

HORIZON
2020

Biofuels through Electrochemical transformation of intermediate BIO-liquids

Fact Sheet

Project Information

EBIO

Grant agreement ID: 101006612

[Project website](#) 

DOI

[10.3030/101006612](https://doi.org/10.3030/101006612) 

Project closed

EC signature date

16 November 2020

Start date

1 December 2020

End date

30 November 2024

Funded under

SOCIETAL CHALLENGES - Secure, clean and efficient energy

Total cost

€ 3 988 603,75

EU contribution

€ 3 988 603,75

Coordinated by

SINTEF AS



Norway

Project description

Novel electrochemical processes for upgrading of industrial bio liquids

The EU-funded EBIO project develops electrochemical technologies for upgrading Kraft lignin and fast pyrolysis liquids. These crude bio liquids are industrial representatives for a wide spectrum of feedstock qualities. A two-step approach pairing oxidation and reduction will be applied to depolymerise polymers and convert instable oxygenates into energy dense intermediates. Screening tests will be the

basis for process design, cell and electrode optimisation at bench scale. Product validation will be performed by co-processing with refinery feeds to transport fuels. EBIO's vision covers the entire value chain, from feedstock suppliers to chemicals and refinery end-users. The process potential will be validated with respect to integration into (bio)refineries, market potential, climate footprint, energy storage capacity and social impact in rural areas.

Fields of science (EuroSciVoc)

[engineering and technology](#) > [environmental engineering](#) > **[energy and fuels](#)**

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

[agricultural sciences](#) > [agricultural biotechnology](#) > **[biomass](#)**



Keywords

[Electrochemistry](#)

[bioliquids](#)

[biofuels](#)

[electrochemical upgrading](#)

[Kolbe electrolysis](#)

[lignocellulosic biomass](#)

[compact](#)

[integration](#)

[cost-effective](#)

[renewable energy](#)

[pyrolysis oil](#)

[black liquor](#)

Programme(s)

[H2020-EU.3.3. - SOCIETAL CHALLENGES - Secure, clean and efficient energy](#)

MAIN PROGRAMME

[H2020-EU.3.3.2. - Low-cost, low-carbon energy supply](#)

Topic(s)

[LC-SC3-RES-1-2019-2020 - Developing the next generation of renewable energy technologies](#)

Call for proposal

[H2020-LC-SC3-2018-2019-2020](#) 

[See other projects for this call](#)

Sub call

H2020-LC-SC3-2020-RES-RIA

Funding Scheme

[RIA - Research and Innovation action](#)

Coordinator



SINTEF AS

Net EU contribution

€ 736 068,75

Total cost

€ 736 068,75

Address

STRINDVEGEN 4

7034 Trondheim

 **Norway** 

Activity type

Research Organisations

Links

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

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

[HORIZON collaboration network](#) 

Participants (8)



B.T.G. BIOMASS TECHNOLOGY GROUP BV

 Netherlands

Net EU contribution

€ 651 093,75

Address

JOSINK ESWEG 34

7545 PN Enschede 

SME 
Yes

Region
Oost-Nederland > Overijssel > Twente

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
€ 651 093,75



JOHANNES GUTENBERG-UNIVERSITAT MAINZ

 Germany

Net EU contribution
€ 617 291,25

Address
SAARSTRASSE 21
55122 Mainz 

Region
Rheinland-Pfalz > Rheinhessen-Pfalz > Mainz, Kreisfreie Stadt

Activity type
Higher or Secondary Education Establishments

Links
[Contact the organisation](#)  [Website](#) 
[Participation in EU R&I programmes](#) 
[HORIZON collaboration network](#) 

Total cost
€ 617 291,25



UNIVERSITEIT TWENTE

 Netherlands

Net EU contribution

€ 572 490,00

Address

DRIENERLOLAAN 5

7522 NB Enschede 

Region

Oost-Nederland > Overijssel > Twente

Activity type

Higher or Secondary Education Establishments

Links

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

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

[HORIZON collaboration network](#) 

Total cost

€ 572 490,00



CONDIAS GMBH

 Germany

Net EU contribution

€ 500 000,00

Address

FRAUNHOFER STRASE 1B

25524 Itzehoe 

Region

Schleswig-Holstein > Schleswig-Holstein > Steinburg

Activity type

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

Links

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

[HORIZON collaboration network](#) 

Total cost

€ 500 000,00



Turkiye Petrol Rafinerileri Anonim Sirketi

 Türkiye

Net EU contribution

€ 323 330,00

Address

GULBAHAR MAH BUYUKDERE CAD 101A
34394 ISTANBUL 

Region

İstanbul > İstanbul > İstanbul

Activity type

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

Links

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

[HORIZON collaboration network](#) 

Total cost

€ 323 330,00



AFRY MANAGEMENT CONSULTING AB

 Sweden

Net EU contribution

€ 160 312,50

Address

DROTTNINGGATAN 18
803 20 Stockholm 

Region

Norra Sverige > Norra Mellansverige > Gävleborgs län

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

€ 160 312,50



ETA - ENERGIA, TRASPORTI, AGRICOLTURA SRL

 Italy

Net EU contribution

€ 191 500,00

Address

VIA ANTONIO GIACOMINI 28 STRADARIO M2192

50132 Firenze 

SME 

Yes

Region

Centro (IT) > Toscana > Firenze

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

€ 191 500,00



AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS

 Spain

Net EU contribution

€ 236 517,50

Address

CALLE SERRANO 117

28006 Madrid 

Region

Comunidad de Madrid > Comunidad de Madrid > Madrid

Activity type

Research Organisations

Links

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

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

Total cost

€ 236 517,50

Last update: 30 April 2025

Permalink: <https://cordis.europa.eu/project/id/101006612>

European Union, 2025