Next Generation Bio-butanol

Fact Sheet

Project Information

ButaNexT
Grant agreement ID: 640462

Project website

Funded under
H2020-EU.3.3.3.1.
H2020-EU.3.3.3.3.

Overall budget
€ 4 599 414

EU contribution
€ 4 599 414

Coordinated by
Green Biologics Ltd.
United Kingdom

Start date
1 May 2015

End date
30 April 2018

Objective

Biobutanol is an attractive commodity chemical and advanced biofuel with superior properties but the 1st gen process suffers from technical and economical constraints. ButaNexT project aims to overcome some of those technical barriers through a novel combination of innovations. Individual stages of the process supply chain will be developed, validated and optimized at lab-scale and then integrated and demonstrated at pilot scale. A holistic approach is proposed to produce cost-competitive biobutanol from 3 types of lignocellulosic biomass and waste in a sustainable way being flexible to accommodate regionally specific feedstocks. Project exploitable outputs include:
(1) novel low CAPEX two-step pretreatment process that releases hemicellulose and cellulose from recalcitrant feedstocks for further enzymatic and/or fermentation processing,
(2) new tailored enzyme cocktail yielding highly fermentable sugars at low enzyme dosages and lower cost,
(3) superior clostridial strains with enhanced production characteristics i.e. butanol and inhibitor tolerance,
(4) high productivity fermentation process including a novel in-situ product recovery step.

Technology advances allow sustainable feedstock diversification, improve conversion yields and efficiency, reduce energy requirements, and water usage. We expect significant reductions in cost (target $800/T which equates to 50% of current 1st gen solvent production in China) as well as enhanced energy balances and reduced GHG emissions vs 1st gen biofuel production (target a 85% reduction).

The project output (a technically and economically-validated process) will provide the EU with a tremendous opportunity to build an advanced biofuel business from sustainable feedstocks. This is strategically important to contribute to the European 10% target for renewable transportation fuels for 2020.

The proposed project fits into the topic "Developing next generation technologies for biofuels and sustainable alternative fuels" (LCE-11-2014)

Field of science

/socia sciences/economics and business/economics/sustainable economy
/engineering and technology/environmental engineering/energy and fuels/biofuels
/engineering and technology/industrial biotechnology/bioprocessing technologies/fermentation
/natural sciences/biological sciences/biochemistry/biomolecules/proteins/enzymes
/engineering and technology/environmental engineering/energy and fuels

Programme(s)

Topic(s)

Call for proposal

H2020-LCE-2014-1

Funding Scheme

RIA - Research and Innovation action

Coordinator

Green Biologics Ltd.

Address
45A Western Avenue, Milton

Activity type
Private for-profit entities

EU contribution
€ 731 000
## Participants (9)

<table>
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<tr>
<th>Company</th>
<th>EU Contribution</th>
<th>Address</th>
<th>Activity Type</th>
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<tbody>
<tr>
<td>TECNICAS REUNIDAS SA</td>
<td>€ 920 687,50</td>
<td>Calle Arapiles 14, 28015 Madrid</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
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<tr>
<td>FUNDACION CENER</td>
<td>€ 681 011,50</td>
<td>Avenida Ciudad De La Innovacion 7, 31621 Sarriguren</td>
<td>Research Organisations</td>
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<tr>
<td>DYADIC NEDERLAND BV</td>
<td>€ 137 747,74</td>
<td>Nieuwe Kanaal 7 S, 6709 PA Wageningen</td>
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<tr>
<td>C-TECH INNOVATION LIMITED</td>
<td>United Kingdom</td>
<td>€ 132 500</td>
<td>Capenhurst Technology Park CH1 6EH Chester</td>
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<tr>
<td>UNIVERSIDAD DE CASTILLA - LA MANCHA</td>
<td>Spain</td>
<td>€ 493 375</td>
<td>Calle Altagracia 50 13071 Ciudad Real</td>
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<tr>
<td>VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK N.V.</td>
<td>Belgium</td>
<td>€ 619 935</td>
<td>Boeretang 200 2400 Mol</td>
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<td>E4TECH (UK) LTD</td>
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<td>€ 210 405</td>
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</table>
ZABALA INNOVATION CONSULTING, S.A.

Spain

EU contribution

€ 309 875

Address

Paseo Santxiki 3 Bis
31192 Mutilva Alta Navarra

Activity type

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

Website

Contact the organisation

METGEN OY

Finland

EU contribution

€ 362 877,26

Address

Rakentajantie 26
20780 Kaarina

Activity type

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

Contact the organisation

Last update: 4 August 2017
Record number: 193725

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