



European Biomass Industry Association

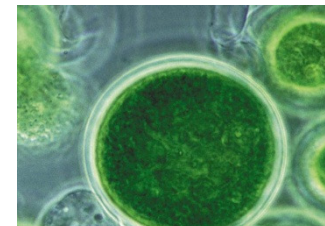
ALGADISK
CO₂ capture and biomass production

EnAlgae
collaborate innovate communicate



The Algae Event

New algae cultivation technologies for the development of an attractive bio-based market
5 June 2013 • Bella Center - Copenhagen, Denmark



The Algae Event, 5 June 2013, Copenhagen, Denmark



INTERREG IVB North West Europe (NWE)

A financial instrument of the European Union's Cohesion Policy

INTERREG IVB co-finances projects that maximize the diversity of NWE's territorial assets by tackling common challenges through transnational cooperation. To this end, the Programme seeks organisations that are resolute in their ambition to contribute to a cohesive and sustainable territorial development of North West Europe.



- **Capitalising on innovation**
- **Managing natural resources and risks**
- **Improving connectivity**
- **Strengthening communities**

INTERREG IVB



INTERREG IVB North West Europe (NWE)

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INTERREG IVB

Capitalising on Innovation for territorial development

1. transnational partnerships enhancing the region's capacity to innovate
2. involving highly skilled workforce and world class universities
3. strengthening the economic competitiveness of NWE
4. cross-sectoral synergies for growth and jobs
5. creation, demonstration and application of knowledge



INTERREG IVB North West Europe (NWE)

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INTERREG IVB

Managing natural resources and risks

1. more efficient and sustainable use of existing capacity
2. small-scale infrastructures and transnational coordination of transport
3. to achieve intermodal shift, to relieve bottlenecks
4. enhancing the quality and performance of political infrastructure and services



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INTERREG IVB

Improving connectivity to overcome regional imbalances

1. sustainable management of natural resources and risks
2. minimize and prevent the pollution of land, water and air
3. transfer applicable knowledge and develop innovative responses
4. addressing obstacles in legislative systems, integrating institutional and governmental structures



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INTERREG IVB

Strengthening communities

1. more efficient and sustainable use of existing capacity
2. provision of new small-scale infrastructure
3. transnational coordination of transport and ICT-related solutions
4. enhancing the quality and performance of the institutional framework and services



EnAlgae Project

Energetic Algae in North West Europe

Start date: 01-11-2009

End date: 30-06-2015

Website: www.enalgae.eu

ERDF Grant: 7,382,018.02



IVB NWE Strategic Initiative fields of action:

- Addressing challenges / barriers related to specific sustainable energy technologies
- Bringing forward innovative approaches to sustainable energy promotion and management.



EnAlgae Project

Energetic Algae in North West Europe

Project partners

1. Swansea University (SU) [UK]
2. Hochschule für Technik und Wirtschaft des Saarlandes [DE]
3. National Non-Food Crop Centre (NNFCC) [UK]
4. Birmingham City University [UK]
5. Fachagentur Nachwachsende Rohstoffe (FNR) [DE]
6. European Biomass Industry Association [BE]
7. Universiteit Gent [BE]
8. InCrops Enterprise Hub (InCrops) [UK]
9. Karlsruhe Institute of Technology (KIT) [DE]
10. Laborelec Group GDF SUEZ (Laborelec) [BE]
11. National University of Ireland, Galway (NUIG) [IE]
12. Plymouth Marine Laboratory (PML) [UK]
13. Queen's University Belfast (QUB) [UK]
14. The Scottish Association for Marine Science (SAMS) [UK]
15. National University of Ireland Dublin,
University College Dublin (NUID UCD) [IE]
16. Hogeschool West-Vlaanderen (HOWEST) [BE]
17. de stichting Stichting Dienst Landbouwkundig Onderzoek (DLO) in het bijzonder het onderzoeksinstituut
Praktijkonderzoek Plant & Omgeving / Plant Research International (PPO/PRI) [NL]
18. Centre d'Etude et de Valorisation des Algues (CEVA) [FR]





EnAlgae Project

Energetic Algae in North West Europe



Objectives:

Energetic Algae aims to **reduce CO₂ emissions** and dependency on unsustainable energy sources in NWE by accelerating the development of **sustainable technologies for algal biomass production, bioenergy** and greenhouse gas (GHG) mitigation from pilot phase to application and marketable products, processes and services.



