

EUROPEAN ALGAE BIOMASS ASSOCIATION



EUROPEAN ALGAE
BIOMASS ASSOCIATION

Science - Technology - Business

Jean-Paul Cadoret

Vice-President



EUROPEAN ALGAE
BIOMASS ASSOCIATION

Chief Scientific Officer



Established in 2009

OBJECTIVE

To promote mutual interchange and **cooperation** in the field of **algae biomass production** and all their applications fields

TARGET

To act as a catalyst for fostering synergies among scientists, industrialists and decision makers to promote the development of **research, technology and industry**

AIM

Creating, developing and maintaining solidarity and **links between its Members** and at defending their interests at European and international level

EABA EUROPEAN ALGAE BIOMASS ASSOCIATION

Industrial

Scientific

Observer

Individual

Members listed include: edonia, SCHOTT, Cargill, BIOREA, ALGAEENERGY, algamoi, API, SPHULINA NORD, FERMENTALG, ofsi, 3ierizen, Corbion, VERAMARIS, yemoja, plankta, ALGALIA, HOLO, nection, TOKO Green, NeoCarbons, phycoworks, ALGAECECEL, VIRIDE, BioSyntex, HYPESOUND, Poseidonu, Firlgas, LIQ OFLUX, REMEDIATE, Lgem, Xanthella, AlgoSource, IASO, eurofins, subitec, ALGAMA, synaxis, algaeocytes, FLORE DE VIE, AIR CO HOL, axabio, SPIREAT, Carbonworks, ADASTRA, olmixGroup, BIOLIFE, NORDIC SEAFARM, GELITA, enGreen, QUAZY, GICON, EXBERRY, AlgaeCura, Protinext, Algae food, GICON, EXBERRY, AlgaeCura, QUAZY, GICON, EXBERRY, AlgaeCura.

EABA Members History

243 MEMBERS
44 COUNTRIES WORLDWIDE (May 20, 2020)

SCIENTIFIC INDUSTRIAL + 10 EMP. INDUSTRIAL + 10 EMP. INDIVIDUAL OBSERVER



Scientific



Observer



Individual

Mr. Paolo Castelli
Mr. Peter Ripplinger
Mr. Sridharan Govindachary
Mr. Stefan Kraan
Mr. Timo Gehring
Mr. Timothy Granata
Mr. Vlachoslav Lukianov

EU4Algae



EU4Algae

OUTCOMES

- List of algae species as non-novel food
- List of algae species as novel food
- List of algae species as traditional
- Support to EC database updates on algae industry data
- Infographic on the Contaminants in macroalgae






ACTIVITIES

- Regular meetings (consortium, DGs, Algae Awareness Summit organisation)
- Review EU4Algae partners reports
- Organise webinars
- Infographics preparation

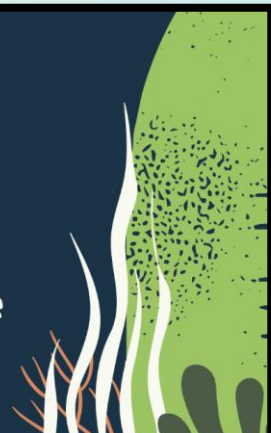


#EU4Algae

EU4Algae Webinar Series

Algae Data Collection in Europe Towards a Reliable Database

19 September 2025 | 11h (CET) | Online






#EU4Algae

Algae: environmental friendly superfood

This graphic provides an overview of the nutrients found in different microalgae and seaweed species, each species has a specific nutritional profile.

