea)food higher than Supply

Fresh water demand to grow food

Energy and Climate Change

Ocean impact by human activities

Limited agricultural space

2 ZERO HUNGER



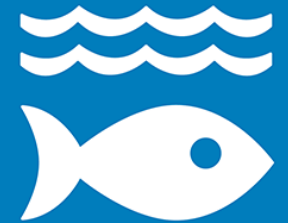
13 CLIMATE ACTION



6 CLEAN WATER AND SANITATION



14 LIFE BELOW WATER



7 AFFORDABLE AND CLEAN ENERGY



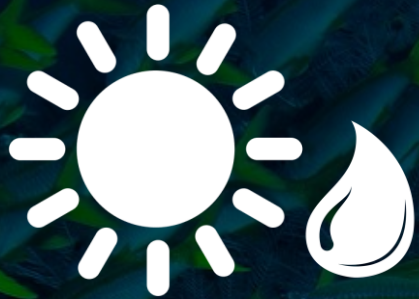
15 LIFE ON LAND



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



SOLUTION



Use Abundant
Natural Resources
on currently
Unused Land

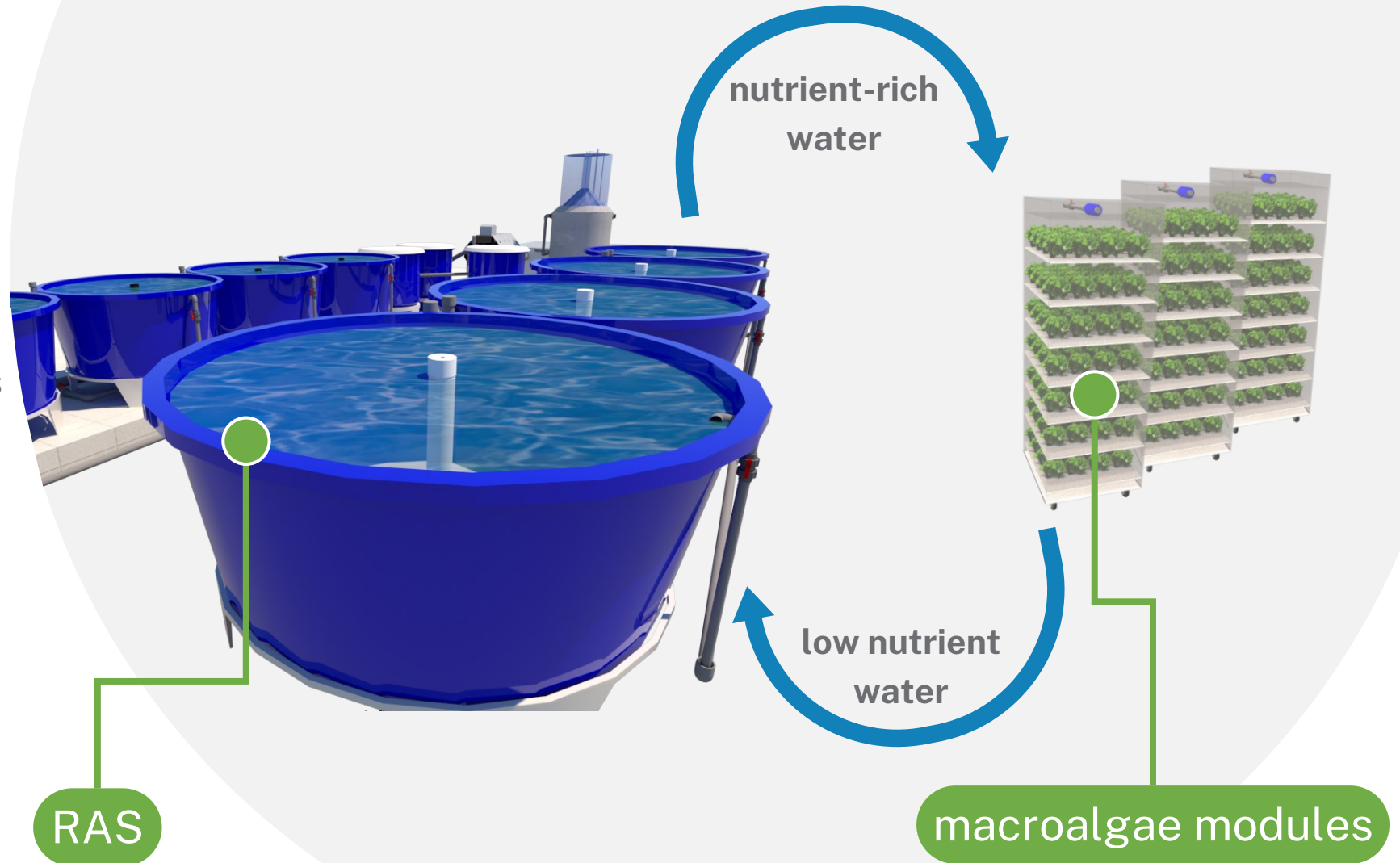
Innovative process to
synergistically produce
Food + Water +
Energy

