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Novel technology to boost the European Bioeconomy: reducing the production costs of PHA biopolymer and expanding its applications as 100% compostable food packaging bioplastic

Fact Sheet

Project Information

EUROPHA

Grant agreement ID: 604770

Project closed

Start date

1 October 2013

End date

30 September 2016

Funded under

Specific Programme "Capacities": Research for the benefit of SMEs

Total cost

€ 2 093 640,80

EU contribution

€ 1 572 902,10

Coordinated by

FEDERACION DE
COOPERATIVAS AGRARIAS DE
MURCIA S COOP



Spain

This project is featured in...



Bioplastics: Sustainable materials for building a strong and circular European bioeconomy

Objective

Bioplastics like PHA are long-term sustainable alternatives because they can show equal performance to conventional petrochemical plastics, originate from renewable non-food resources and are 100% bio-degradable. Although PHA shows better performance than alternative bioplastics (PLA and starch), the market uptake of PHA bioplastics shows the following obstacles: 1) PHA is expensive (>4.5 €/kg), much higher than starch plastics and other bio-based polyesters. This is caused by three facts in the production process: High raw material costs; expensive PHA extraction to ensure high quality; small production volumes. The second obstacle is the 2) Small market share of European PHA (dominated by China and US) that limits the potential of a European Bioeconomy. EuroPHA will solve the need to establish a competitive PHA production capacity in Europe by: a) Reduction of PHA production costs: using low-value feedstock (agro-food waste/surplus streams) as starting material in three-phase biological synthesis of PHA by mixed microbial culture; b) Environmentally friendly & cost-effective PHA extraction step; c) Novel formulations of PHA for 100% complete and short-time biodegradability packaging bioplastics by current industrial technology: monolayer film and extrusion foam for food packaging. EuroPHA will provide these economic benefits for Europe by our project members: 40% reduction of final price (≈ 2.6 €/kg), this will enable the increase of European PHA global market share from current 0.1% to 15% in five years post project (45 ktpa worth 135€ million) for food packaging applications. Price-competitiveness vs. starch-based (today 3.75 €/k) and PLA (2.5€/kg) making possible to penetrate a 20% in the starch-plastic market (22 ktpa with revenues of 90€ million) and 15% in the PLA market (23 ktpa worth 50€ million) in five years post project. Turnover of 50€ million from 20ktpa production in five years post project for new applications.

Fields of science (EuroSciVoc)

[engineering and technology](#) > [industrial biotechnology](#) > [biomaterials](#) > [bioplastics](#) > [polylactic acid](#)

[social sciences](#) > [economics and business](#) > [economics](#) > **[bioeconomy](#)**

[engineering and technology](#) > [other engineering and technologies](#) > [food technology](#) > **[food packaging](#)**

[engineering and technology](#) > [industrial biotechnology](#) > [biomaterials](#) > [bioplastics](#) > **[polyhydroxyalkanoates](#)**



Programme(s)

[FP7-SME - Specific Programme "Capacities": Research for the benefit of SMEs](#)

Topic(s)

[SME-2013-2 - Research for SME Associations](#)

Call for proposal

FP7-SME-2013

[See other projects for this call](#)

Funding Scheme

[BSG-SME-AG - Research for SME associations/groupings](#)

Coordinator



FEDERACION DE COOPERATIVAS AGRARIASDE MURCIA S COOP

EU contribution

€ 360 238,50

Total cost

No data

Address

CALLE CABALLERO 13

30002 Murcia



Region

Activity type

Other

Links

[Contact the organisation](#) [Website](#)

[Participation in EU R&I programmes](#)

[HORIZON collaboration network](#)

Participants (8)



SVENSK PLASTINDUSTRIFORENING

 Sweden

EU contribution

€ 292 309,00

Address

PO BOX 22307
104 22 STOCKHOLM 

Activity type

Other

Links

[Contact the organisation](#) [Website](#)

[Participation in EU R&I programmes](#)

[HORIZON collaboration network](#)

Total cost

No data



POLYMERIS

 France

EU contribution

€ 143 230,50

Address

180 RUE PIERRE ET MARIE CURIE MAISON DES ENTREPRISES
01100 BELLIGNAT 

Region

Activity type

Other

Links

[Contact the organisation](#) [Website](#)

[Participation in EU R&I programmes](#)

[HORIZON collaboration network](#)

Total cost

No data



THE BRITISH PLASTICS FEDERATION LBG

United Kingdom

EU contribution

€ 296 220,00

Address

BATH PLACE 6 RIVINGTON STREET
EC2A 3JE LONDON

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

[Contact the organisation](#) [Website](#)

[Participation in EU R&I programmes](#)

[HORIZON collaboration network](#)

Total cost

No data



IDRODEPURAZIONE

Italy

EU contribution

€ 212 040,55

Address

VIA COMINA 39
20038 SEREGNO

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

- Contact the organisation
- Participation in EU R&I programmes
- HORIZON collaboration network

Total cost

No data



NUEVAS TECNOLOGIAS PARA EL DESARROLLO DE PACKAGING Y PRODUCTOS AGROALIMENTARIOS CON COMPONENTE PLASTICA SL

Spain

EU contribution

€ 245 943,55

Address

POLIGONO INDUSTRIAL EMPRESARIUM C/ ROMERO 12
50720 Zaragoza



Region

Noreste > Aragón > Zaragoza

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

- Contact the organisation
- Participation in EU R&I programmes
- HORIZON collaboration network

Total cost

No data



INSTITUTO DE BIOLOGIA EXPERIMENTAL E TECNOLOGICA

Portugal

EU contribution

€ 6 392,00

Address

AVENIDA DA REPUBLICA QUINTA DO MARQUES
2781-901 Oeiras



Activity type

Research Organisations

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

No data



EIDGENOSSISCHE MATERIALPRUFUNGS- UND FORSCHUNGSANSTALT

 Switzerland

EU contribution

€ 6 275,00

Address

UEBERLANDSTRASSE 129

8600 Dubendorf 

Region

Schweiz/Suisse/Svizzera > Zürich > Zürich

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

No data



INSPIRALIA SOCIEDAD LIMITADA

 Spain

EU contribution

€ 10 253,00

Address

CALLE MANUEL TOVAR 49

28034 Madrid 

Region

Comunidad de Madrid > Comunidad de Madrid > Madrid

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

No data

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Permalink: <https://cordis.europa.eu/project/id/604770>

European Union, 2025