Macroalgae/Seaweeds

Microelements
Iron, Calcium, Zinc, Phosphorus, Magnesium, Manganese, Copper, Boron, Iodine

Proteins
Non-animal proteins up to 30%

Hydrocolloids
Used for cooking: Agar, Alginates, Carrageenans

Amino Acids
Glycine, Alanine, Arginine, Proline, Glutamic Acid, and Aspartic Acid

Functional Carbohydrates
Fucoidans: Antimicrobial, Antitumor, Anticoagulant, and Fibrinolytic Properties

Antioxidants
Antioxidants: Carotenoids and Xanthophylls

Fatty Acids
Non-animal Omega-3 sources: EPA

Natural Dyes and Pigments
Red, Green, Brown



Microalgae

Microelements
Iron, Calcium, Zinc, Selenium, Magnesium, Manganese, Copper, Cobalt, Iodine

Proteins
Non-animal proteins up to 60% (e.g. Spirulina and Chlorella)

Antiviral/Antibiotics
Spirulan, Cyanovirin, Griffithsin

Essential Amino Acids
Ile, Leu, Lys, Met, Val, Phe, Thr, Trp, His

Antioxidants
Antioxidants: carotenoids and xanthophylls e.g. Phycoerythrin, Fucoxanthin, Astaxanthin Up to 5000 times more potent than vitamin C

Fatty Acids
Non-animal sources of Omega-3: EPA, ALA, DHA and Omega-6: LA

Natural Dyes and Pigments
Red, Green, Yellow and Blue

Vitamins
A, C, B-6, B-12



Where to find algae-based food



Microalgae usually come in dry powder. You can find them with their natural colour or bleached, just like a flour.

The most common are **Spirulina** and **Chlorella**.

You can add a tea spoon to your smoothies, soups and burgers for amazing colours and boost of vitamins.

You can easily find Spirulina-based pasta, chips and juices at the supermarket.

You can bake with microalgae powder for extra proteins and colour.



Seaweeds can be consumed fresh or dry. They need to be rehydrated and rinsed.

You can use them to season your salads and they are fundamental to complete your sushi, ramen, miso soup and onigiri (nori, kombu and wakame are the most used).

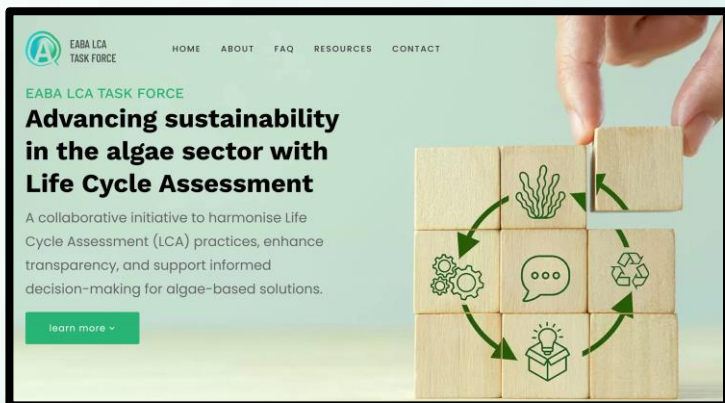
Seaweeds will add a silky, satiny texture and a naturally sweet and umami taste to your dishes.

You can find seaweed-based dishes at the supermarket in salads and snacks.

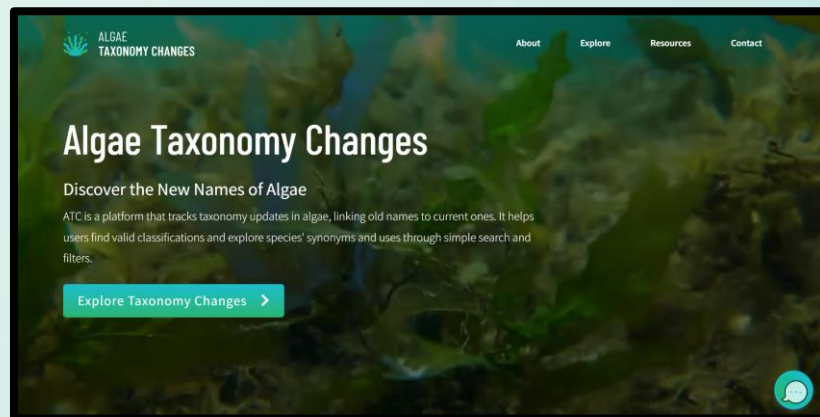
You can also find them as gelling agent: agar, alginate and carrageenan are the only substitutes to the animal-based gelatine.