Zero Waste
& Minimum
Production Costs

MULTI-CIRCULAR TECHNOLOGY

1. SEAWATER AQUAPONICS (symbiotic cycle between G. Amberjack and Algae)

2. Convert solid organic waste from RAS into liquid nutrients
3. Refrigeration, evaporation and water recovery
4. Sequester CO₂ emissions



MULTI-CIRCULAR TECHNOLOGY

1. SEAWATER AQUAPONICS

2. Convert solid organic waste from RAS into liquid nutrients increasing algae productivity (through aerobic biodigester)

3. Refrigeration, evaporation and water recovery

4. Sequester CO₂ emissions

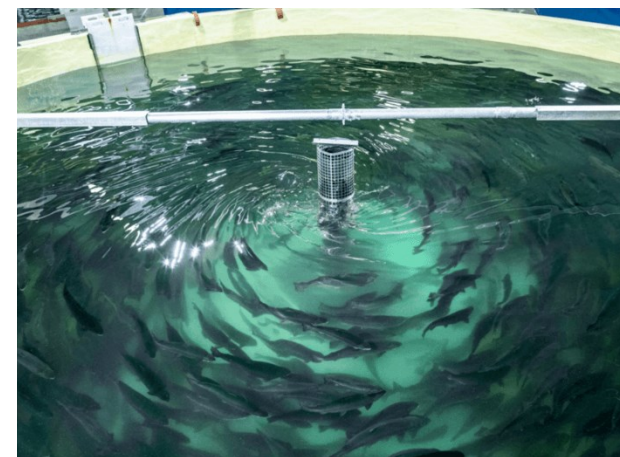
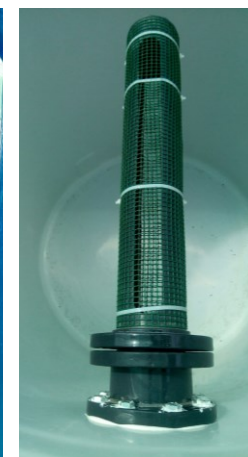
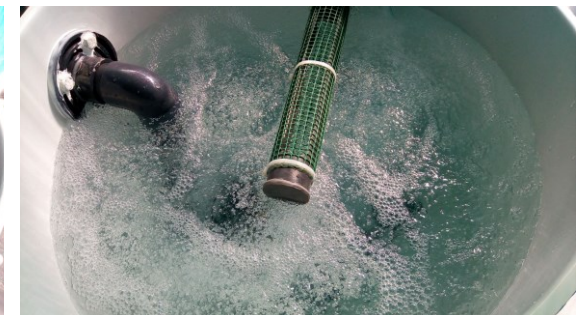


RAS

macroalgae modules

KNOW-HOW

RAS, Aquaponics and Water treatment



KNOW-HOW

Recognized as an R&D entity by ANI, in the technical-scientific domains:

Agri-food – Healthy and sustainable food

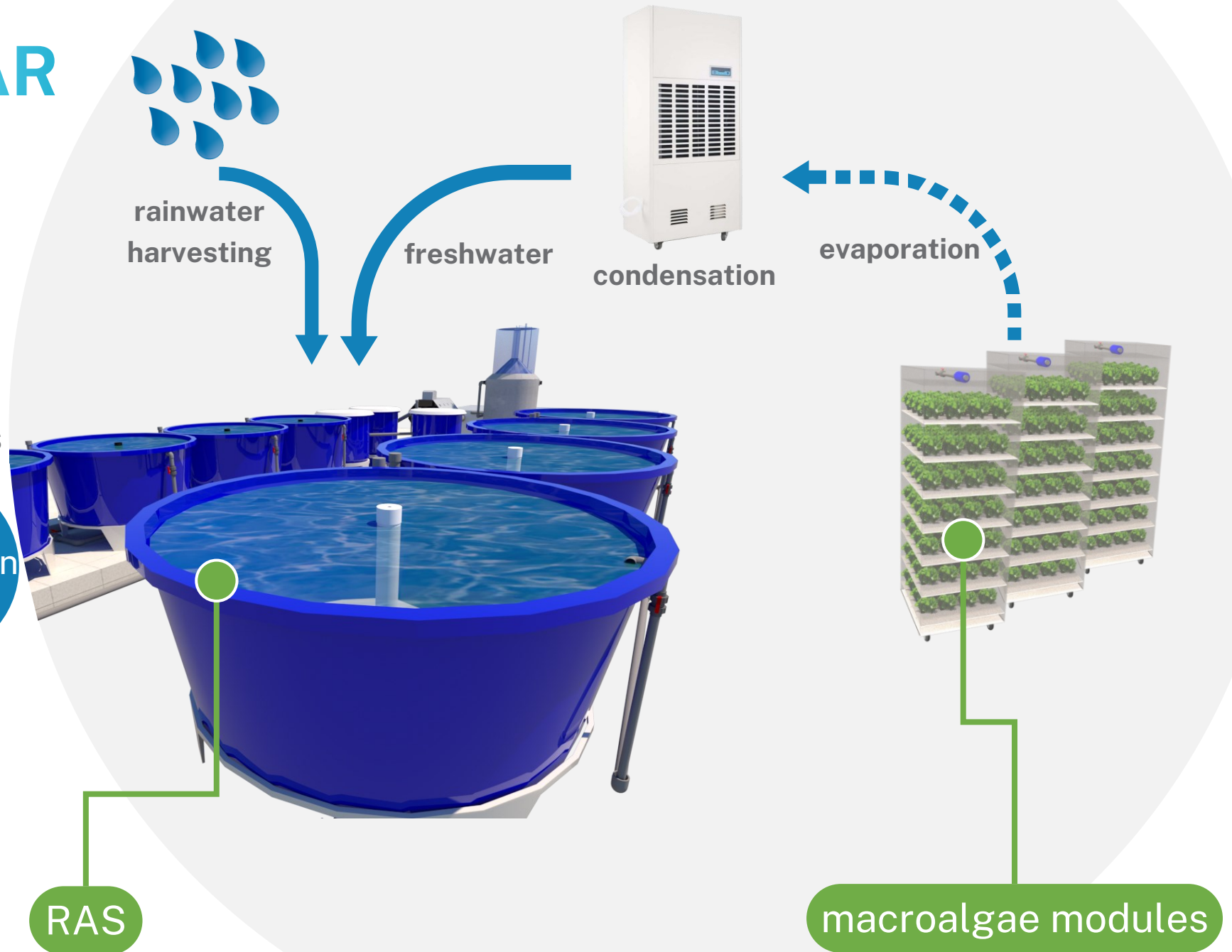
Water and Environment – Waste reduction, management, treatment and recovery

