Systemic approach to Reduce Energy demand and CO2 emissions of processes that transform agroforestry waste into High Added value Products.

Fact Sheet

Project information

REHAP

Grant agreement ID: 723670

Project website

Status
Ongoing project

Start date 1 October 2016

End date 30 September 2020

Funded under:
H2020-EU.2.1.5.3.

Overall budget:
€ 8 157 789,30

EU contribution
€ 6 743 545

Coordinated by:
FUNDACION TECNALIA RESEARCH & INNOVATION
Spain

Objective

Europe’s position in the production of biochemicals from biomass and by-products is limited to a few compounds, while their demand is among the largest in the world. However, Europe has a lot of world leader chemical companies. On the other hand, lignocellulosic waste constitutes one of the most abundant resources without competing with food chain.

REHAP’s 16 partners aim at revalorizing agricultural (wheat straw) and forestry (bark) waste through its recovery, and primary (sugars, lignin, tannins) and secondary (sugar acids, carboxylic acids, aromatics and resins) processing to turn them into novel materials, and considering Green Building as business case. The project will provide reductions in utilization of fossil resources of 80-100%, and energy utilization and CO2 emissions above 30%.

Specifically, building blocks (1,4 and 2,3-Butanediol, esterpolyols), materials (PUs, phenolic resins, modified hydrolysis lignin) and products (wooden boards, insulation foams, cement, adhesive) will be obtained:

- Isolation of tannins and carbohydrates from forestry waste to turn them into bio-phenolic resins for wooden panels and isocyanate-free polyurethanes (PU) for insulating foams, respectively.
- Isolation of lignin and carbohydrates from agricultural waste to turn them into bio-phenolic resins for wooden panels and biosuperplasticizers for cement, and esterpolyol PU for adhesives, respectively.
Fire retardant lignin and sugar-based additives will be also developed. Developed processing technologies (chemo/thermo/enzymatic and fermentation) will be optimized at pilot scale (TRL6-7) for further exploitation and replication of results. All products will be integrated in a prototype to demonstrate industrial applicability into the Green Construction sector. Throughout the project, Life Cycle and Cost Assessment, market analysis, business plan, waste management strategy and measures for future standardization will be implemented using a systemic perspective approach.

**Programme(s)**

H2020-EU.2.1.5.3. - Sustainable, resource-efficient and low-carbon technologies in energy-intensive process industries

**Topic(s)**

SPIRE-03-2016 - Industrial technologies for the valorisation of European bio-resources into high added value process streams

**Call for proposal**

H2020-SPIRE-2016

[See other projects for this call](#)

**Funding Scheme**

IA - Innovation action

**Coordinator**

FUNDACION TECNALIA RESEARCH & INNOVATION

Address

Parque Cientifico Y Tecnologico De Bizkaia, Astondo Bidea, Edificio 700 48160 Derio Bizkaia

Spain

Website

[Contact the organisation](#)

**Participants** (15)
<table>
<thead>
<tr>
<th>Organization</th>
<th>Country</th>
<th>EU Contribution</th>
<th>Address</th>
<th>Activity type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teknologian tutkimuskeskus VTT Oy</td>
<td>Finland</td>
<td>€ 695 500</td>
<td>Vuorimiehentie 3 02150 Espoo</td>
<td>Research Organisations</td>
</tr>
<tr>
<td>UNIVERSITAET AUGSBURG</td>
<td>Germany</td>
<td>€ 258 133,75</td>
<td>Universitaetsstrasse 2 86159 Augsburg</td>
<td>Higher or Secondary Education Establishments</td>
</tr>
<tr>
<td>FINANCIERA MADERERA SA</td>
<td>Spain</td>
<td></td>
<td>Calle Formaris S/N 15890 Santiago De Compostela</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
</tr>
<tr>
<td>RINA CONSULTING SPA</td>
<td>Italy</td>
<td>€ 444 850</td>
<td>Via Cecchi 6 16129 Genova</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
</tr>
<tr>
<td>Organisation Name</td>
<td>Country</td>
<td>EU Contribution</td>
<td>Address</td>
<td>Activity type</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
<td>-------------</td>
<td>-----------------</td>
<td>----------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>COLLANTI CONCORDE SRL</td>
<td>Italy</td>
<td>€ 303 187,50</td>
<td>Via Giovanni Schiaparelli 12</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
</tr>
<tr>
<td>FORESA INDUSTRIAS QUIMICAS DEL NOROESTE SA</td>
<td>Spain</td>
<td>€ 609 875</td>
<td>Avenida Dona Urraca 91</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
</tr>
<tr>
<td>RAMPF ECO SOLUTIONS GMBH &amp; CO. KG</td>
<td>Germany</td>
<td>€ 325 237,50</td>
<td>Elsasser Strasse 7</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
</tr>
<tr>
<td>INSIGHT PUBLISHERS LIMITED</td>
<td>United Kingdom</td>
<td>€ 338 209,37</td>
<td>King Square 12-13</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
</tr>
<tr>
<td>Organisation</td>
<td>Country</td>
<td>EU Contribution</td>
<td>Address</td>
<td>Activity type</td>
</tr>
<tr>
<td>--------------</td>
<td>---------</td>
<td>----------------</td>
<td>---------</td>
<td>---------------</td>
</tr>
<tr>
<td>LA FARGE CENTRE DE RECHERCHE SAS</td>
<td>France</td>
<td>€ 316 925</td>
<td>Rue Du Montmurier 95, 38070 Saint Quentin Fallavier</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
</tr>
<tr>
<td>BIO BASE EUROPE PILOT PLANT VZW</td>
<td>Belgium</td>
<td>€ 977 112,85</td>
<td>Rodenhuizekaai 1, 9042 Desteldonk Gent</td>
<td>Other</td>
</tr>
<tr>
<td>NOVAMONT SPA</td>
<td>Italy</td>
<td>€ 354 812,50</td>
<td>Via Fauser 8, 28100 Novara</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
</tr>
<tr>
<td>CROMOGENIA UNITS SA</td>
<td>Spain</td>
<td>€ 291 536,88</td>
<td>Poligono Industrial Zona Franca Sector E Calle 14-16, 08040 Barcelona</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
</tr>
<tr>
<td>Organisation Name</td>
<td>Country</td>
<td>EU Contribution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>---------------</td>
<td>-----------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INGEG S.R.L</td>
<td>Italy</td>
<td>€ 196 715,90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIOSYNCAUCHO SOCIEDAD LIMITADA</td>
<td>Spain</td>
<td>€ 118 553,75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUNDACION CARTIF</td>
<td>Spain</td>
<td>€ 132 750</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Address**

- INGEG S.R.L: Strada Ribrocca 11, 15057 Tortona
- BIOSYNCAUCHO SOCIEDAD LIMITADA: C/Astondo Bidea, 612, 48160 Derio
- FUNDACION CARTIF: Pq Tecnologico Boecillo 205, 47151 Boecillo

**Activity type**

- INGEG S.R.L: Private for-profit entities (excluding Higher or Secondary Education Establishments)
- BIOSYNCAUCHO SOCIEDAD LIMITADA: Private for-profit entities (excluding Higher or Secondary Education Establishments)
- FUNDACION CARTIF: Research Organisations

**Website**

- INGEG S.R.L
- BIOSYNCAUCHO SOCIEDAD LIMITADA
- FUNDACION CARTIF

**Contact the organisation**

- INGEG S.R.L
- BIOSYNCAUCHO SOCIEDAD LIMITADA
- FUNDACION CARTIF

**Permalink:** https://cordis.europa.eu/project/id/723670/en

© European Union, 2019