BUILDING THE ECOSYSTEM

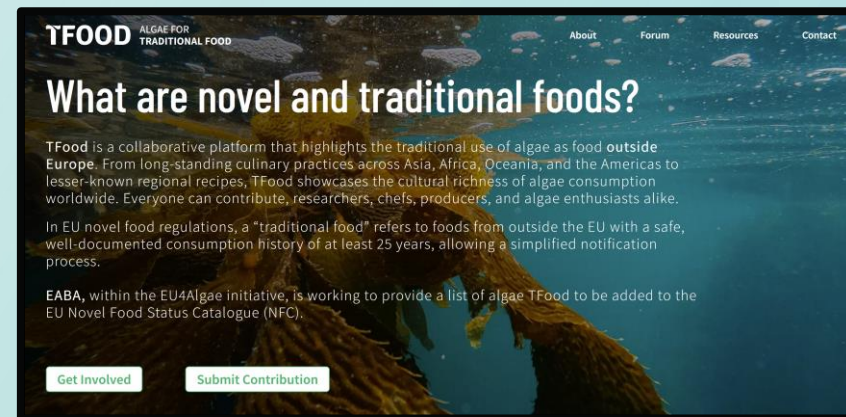
LCA Task Force :



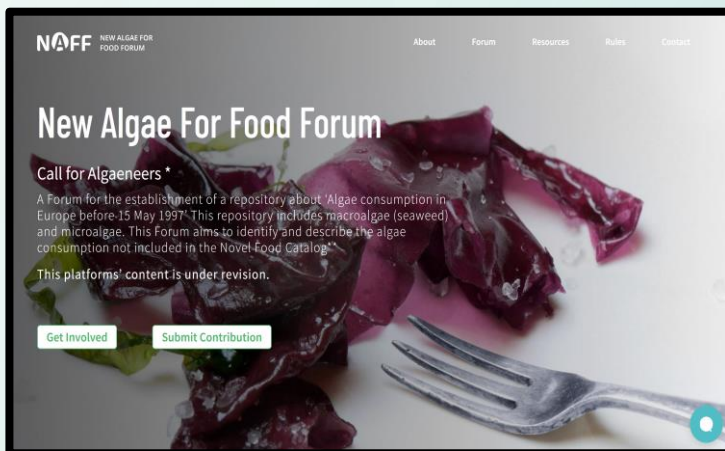
Algae Taxonomy Changes (ATC):



TFoods:



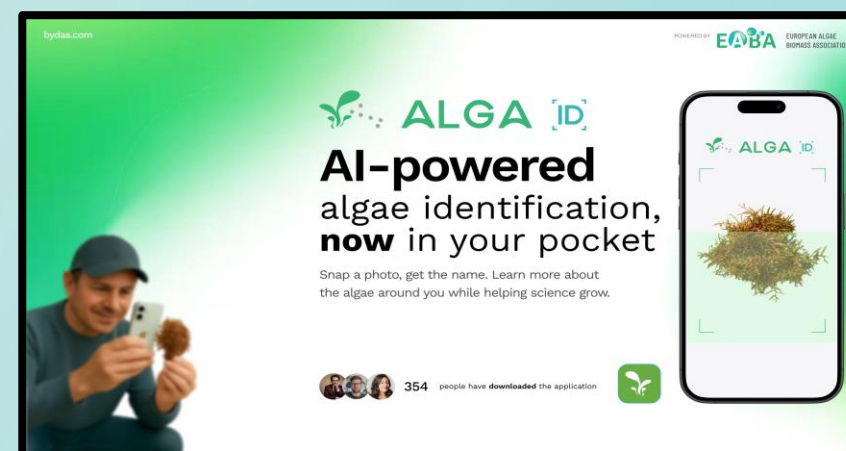
NAFF:



YAS :



ALGA ID :



algaflix

The Multimedia Platform for Algae Content

<https://algaflix.eu/>

Watch exclusive videos about algae!