Agri-food – Waste treatment and reuse



MULTI-CIRCULAR TECHNOLOGY

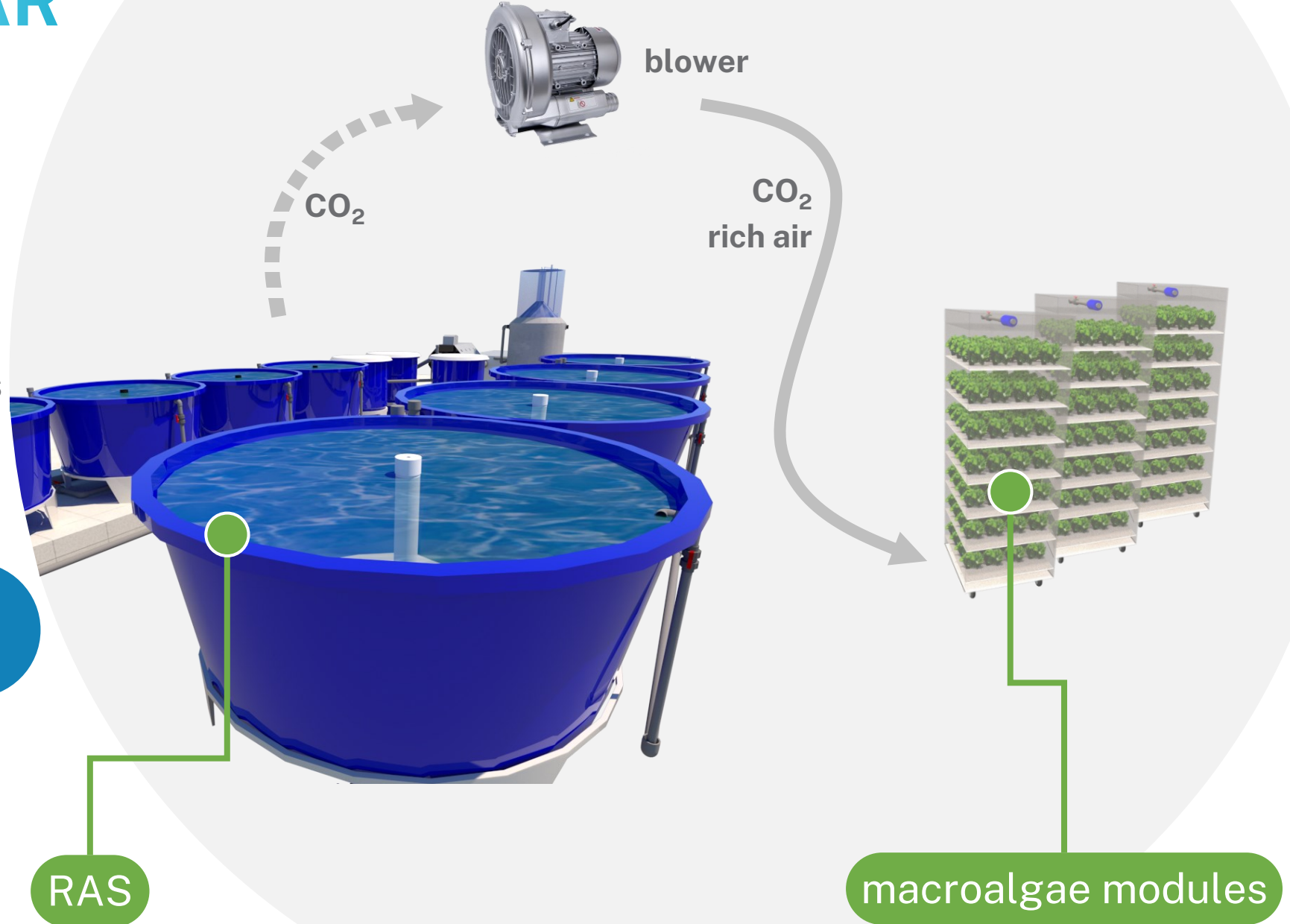
1. SEAWATER AQUAPONICS
2. Convert solid organic waste from RAS into liquid nutrients
3. Refrigeration, evaporation and water recovery in sorption process by condensation
4. Sequester CO₂ emissions



MULTI-CIRCULAR TECHNOLOGY

1. SEAWATER AQUAPONICS
2. Convert solid organic waste from RAS into liquid nutrients
3. Refrigeration, evaporation and water recovery

4. **Sequester CO₂ emissions / CO₂-fertilization of algae**



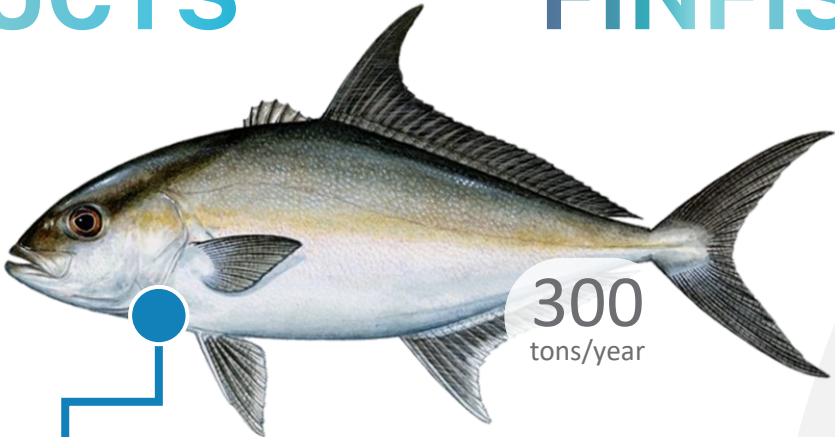
KNOW-HOW

DEHUMIDIFICATION OF AIR + + VERTICAL MACROALGAE GROWTH



PRODUCTS

FINFISH



300
tons/year

Greater Amberjack (*Seriola dumerili*)

