

# CIRCALGAE

**CIRC**ular valorisation of industrial  
**ALGAE** waste streams into  
**high-value products** to foster future  
sustainable blue biorefineries in Europe



European Parliament Dialogue  
June 24<sup>th</sup> 2026



Turning marine  
side streams  
into resources



Driving a circular  
and climate-smart  
blue economy



Connecting science,  
industry and society



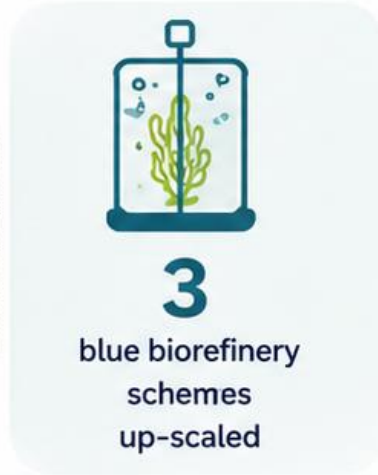
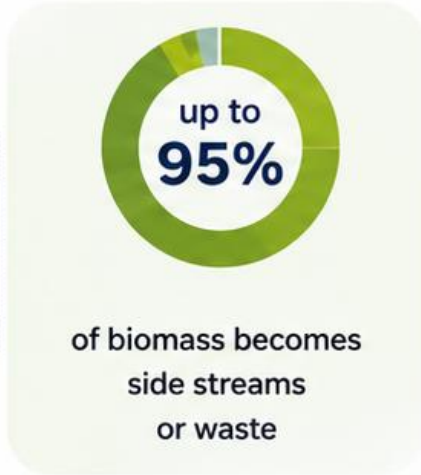
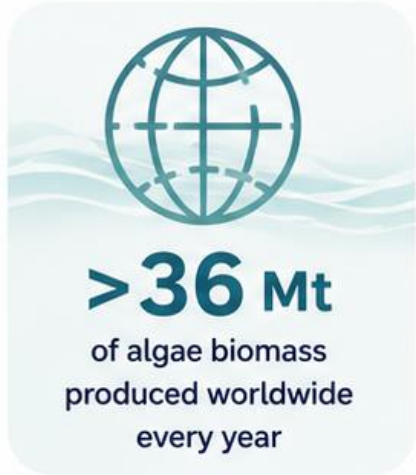
Creating value  
for a sustainable  
Europe



Co-funded by the  
European Union

# CIRCALGAE concept

Transforming industrial algae side streams into **high-value products** through circular blue biorefineries



**HUNDREDS OF KILOGRAMS OF ALGAE BIOMASS** processed and up-scaled within CIRCALGAE



**FOOD**

Safe, nutritious and innovative ingredients



**FEED**

Sustainable and high-value solutions for pigs



**COSMETIC**

Natural, effective and clean beauty ingredients



**MARKET READY**

Consumer acceptance and qualification



# CIRCALGAE Objectives

Through the exploitation of specific effluents and recalcitrant algae sources, CIRCALGAE will **impact the European blue economy of the future**.

By connecting the whole algae sector with food, feed and cosmetic industries through **co-creation and co-learning**, we address social, economic and environmental challenges.