502+

Videos

Explore a vast library of over 502 videos, covering a wide range of topics to educate, entertain, and inspire.

372+

Speakers

Gain insights, stories, and expertise from a diverse pool of over 372 speakers, offering unique perspectives and knowledge.

21+

Categories

Designed to help you navigate topics with ease, whether you're into science, innovation, or industry insights.

A dynamic hub full of videos, expert insights, and cutting-edge research. Unleash the power of algae science, technology, and business by subscribing to Algaflix.

Powered by

EABA

Established in 2009

ACTIVITIES

Quarterly Newsletter

March 2026

Information for EABA Members:
www.eaba-association.org

EDITORIAL NOTE

Dear EABA members,

We keep the momentum from last year, we are working intensively to meet our goals. These past weeks have been very busy, we are working on our lobbying activities with the EU Commission, bringing our views and necessities, among others dealing with the MLs on contaminants and potentially a tight limitation on iodine. We started a task force group on this topic and I am very happy with the collaboration of the people

IN MEMORIAM - Dr. AMHA BELAY

His work bridged academia and industry, helping shape global algae production and research. A respected leader, advisor, and long-time member of the EABA community. We extend our heartfelt condolences to his family, colleagues, and friends. Dr.



Communication

Clarification of Most Relevant Concepts Related to the Microalgae Production Sector

Vitor Verdelho Vieira ^{1,2}, Jean-Paul Cadoret ^{1,3}, F. Gabriel Acien ^{4,*} and John Benemann ⁵



REVIEW



Spirulina in the 21st century: Five reasons for success in Europe

Vitor Verdelho Vieira ¹ · John Benemann ² · Avigad Vonshak ³ · Amha Belay ⁴ · Monique Ras ⁵ · Carlos Unamunzaga ⁶ · Jean-Paul Cadoret ⁷ · Arianna Rizzo ⁸



EABA INFORMATION PAPER Technical Series #1

Silvio Mangini¹, Léa Braud^{1,2}, Juan Jose Gallardo Rodriguez³, Ana Morais⁴, Luis Speranza⁵, Igor Pedra⁶, Tom Bradley⁷, Jonathan Forbes⁸, Laura Montero⁹, Luis Corral¹⁰, Karina Balsa¹¹, Jamali Chami¹², Sakka Rihoussi¹³, Pi Nyvall¹⁴, Carole Perignon¹⁵, Roman Pierre¹⁶, Andriamahalafosa Rajakosoa¹⁷, Sophie Sager¹⁸, Nora Schelle¹⁹, Stefan Schmid²⁰, Vitor Verdelho²¹, Jean-Paul Cadoret²², Carlos Unamunzaga²³

¹ European Algae Biomass Association, Florence, Italy
² Sustainable Food Processing, ETH Zurich, Switzerland
³ Department of Chemical Engineering and Research Centre CSAMBITAL, University of Almeria, Spain
⁴ Corbion Global R&D, Gorinchem, Netherlands