From fry to 3 kg in 1 year
FCR < 1.6

B2B price = 11 \$/kg

EU production* = 1,831 tons
Only 25% from aquaculture
(around 1% from RAS)



Target markets



- Sushi restaurants and hotels
- Food retailers (demanding certified seafood)



- Direct to home delivery and workplaces (fillets)



(*) FAO, year 2020
Seriola dumerili + *Seriola lalandi*



PRODUCTS

MACROALGAE

Ulva (sea lettuce)

Nori seaweed



940 tons/year

Sources: Eurostat, EUMOFA and FAO

Fast growth (>+15% daily biomass)

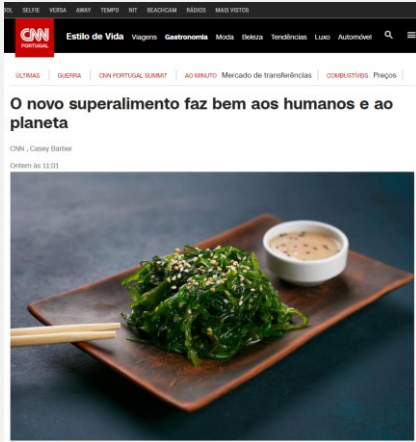
B2B seaweed price = 10 \$/kg
\$ 1.25 billion market

Harvesting from the wild still represents 98% of total algae production volume

Giant growth forecast for the World market



“Marine agriculture will bring seaweed to Europeans' meals”, published in *Público*, 25th June 2022

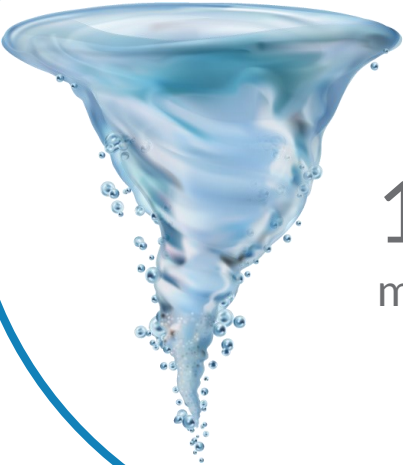


“The new superfood is good for humans and the planet” published in *CNN Portugal*, 24th July 2022