Develop a new  
blue biorefinery  
concept



Define new  
business models  
for algal  
biorefinery



Validate health  
benefits and  
nutritional facts



Validate 3 new  
value chains  
for feed, food  
and cosmetic  
applications



Reduce CO<sub>2</sub>  
emissions and  
carbon footprint



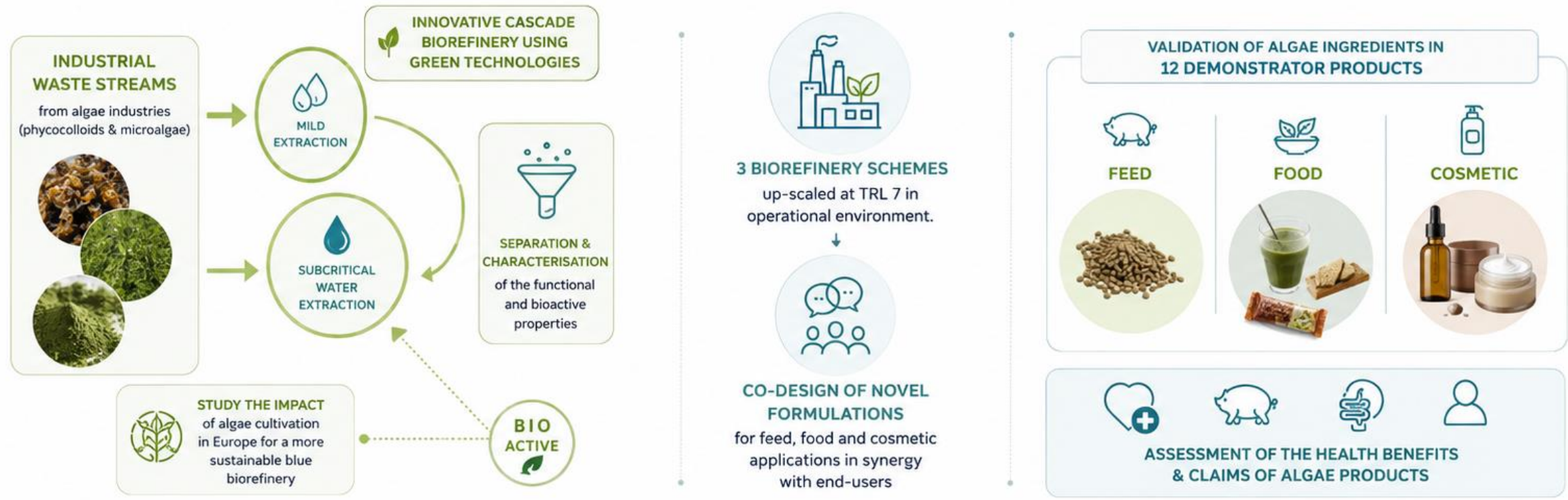
Engage stakeholders  
and increase the  
acceptance of  
algae-based  
products in the EU



**Connecting science, industry and society** to accelerate Europe's blue bioeconomy.

# OVERVIEW

## From waste biomass to end products



# A EUROPEAN ALLIANCE FOR THE BLUE BIOECONOMY

Bringing together **industry**, **research** and **innovation** across Europe



<h2>21</h2> <p>Partners with complementary competencies</p>	<h2>15</h2> <p>Industry Partners from which</p> <table border="0"> <tr> <td><b>8</b></td> <td><b>7</b></td> </tr> <tr> <td>SMEs</td> <td>Large Industries</td> </tr> </table>	<b>8</b>	<b>7</b>	SMEs	Large Industries	<h2>7</h2> <p>RTOs and Academics</p>
<b>8</b>	<b>7</b>					
SMEs	Large Industries					

<p>TOTAL PROJECT BUDGET</p> <h2>€10.3 Million</h2>	<p>€10.3M</p>
<p>EU CONTRIBUTION</p> <h2>€8.5 Million</h2>	<p>€8.5M</p>

### 21 PARTNERS



One of Europe's **largest collaborative initiatives** dedicated to transforming marine algae side streams into value.

# FROM MARINE WASTE TO FULL VALORISATION

Turning an environmental challenge into a strategic opportunity for Europe

## TODAY



### Waste disposal

Side streams and residues are largely discarded



### Landfill costs

High treatment and disposal costs for municipalities and industry



### Low-value biomass

Underutilized biomass with very limited applications



### Waste treatment burden

Pressure on wastewater treatment plants and infrastructure



### Imports

Dependence on imported ingredients and raw materials



# 70%

OF ALGAE BIOMASS  
IS CURRENTLY  
UNDERUTILIZED



Only in Europe around  
**1 MT**  
from imported,  
cultivated and harvested  
in wet state.



Alginate factory  
in France pays  
**500k€/year**  
for landfill their  
residual biomass.

## TOMORROW



### Resource recovery

Marine biomass fully valorised through circular biorefineries



### New revenue streams

Value creation and economic growth for industry and regions



### High-value ingredients

Food, feed, materials, chemicals, health & cosmetic solutions



### Circular biorefineries

Sustainable processes reducing environmental burden



### European production

Strengthened EU autonomy and competitiveness

What is today a cost and an environmental problem  
can become tomorrow a **strategic European resource.**

# ENVIRONMENTAL IMPACT

## WHY IT MATTERS FOR CLIMATE

• — MARINE VALORISATION = CO<sub>2</sub> REDUCTION — •

“ Marine biomass is not just a resource issue. It is a climate solution. ”



Valorisation replaces fossil-based materials and processes.



Less waste treatment, less landfill, more value.