EnAlgae Project

Energetic Algae in North West Europe



Why?

It is timely to develop sustainable algal biotechnologies as part of an integrated NWE strategy for bioenergy production and GHG mitigation. Algal biotechnologies do not compete for food crop resources, can mitigate GHG's and are adaptable to diverse environments.

How?

An integrated network of pilot scale algal facilities serves to develop and exchange best practices for algal biomass and bioenergy, tailored to prevailing operating conditions in NWE. Inputs from policy makers, regulators, operators, related EC Framework projects, European biomass associations, NGOs and the public will develop a sectoral technology roadmap. An ICT decision support tool is implemented to guide sustainable expansion of the algal bioenergy sector in NWE.

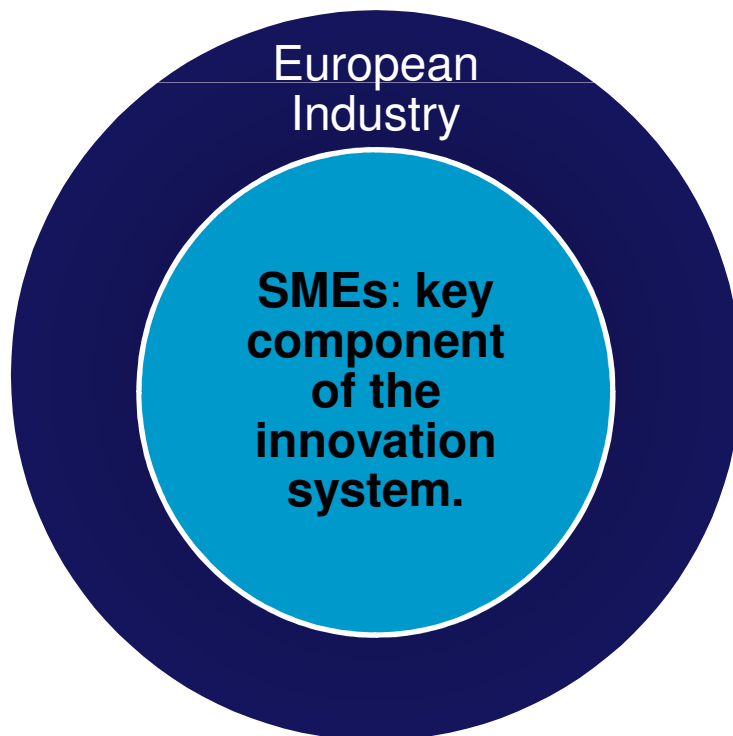


FP7 - SME

European Union's chief instrument for the public funding of research



SMEs allow the transformation of knowledge into new products, processes and services.



The FP7 SME programme allows to:

- strengthen the innovation capacity of European SMEs and their contribution to the development of new technology-based products and markets
- bridge the gap between research and innovation by helping SMEs outsource research, increase their research efforts, extend their networks, better exploit research results and acquire technological know-how



FP7 - SME

European Union's chief instrument for the public funding of research



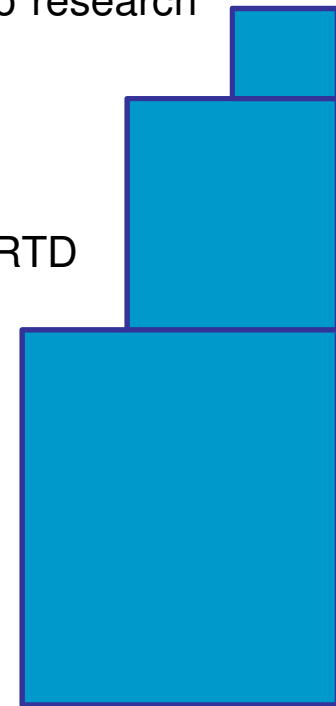
Implementation in 3 steps:

1. Supporting SMEs outsourcing research activities to research services providers.

2. Developing and coordinating support to SMEs at national level:

- direct financial support to transnational research projects
- national and regional programmes assisting SMEs in international RTD cooperation.

3. Support measures: measures to reinforce impact of SMEs participation in SME-specific research projects and to closely monitor and assess their participation to the FP6 and FP7. Organization involved: research programmes and SMEs, such as NCPs, Innovation relay centres (IRCs), funding agencies, industrial federations, networks and associations of research performers, professional associations, chambers of commerce working with/for the innovation players etc.





