Heat-To-Fuel

Biorefinery combining HTL and FT to convert wet and solid organic, industrial wastes into 2nd generation biofuels with highest efficiency

Funding: European (Horizon 2020)
Duration: Sep 2017 - Aug 2021
Status: Ongoing
Total project cost: €5,896,988
EU contribution: €5,896,988

Call for proposal: H2020-LCE-2017-RES-CCS-RIA
CORDIS RCN: 211646

Objectives:
Heat-to-Fuel will deliver the next generation of biofuel production technologies towards the decarbonisation of the transportation sector. Heat-to-fuel will achieve competitive prices for biofuel technologies (<1€/l) while delivering higher fuel qualities and significantly reduced life-cycle GHG reductions.

Heat-to-fuel will result in increased Energy production savings (>20%) and enhanced EU’s energy security by the use of local feedstocks which in turn ensured local jobs are preserved and increased. The benefit of combining technologies like in Heat-to-Fuel is, that the drawbacks of the single technologies are balanced.

FT and APR are promising technologies for the efficient production of 2nd generation fuels. But currently the economic border conditions don’t allow the implementation, similar to many other biofuel technologies. The radical innovation of combining an APR with a FT reactor is the basis to overcome this barrier.

The large organic wastes (from HTL or other streams) can be conveniently treated with APR to produce H2. Both dry and wet organic wastes can be integrated, with mutual advantages, i.e. steam production for gasification, HTL and APR preheating; FT heat cooling without external utilities. Using the synergies between these technologies maximizes the total process efficiency.

Heat-to-fuel aims will be met thanks to the diversification of the feedstock for biofuels production, reducing the supply costs and upgrading the efficiencies of promising and flexible conversion.

Parent Programmes:
H2020-EU.3.3 - Horizon 2020: SOCIETAL CHALLENGES - Secure, clean and efficient energy

Lead Organisation:

Gussing Energy Technologies Gmbh
Address:
WIENERSTRASSE 49
7540 GUSSING
Austria
EU Contribution: €401,046
<table>
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<tr>
<th>Partner Organisation</th>
<th>Address</th>
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<tr>
<td>Atmostat</td>
<td>Rue Rene Hamon 31 94815 Villejuif France</td>
<td>€409,651</td>
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<tr>
<td>Technische Universitaet Wien</td>
<td>Karlsplatz 13 1040 Wien Austria</td>
<td>€495,868</td>
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<td>Bioenergy 2020+ Gmbh</td>
<td>INFFELDGASSE 21B 8010 GRAZ Austria</td>
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<td>Centro Ricerche Fiat - Societa Consortile Per Azioni</td>
<td>Strada Torino, 50 10043 ORBASSANO (TO) Italy</td>
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<td>Commissariat A L Energie Atomique Et Aux Energies Alternatives</td>
<td>RUE LEBLANC 25 75015 PARIS 15 France</td>
<td>€791,443</td>
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<td>R2M Solution Spain SI</td>
<td>CALLE CERVERA 59 1D 28033 MADRID Spain</td>
<td>€200,705</td>
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<td>Consorzio Per La Ricerca E La Dimostrazione Sulle Energie Rinnovabili</td>
<td>VIALE KENNEDY 182, 50038 SCARPERIA E SAN PIERO, Italy</td>
<td>€819,031</td>
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<td>Fundacio Institut De Recerca De L'energia De Catalunya</td>
<td>C/ Jardins De Les Dones De Negre, 8930 Sant Adria De Besos, Spain</td>
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<td>Skupina Fabrika Raziskave In Razvoj Doo</td>
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<td>€664,855</td>
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<td>€330,538</td>
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Johnson Matthey Fuel Cells Limited

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FARRINGDON STREET 25
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United Kingdom

Organisation Website:
http://www.matthey.com

EU Contribution: €238,425

Technologies:
- Alternative fuels
- Biofuels for road transport

Development phase: Research/Invention

STRIA Roadmaps: Low-emission alternative energy for transport
Transport mode: Road transport
Transport sectors: Passenger transport, Freight transport
Transport policies: Environmental/Emissions aspects
Geo-spatial type: Other