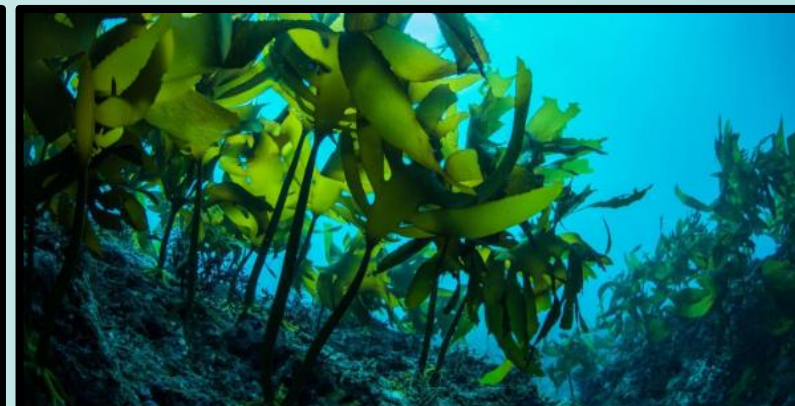
⁵ GreenColab - Green Ocean Technologies and Products Collaborative Laboratory, Centro de Ciências do Mar do Algarve, Universidade do Algarve Gambelas, Faro, Portugal
⁶ AIF - Algae for Future, S.A., Campus do Lumiar, Lisboa, Portugal
⁷ Decena Limited, Cramlington, Northumberland, Newcastle, UK
⁸ Viridie GmbH, Steinhilber, Germany
⁹ Climis Group, Brehan, France
¹⁰ BIOSEA, Lamballe-Armer, France
¹¹ Centre d'Etude et de Valorisation des Algues, Pleubian, France
¹² Mines Paris, PSL University, Centre Observation, Impacts, Energy, Sophia Antipolis, France
¹³ Ryan Institute, University of Galway, Ireland
¹⁴ Sustainable Systems Engineering, Department of Green Chemistry and Technology, Faculty of Bioscience Engineering, Ghent University, Belgium

Standards & Guidelines for Algae LCAs

EXECUTIVE SUMMARY

Life Cycle Assessment (LCA) is a crucial tool to evaluate the environmental impacts of products and systems, including algae-based products and algae production and processing facilities. To conduct meaningful LCA studies, practitioners must navigate a complex framework of standards, guidelines, and initiatives. This information paper provides a concise overview of these resources, clarifying their roles and interrelationships. Standards, such as the International Organization for Standardization (ISO) 14040 and 14044, alongside the European Standard EN 17983, establish the foundational principles and requirements for LCA, ensuring consistency and comparability across studies. Complementing these, guidelines such as the Product Environmental Footprint introduced by the European Commissions, the International Reference Life Cycle Data System (ILCD) Handbook, and Publicly Available Specification (PAS) 2050 deliver practical instructions to implement these standards effectively.

In addition, projects and initiatives such as ALIGNED (Aligning Life Cycle Assessment methods and bio-based sectors for improved environmental performance) and LCA4Bio (Harmonised Life Cycle Assessment methods for sustainable and circular BIO-based systems) promote methodological innovation and sector-specific alignment (or harmonisation) by addressing emerging challenges and enhancing collaboration. Understanding the complementary functions of these standards, guidelines, and initiatives enables practitioners to produce scientifically robust and transparent algae LCAs aligned with best international practices. This paper serves as a foundational resource for selecting and applying the most appropriate frameworks and tools in algae LCA studies.



EABA INFORMATION PAPER Version 1.0 - August 2025

Life cycle assessment of algal products: A step-by-step guide to application

EXECUTIVE SUMMARY

This information paper provides an accessible introduction to Life Cycle Assessment (LCA) for researchers, industry professionals, and policymakers in the algae sector, with limited or no experience in the methodology. LCA evaluates the environmental impacts of a product, process, or service across its entire life cycle, from raw material extraction to end-of-life.

Developed collaboratively by LCA experts and non-specialists, this information paper outlines key concepts, applications, and best practices for assessing the environmental performance of algae-based products.

LCA is now a common component of EU-funded algae projects, with its range of applications expanding from the assessment of biofuels to high-value compounds and complex production systems. It plays a central role in corporate sustainability, policy development, and in evaluating algae's contribution to the bioeconomy.

However, applying LCA to algae production technologies and algae-based products presents unique challenges such as system variability, data availability, and methodological choices that can strongly influence results and limit comparability. Raising awareness of these issues within the algae community is essential to ensure that LCA outcomes are interpreted meaningfully and used effectively.