ALGADISK

CO₂ capture and biomass production

Objective: The aim of the ALGADISK project is to develop a modular, scalable, and automatic biofilm reactor for algae biomass production, with low operational and installation costs.

How? The reactor will be designed to capture CO₂ from industrial emissions to produce high value organic products. In this system, algae will be grown both in an aqueous environment and on biocompatible surfaces, allowing for CO₂ absorption from either the gas or liquid phase.

Advantages: This method will dramatically increase the efficiency of the reactor and decrease water requirements. Automatic and continuous harvesting of algae will be designed to optimize CO₂ uptake and biomass production.



Date of start 01-01-2012

Date of end: 01-01-2015

Website: www.algadisk.eu

Financing:

The proposed system will be specifically crafted to meet the needs of European SMEs who are willing to produce algae biomass products from industrial emissions.

The project is supported by the Seventh Framework Program (FP7) under the Research of the Benefit of SME Associations scheme. 12 participants (3 associations, 4 small and medium enterprises and 4 research institutions) will work on the realization of the project for 36 months.



Project partners:

1. **CESFAC** - CONFEDERACION ESPANOLA DE FABRICANTES DE ALIMENTOS COMPUESTOS PARA ANIMALES (Spain)
2. **EUBIA** - EUROPEAN BIOMASS INDUSTRY ASSOCIATION Belgium
3. **MFKK** - MFKK INVENTION AND RESEARCH CENTER SERVICES CO. LTD. (Hungary)
4. **FC** - FUNDACION CESFAC (Spain)
5. **OTEC** - OLAJGEP-TEC IPARI KARBANTARTO, SZERELO ES KIVITELEZO KFT (Hungary)
6. **BFC** - BIOGAS FUEL CELL, SA (Spain)
7. **AlgEn** - AlgEn, CENTER ZA ALGNE TEHNOLOGIJE, d.o.o. (Slovenia)
8. **UTECH** - UMWELT-TECHNIK CSOTISZTITO EPITO ES SZOLGALTATO KFT (Hungary)
9. **CAG** - CAGLAR DOGAL URUNLER YENILENEBILIR ENERJI GUBRE GIDA VE TARIM ITHALAT IHRACAT SANAYI TICARET LIMITED SIRKETI (Turkey)
10. **CRAN** - CRANFIELD UNIVERSITY (United Kingdom)
11. **WU** - WAGENINGEN UNIVERSITEIT (Netherlands)
12. **BAYBIO** - BAY ZOLTAN ALKALMAZOTT KUTATASI KOZALAPITVANY (Hungary)



The Algae Event

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“We welcome delegates to our “Algae Day” Session at the 21st European Biomass Conference and Exhibition in Copenhagen, and hope that you find the session both interesting and stimulating. Algae have been promoted as a suitable feedstock for biofuel production on account of their high oil and sugar content, high growth rate, suitability for marginal land and low demands on freshwater and land compared to food crops. Yet significant challenges remain to turn this potential into a commercial reality; not least if we are to reduce the unit cost price for production, which currently far exceeds fossil fuel prices. We look forward to meeting you and thank you in advance for your active and thought-provoking contributions to the discussion”.

Shaun Richardson, EnAlgae project coordinator - Jorge de Saja, ALGADISK project coordinator



AGENDA:

- **14.00 – 14.20** *Welcome and short presentation including overview on EC support programmes (FP7, INTERREG) – Andrea Salimbeni, EUBIA*
- **14.30-15.00** *EnAlgae: Energetic micro and macro algae in North West Europe – Michele Stanley, Scottish Association for Marine Science (SAMS)*
- **15.00-15.30** *ALGADISK: New Photobioreactor with rotating disks to increase micro-algae production – Jorge de Saja, ALGADISK project coordinator*
- Coffee Break: 15.30-15.50**
- **15.50-16.30** *The key challenges to making biorefineries viable – Dr Robert Lovitt, Swansea University*
- **16.30-17.10** *Selection criteria of the algae applied in ALGADISK project and the results of the algae sampling from the hot springs of EU – Ms. Tasneem Bhajji, Cranfield University; Ms. Petra Sebestyen, Bay Zoltán Nonprofit Ltd*
- **DISCUSSION:** *Future perspectives and global market forecast*



European Biomass Industry Association

Thank you and welcome to the Algae Event

Andrea Salimbeni.

European Biomass Industry Association

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The Algae Event, 5 June 2013, Copenhagen, Denmark