How do we build a competitive, sustainable and responsible European macro algae industry?

To be able to build a competitive, sustainable and responsible European macro algae industry, we have organised a workshop to explore innovation pathways in macro algae R&D, innovation and market creation and to use this foresight to:

- Identify opportunities and challenges, bottlenecks
- Characterise the variety of socio-economic impacts
- Build a clearer vision of the future macro algae industry and routes towards it

Location: Hôtel de France, Rue Edouard Corbière, 29680 Roscoff, France Timing: 09h00 6th September – 11h00 7th September 2018 Project: APPRISE: Anticipating Potential Pathways and Routes for Innovation towards desirable Socio-Economic impacts (focus on macro algae) Sponsor: EUROMARINE (www.euromarinenetwork.eu)





How do we build a competitive, sustainable and responsible European macro algae industry?

Why do we need to think ahead?

In recent years, there has been renewed interest in the mariculture of seaweeds and their use to provide fresh edible seaweeds in Western countries, as well as to secure the provision of biomass with specific qualities to boost the growing biotechnology sector in Europe. Several pilot scale cultivation sites and a few small commercial farms throughout European waters have proven the technical feasibility of this approach.

However, the costs of algal biomass production is more than 10 times higher than simply collecting wild materials. Economically viable seaweed farms in Europe are still scarce with total surface not exceeding 100-150 ha. These depend on niche markets in Europe (cosmetics, food) to survive economically. Recently, two commercial operations in Portugal (ALGA+) and France (Innovalg) have also demonstrated the economic sustainability of land-based tank cultivation of seaweeds for niche markets and bioremediation purposes.

The small amount of algal cultivation in Europe at present reflects the major bottleneck which is to develop markets able to absorb European seaweed production costs.







Euromarine Foresight Workshop

To anticipate on key issues to inform the strategy of Euromarine partners (and beyond)

To facilitate coordination across the research and innovation ecosystem (between researchers, firms, cultivators, users, investors etc.)

To do this through (1) creating forums of exchange and (2) co-developing Strategic Intelligence with the community

This is why we are here

Finn L. Aachmann	NTNU - Norwegian University of Science and Technology, Norway
Helena Abreu	ALGAPlus, Portugal
Urd Bak	Ocean Rainforest, Faroe Islands
André Berthou	Talibreizh et Syndicat des Récoltants Professionnels d'Algues de Rive de Bretagne, France
Pierre Colas	Station Bilogique Roscoff, France
Aschwin Engelen	University of the Algarve, Portugal
Claire Gachon	Scottish Association for Marine Science (SAMS), UK
Olavur Gregersen	Ocean Rainforest, Faroe Islands
Damien Guiffant	Vidon, Parc Scientifique Blue Valley, Roscoff, France
Franck Hennequart,	ALGAIA, France
Philippe Kerrison	Scottish Association for Marine Science (SAMS), UK
Aurélie Loaec	Cargill Starches, Sweeteners & Texturizers, France
Leonardo de Mata	CCMAR – Center of Marine Sciences / University of the Algarve, Portugal
Maria Matard	Olmix Group, France
Angela Mead	BIOME Algae Ltd.
Pi Nyvall-Collén	Olmix Group, France
Ronan Pierre	Centre d'Etude et de Valorisation des Algues, (CEVA), France
Isabel Sousa Pinto	Cimar – Centre for Marine and Environmental Research, Portugal
Philippe Potin	Station Bilogique Roscoff, France
Birgit Quack	GEOMAR Helmholtz-Zentrum für Ozeanforschung Kiel, Germany
Monique Ras	Blue Science Consulting and Management, Saint Pol de Leon, France
Céline Monique Odile Rebours	Moreforsk, Norway
Douglas Robinson	LISIS, IFRIS, CNRS, Paris, France.
Jean-Marc Salou	EuroFin Consulting, France
Rachel Sellin	Pole Mer Bretagne
Marta Sofia Marques Rodrigues	University of Bergen, Norway
Da Silva	
Melanthia Stavroulaki	Hellenic Centre for Marine Research (HCMR), Institute of Marine Biology, Biotechnology
	and Aquaculture (IMBBC), Greece
Ronan Sulpice	National University of Ireland, Galway, Ireland
Florian Weinberger	GEOMAR Helmholtz-Zentrum für Ozeanforschung Kiel, Germany
Cat Wilding	Marine Biological Association of the UK

PARTICIPANTS

• 30 participants

- 8 countries (Norway, Portugal, Faroe Islands, France, UK, Germany, Greece and Ireland)
- Researchers, firms, social scientists, ٠ associations

<u>HOSTS</u>



CNRS • SORBONNE UNIVERSITÉ Station Biologique de Roscoff



WORKSHOP KEY POINTS

Three key areas identified and explored (see Poster for a few more details)

- Seaweed innovation system Drivers and Bottlenecks
- Exploitation / aquaculture of seaweeds ٠
- Products, Markets & Value Chains ٠

Outcomes

- Data still being analysed
- Large number of themes came out of the discussion (enough for more workshops)
- A summary of the themes will be made available on the EUROMARINE website soon.
- One social scientist from CNRS (Douglas Robinson) is doing further analysis on macroalgae innovation system to feed into a peer-reviewed publication and further workshops to deepen the discussions during the workshop
- Clear need for creating a vision for the European Macro Algae Research and Innovation System to coordinate alage production/harvesting with various value chains.

