

Project Coordinator	Acronym	Value chain	Participant Countries	Project summary	Duration	Status
WSP CEL Limited	NPTLCT	4	United Kingdom, Ireland, Latvia, Germany, Spain, Netherlands	<p>Overall aim: sustainable production of liquid fuels at low or even negative carbon via continuous fractionation of non-food and waste biomass.</p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>To demonstrate scale-up of a lignocellulosic conversion technology involving continuous fractionation at 1 tonne/hr dry equivalent;</li> <li>To optimise the related enhancing technologies (Pulsed Electric Fields, Microwaves and Ultrasonics);</li> </ul> <p>Benefits:</p> <ul style="list-style-type: none"> <li>Offers cost, quality and scalability advantages over all alternative state of the art technologies;</li> <li>Can use "green" biomass, with no added water or catalysts; achieving complete cell conversion with minimal waste; and pure product fractions</li> <li>It promises to be cost-competitive even with low price oil at \$50/bbl.</li> </ul>	24 months	Funded
Snow Leopard Projects GmbH	HyMethane	2	Germany, United Kingdom	<p>Overall aim: Improved energy efficiency of biogas production from two stage anaerobic digestion plants.</p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>To demonstrate improved biogas quality by injection of hydrolysis gas produced from a two-stage biogas plant into the main fermenter which then converts hydrogen to methane;</li> <li>To demonstrating the functionality of the new concept under real operating conditions.</li> </ul> <p>Benefits:</p> <ul style="list-style-type: none"> <li>Increased methane content and a reduced hydrogen content of biogas;</li> <li>Higher energy efficiency since hydrogen losses are avoided;</li> <li>Reduction of the energy consumption of the biogas plant.</li> </ul>	14 months	Withdrawn

aqualia, Gestión Integral del Agua, S.A.	Bio-Water-Methanisation	2	Spain, The Netherlands, United Kingdom	<p>Overall aim: Sustainable waste and waste water treatment that provides a source of energy and nutrients, and a recyclable water resource.</p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>• To demonstrate an industrial scale anaerobic technology, using Submerged Anaerobic Membrane Bioreactor (SAnMBR) technology, as an innovative alternative to traditional waste water treatment and with simultaneous treatment of urban solid organic waste.</li> <li>• To optimise the performance of the system to improve the energy balance of waste water treatment.</li> </ul> <p>Benefits:</p> <ul style="list-style-type: none"> <li>• Reduction of Waste Water Treatment Plant energy consumption by 70%;</li> <li>• Reduction by 80% of net greenhouse gases emission per unit of COD removed from the influent wastewater, avoiding the oxidation of organic matter;</li> <li>• Increased effluent quality for re-use and reduction of residuals by 50%.</li> </ul>	36 months	Funded
Terranol A/S	CoRYFee	4	Denmark, Sweden	<p>Overall aim: Reduce costs of 2G bioethanol production by fermentation of hydrolysed agricultural residual biomass, enabling commercial deployment with potential for 85% reduction of CO2 emission compared to the gasoline.</p> <p>Objective:</p> <p>To demonstrate a new pre-treatment and hydrolysis process and fermentation by a yeast capable of utilising a higher proportion of the sugars available.</p> <p>Benefits:</p> <p>Yield improvements from 66% to 75% (290 L/bone dry ton to 320 L/bone dry ton of biomass).</p> <p>CAPEX reduction by 50 %.</p> <p>OPEX reduction by reducing yeast expenditure from 6 ¢/L to 3.6 ¢/L.</p>	36 months	Funded

WILSON STEAM STORAGE	MSWBH	6	United Kingdom, Spain, The Netherlands	<p>Overall aim: Cost competitive production of biobutanol and hydrogen via fermentation of autoclave-pretreated MSW with significant reductions in GHG emissions compared with 1st generation biofuel.</p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>To demonstrate the economic and technological feasibility of scaled up production of butanol and hydrogen from autoclave pre-treated MSW</li> <li>To produce both butanol and hydrogen at a complete cost for fuel use</li> </ul> <p>Benefits:</p> <ul style="list-style-type: none"> <li>Reduced cost of biofuel production via utilisation of lower cost feedstock (MSW);</li> <li>Diverts waste from landfill.</li> <li>Provides a suite of energy products which can be sold back in to the community from which the waste originated thus achieving a circular economy.</li> <li>Facilitate the uptake of the hydrogen economy in the area.</li> </ul>	36 months	Funded
Abengoa BioenergÃa Nuevas TecnologÃas	W2Bu	5	Spain, United Kingdom, Switzerland	<p>Overall aim: Cost competitive production of biobutanol from MSW with significant reductions in GHG emissions compared with 1st generation biofuel.</p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>To establish an environmentally-friendly solution for production of glucose syrup from MSW;</li> <li>To develop a tailored enzyme cocktail to increase the production of glucose from MSW and to scale up the enzyme-production process cost effectively;</li> <li>To demonstrate increased butanol yields comparable to those achieved using pure sugars</li> </ul> <p>Benefits:</p> <ul style="list-style-type: none"> <li>Reduced cost of biofuel production via utilisation of lower cost feedstock (MSW);</li> <li>Production of renewable fuels while minimising landfill and promoting recycling of MSW.</li> </ul>	36 months	Withdrawn