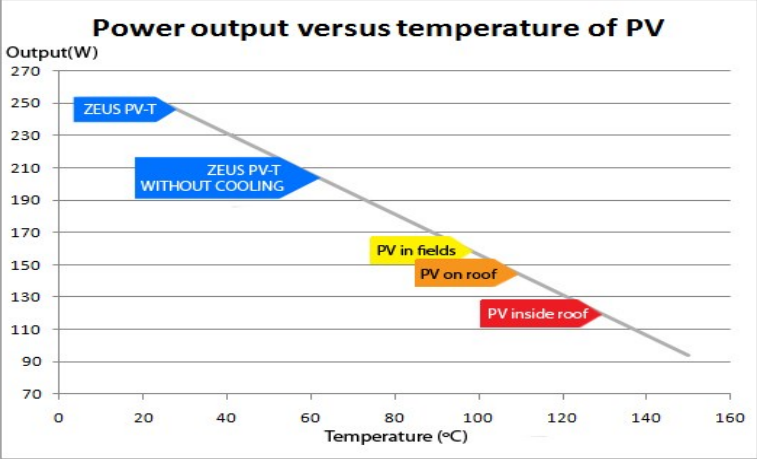


BY-PRODUCTS

Fresh WATER



19.5 million L/year



Cooling ENERGY

CO₂ CAPTURE



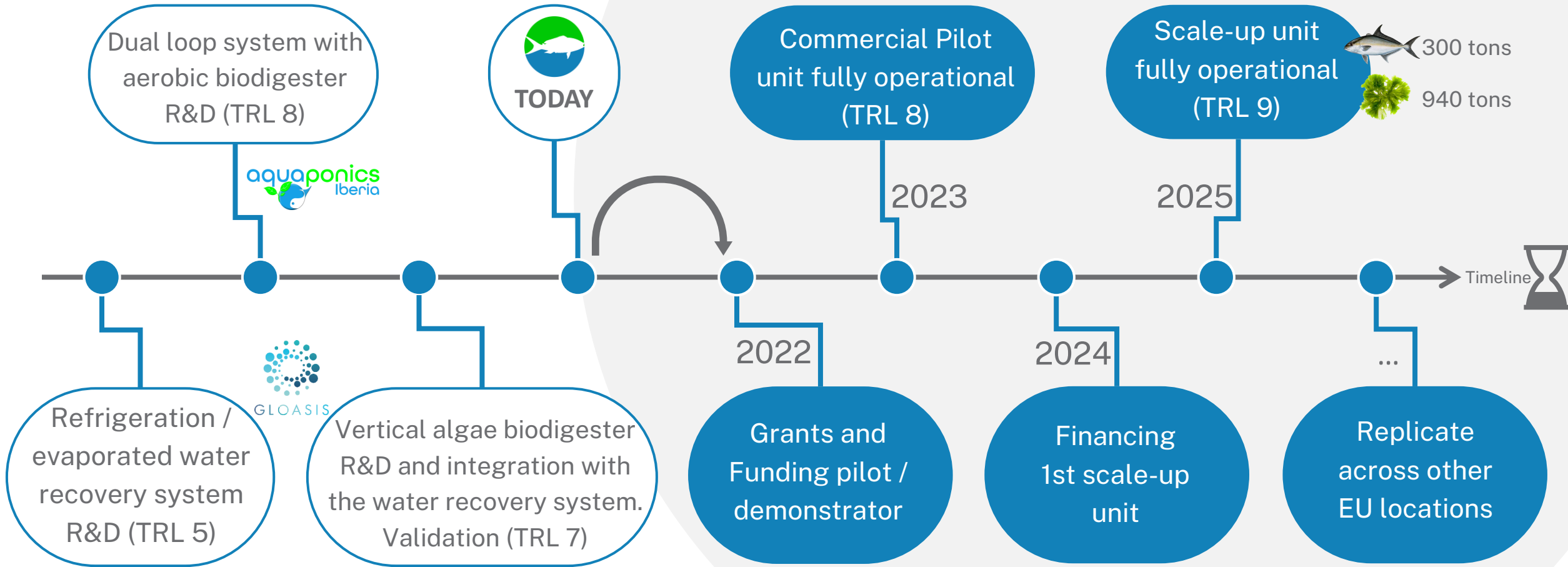
1,300 tons/year
Emissions Trading System

Organic COMPOST



~200 tons/year for organic agriculture

ROADMAP TO THE INDUSTRIALIZATION OF AMBERSEA



PILOT UNIT

DEMONSTRATOR

Small-scale
commercial unit

7,000 square feet

Warehouse

(RAS, storage and logistics)

Greenhouse

(algae cultivation)

Work also as a RAS
IMTA training center



PILOT UNIT

Investment = 560 k *

Cruise year total revenues:

> 257 k

Payback period: 6 years

EBITDA-To-Sales Ratio = 32%**

Net Profit on Sales = 9%**

ROI = 5%**

* Includes Working Capital

** Annual average of 5 years from the 2nd year of the project.



DEMONSTRATOR

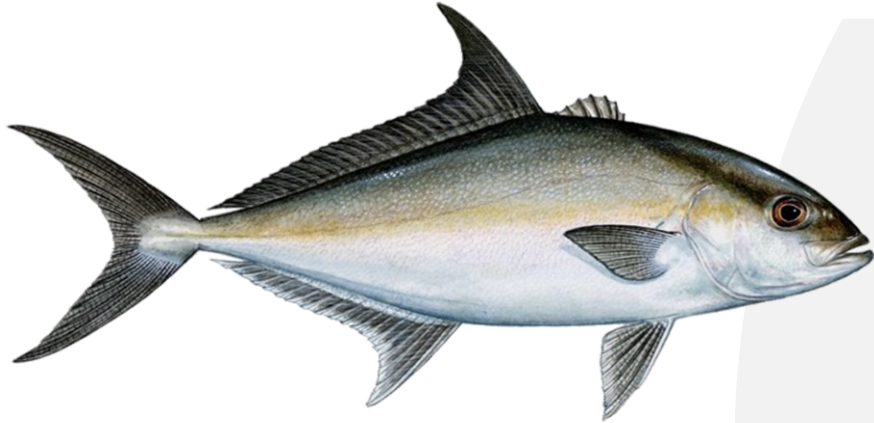
Annual production capacity

 5.7 tons

 19 tons



INVESTMENT IN SUSTAINABLE AQUACULTURE



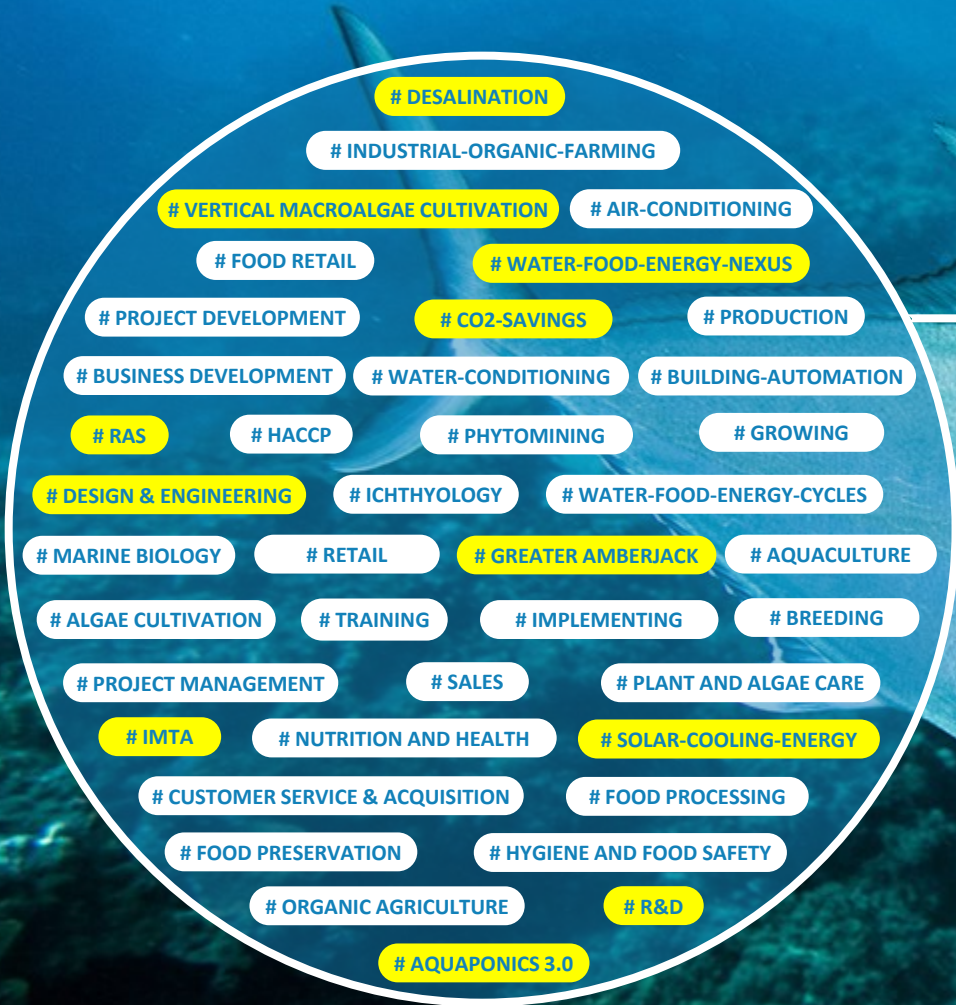
SEAWATER AQUAPONICS FACTORIES

ANNUAL
PRODUCTION

	DEMONSTRATOR	SERIES A (1 FULL SCALE UNIT)	SCALE UP (5 UNITS)
Size	7000 sqf	5 Acres	5 x 5 Acres
CAPEX	\$539.000	\$14.500.000	\$72.500.000
OPEX Year #1	\$133.000	\$2.100.000	\$10.222.800
FINANCING DEMAND	\$560.000	\$15.200.000	\$76.000.000
Revenues per Year *	\$284.000	\$14.750.000	\$73.750.000
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 recover	180.000 liter	15.000.000 liter	75.000.000 liter
CO ₂ emissions reduction	28 tons	1.400 tons	6.900 tons

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

OUR CORE TEAM



HEALTHY, SUSTAINABLE AND DELICIOUS SEAFOOD

THANK YOU!



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