This information paper supports newcomers in understanding key terminology and practices related to LCA in algae systems, enabling more informed decision-making as well as the development of innovative and sustainable algae-based products.

The President & Vice-Presidents

ELECTED BODIES (2024-2026)

The President shall be a person who disposes of sufficient knowledge and experience of the algae biomass sector. The term of the Presidency is two years. The President may be re-elected for one more term as decided by the General Assembly. The President of EABA is the legal representative of the association. He can delegate its power of representation. The President of EABA shall chair the Steering Board and the General Assembly in a neutral and objective manner.



PRESIDENT

Carlos Unamunzaga
Fitoplancton Marino
(SPAIN)



VICE-PRESIDENT

Sammy Boussiba
Ben-Gurion University of the Negev
(ISRAEL)



VICE-PRESIDENT

Jean-Paul Cadoret
Algama Foods (FRANCE)



VICE-PRESIDENT

Gabriel Acien
Almeria University
(SPAIN)

The Secretariat

The Secretariat oversees supporting the work of the Steering Board and of the President of the EABA. The Secretariat can be assigned to individual persons or to legal entities that the Assembly, before appointing them, deems that they possess the necessary profile. Within the Secretariat, in case that the task is assigned to a legal entity, is appointed the co-ordinator of the Secretariat (Executive Director), who is the person keeping direct relations with the Steering Board and the President. The Executive Director is appointed or revoked by the General Assembly acting with a majority of 75% of the total vote shares and provided that at least 80% of the votes are expressed.



GENERAL MANAGER

Vitor Verdelho
EABA - European Algae
Biomass Association
(PORTUGAL)



ASSISTANT MANAGER

Lisandra Meinerz
Independent Consultant
(PORTUGAL)



COMMUNICATION MANAGER

Anne Pajot
Sea4Earth
(FRANCE)



SPECIAL PROJECTS MANAGER

Juliette Armeni
Pole Mer Méditerranée
(FRANCE)



INNOVATION MANAGER

Léa Braud
ETH Zürich
(SWITZERLAND)



NETWORKING & KNOWLEDGE MANAGER

Arianna Rizzo
Blue2
(FRANCE)



CONFERENCE & ALGAFLUX PLATFORM MANAGER

Christie de Vrij
Building on Events
(THE NETHERLANDS)



REGULATORY & STANDARDS ADVISOR

Silvio Mangini
Archimede Ricerche S.r.l
(ITALY)



ALGAID & PARTNERSHIPS MANAGER

Helena Abreu
Independent Consultant
(PORTUGAL)



EUROPEAN ALGAE
BIOMASS ASSOCIATION

TIME INVESTED IN EABA

President

Vice-Presidents

Administration

Auditors

General Management

EABA Management Team

Coordination work

- EU4Algae
- CEN/Standardization
- Website
- NAFF
- ALGAFLIX
- Miscellaneous projects for 2025
- EU (DG MARE, SANTE, AGRI, ...)
- EUROSTAT
- FAO
- Working Groups

Attending/Participating various events

- Workshops (Internal/external)
- Trade shows
- Vitafoods ALGAE PAVILION
- EU4Algae Awareness Summit
- EU4Algae meetings
- YAS
- ABO Summit (USA)
- UNOC
- Seagriculture
- And more...

Communication

- Social Media
- Reports
- Newsletters
- Other media

Miscellaneous

- Meetings
- Follow ups
- Strategy

TIME INVESTED IN EABA

Hours: **9.900**



Coordination work

- EU4Algae
- CEN/Standardization
- Website
- NAFF
- ALGAFLIX
- Miscellaneous projects for 2025
- EU (DG MARE, SANTE, AGRI, ...)
- EUROSTAT
- FAO
- Working Groups

Attending/Participating various events

- Workshops (Internal/external)
- Trade shows
- Vitafoods ALGAE PAVILION
- EU Algae Industry Summit
- EU4Algae meetings
- YAS (Almeria)
- ABO Summit (USA)
- UNOC
- Seagriculture
- And more...