Lower carbon footprint through circular use of marine biomass.



### SUPPORTS GREEN DEAL

Contributing to climate neutrality and a carbon-neutral Europe.



### SUPPORTS CIRCULAR ECONOMY ACTION PLAN

Turning waste into resources and keeping value in Europe.



### SUPPORTS BLUE BIOECONOMY STRATEGY

Sustainable growth through marine resource innovation.

# WHAT WE CAN REPLACE – AND WHAT IS HOLDING US BACK

Europe has the opportunity to turn dependence into leadership.

## CURRENT DEPENDENCE



### IMPORTED PROTEINS

Dependence on external sources for essential proteins



### SYNTHETIC INGREDIENTS

Reliance on petrochemical-based additives and compounds



### FOSSIL-BASED MATERIALS

High carbon footprint and finite resources



## EUROPEAN ALTERNATIVES



### ALGAE PROTEINS

High-quality, sustainable proteins for food, feed and beyond



### BIOACTIVE COMPOUNDS

Natural, functional ingredients with proven health benefits



### FUNCTIONAL FIBRES

Prebiotic fibres and polysaccharides for health and well-being

## WHAT IS NEEDED?



### CLEAR REGULATION

Harmonised EU rules, faster approvals, and clear standards for algae products.



### SCALE-UP FUNDING

Targeted investment and de-risking tools to support innovation and growth.



### INFRASTRUCTURE SUPPORT

Pilot facilities, cultivation capacity and processing infrastructure across Europe.



### CONSUMER AWARENESS

Education, transparent labelling and engagement to build trust and demand.

# FROM RESEARCH TO REALITY

MARINE BIOMASS. REAL PRODUCTS. REAL IMPACT.



## COSMETICS

Natural, effective and sustainable ingredients for the next generation of beauty.



## FOOD & FUNCTIONAL INGREDIENTS

Nutrient-rich, functional and versatile solutions for food, nutrition and well-being.

# WHY THIS MEETING MATTERS

## UNLOCKING EUROPE'S MARINE POTENTIAL: FROM WASTE TO STRATEGIC RESOURCE

In 2026, key EU policies – including Vision 2040 for Fisheries & Aquaculture and the Ocean Act – will shape the future of the algae industry.

**What do we need to further develop and implement our project findings?**

### WHAT WE NEED FROM EUROPE



#### 1. HARMONISED EU REGULATION

A simplified and harmonised regulatory framework at EU level and in Member States with clear, field-specific guidelines.



#### 2. FASTER APPROVALS

Faster and more streamlined authorisation processes for novel ingredients and feed additives.



#### 3. CLEAR FOOD & FEED STANDARDS

Alignment of feed and food safety regulations with clear thresholds for contaminants based on portion size and toxicity, and a clear definition of novel ingredients and additives.



#### 4. SCALE-UP SUPPORT

Dedicated funding and de-risking instruments to scale-up projects and bring innovation to the market.



#### 5. LONG-TERM POLITICAL COMMITMENT

Sustained political ambition through a clearer and supportive regulatory framework.



### WHAT EUROPE GAINS



#### FOOD SECURITY

Safer, nutritious and sustainable food and feed for Europe.



#### NEW JOBS & VALUE CHAINS

High-quality jobs, local growth and resilient marine value chains.



#### CLIMATE BENEFITS

Lower emissions, carbon capture and a more circular economy.



#### STRONGER INDUSTRIAL COMPETITIVENESS

Innovation-driven industries that position Europe as a global leader in the blue bioeconomy.



“ **EUROPE HAS THE INNOVATION.**  
**NOW WE NEED THE FRAMEWORK TO DELIVER IMPACT.** ”

— THIS TRANSITION REQUIRES POLICY ENGAGEMENT. —

# THANK YOU

## TURNING MARINE WASTE INTO EUROPEAN VALUE

CIRCALGAE demonstrates that Europe's **marine side streams** can become a strategic resource for **food security, industrial competitiveness** and **climate neutrality**.



### FOOD SECURITY

Resilient, sustainable and nutritious solutions for Europe.



### INDUSTRIAL COMPETITIVENESS

High-value bio-based ingredients for a stronger, innovative Europe.



### CLIMATE NEUTRALITY

Lower emissions, circular solutions and a healthy ocean for future generations.



### CONTACT

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[www.circalgae.eu](http://www.circalgae.eu)