Communication

- Social Media
- Reports
- Newsletters
- Other media

Miscellaneous

- Meetings
- Follow ups
- Strategy

MICROALGAE · WHAT UNITES · MACROALGAE

Differences — Microalgae

Unicellular (1–100 µm)
Invisible to the naked eye

Produced in closed photobioreactors
or open raceways

Rich in lipids, proteins
& micronutrients

Some pigments

Often classified as Novel Food
in the EU

Highly controlled culture
conditions

Fast growth scalable via engineering

IN COMMON

**Photosynthetic aquatic organisms
capturing CO₂, biologies**

**Land-based cultivation converging:
IMTA, PBR for gametophytes**

**Sustainable proteins, essential
fatty acids (EPA, DHA)**

**Natural pigments: fucoxanthin
extraction equipment 70% shared**

**Shared regulatory front:
stronger together vs. barriers**

**Extraction & biorefinery
technology fully transferable**

**EU Horizon & BBI JU programs:
micro/macro feedstock flexibility**

Differences — Macroalgae

Multicellular (cm to meters)
Visible & harvestable

Mainly wild-harvested in Europe;
growing land-based aquaculture

Rich in fibres, polysaccharides
(agar, alginate, carrageenan)

Some pigments

Often traditional foods;
carrageenan & alginate as excipients

Environment-dependent culture;

Slower growth
linked to seasonal cycles

By emphasising shared ground, algae can overcome regulatory & cultural barriers — and drive business development with a united voice.

FUTURE

1. Participating in the European algae biomass industry and scientific **community**
2. Having a window on the algae bioeconomy and activities at the **international level**;
3. Benefiting from scientific **information and knowledge** on algae bioproducts.;
4. Involved in developments and **public debates** on algae research and industry;
5. Promoting your vision of **investment and financial needs** to support advances in field;
6. Helping to develop, **plan and structure research and industrial developments** in algae;
7. Fostering **links** between industry, academia and government for your organization.
8. Establishing a permanent **liaison with EU** and EU Member State's Institutions;
- 9. Breaking scientific boundaries** in algae research and applications in the algae space;
10. Facilitating the **exchange of scientific information** and of relevant publications;
11. Addressing environmental, social and economic **impacts of algae** production and use;
12. Being part of a **larger organization** promoting the common interests of its Members;
13. Developing **technology neutral** positions on EU and other issues of common interest;
14. Advancing the vision of an algal biomass-based sustainable **circular economy** in the EU

THE ANNUAL CONFERENCE



THE ANNUAL CONFERENCE



EVOLUTION



The 2025 edition

- 4** Days conference
- 4** Keynote speakers
- 24** Sessions (+ 4 extra/special sessions)
- 1** Panel table discussion
- 1** Site visit
- 20** Trade Show participants
- 3** Sponsored presentations
- 5** Sponsors
- 257** Submitted abstracts
- 107** Speakers
- 116** Posters
- 382** Participants
- 38** Nationalities
- 236** Organizations
- 215** EABA Member representatives registered (represented by **105 members**)
- Networking events: Algae Happy Hour, Conference Dinner, Award Evening



JEAN-PAUL CADORET, PhD

**35 years of experience in Research and Industry
in the field of algae and marine biotechnology**



- Chief Scientific Officer **ALGAMA** (France)



- Vice and former President of **EABA**
- European Algae Biomass Association (Europa)



- Co-funder and Head of Scientific Board
- **Iaso-BioProduction** (France)



Former Researcher, Team leader, Lab Director and
Unit Director in the governmental Institute IFREMER. (26 years)



Former Managing Director of the private Marine Biotech Company
GREENSEA (5 years)



80 publications
10 Patents
EU Expert
Consultant