

## COMET Module

<b>BIO-LOOP</b>	
<b>Chemical Looping for efficient biomass utilisation</b>	
<b>Main location</b>	Graz, Styria
<b>Other locations</b>	Wieselburg-Land, Lower Austria
<b>Research programme</b>	BIO-LOOP comprises fundamental and industrial research on all relevant technological aspects of biomass based chemical looping (BCL) technologies for the generation of heat, electricity, fuels and chemicals. BIO-LOOP is the important basis for the future market introduction of BCL plants as efficient CO <sub>2</sub> -negative emission technologies (NET).
<b>Planned realisation and outcomes</b>	
The project will develop a fixed-bed reactor for decentralised applications as well as a fluidised-bed reactor to a technology readiness level of 3-4 in terms of energy production, hydrogen production and the provision of synthesis gas. Experimental research on a laboratory scale will be accompanied by basic research on the kinetics and behaviour of the oxygen carrier material. Furthermore, a CFD-based multi-physics toolbox will be developed and validated in order to support the overall technology development in the project.	
<b>Selected company partners</b> (max. 10)	<b>Selected scientific partners</b> (max. 5)
<ul style="list-style-type: none"> <li>• Aichernig Engineering GmbH</li> <li>• AVL List GmbH</li> <li>• Rouge H<sub>2</sub> Engineering GmbH</li> <li>• Syncraft Engineering GmbH</li> <li>• Urbas Energietechnik GmbH</li> <li>• Bertsch Energy GmbH &amp; Co KG</li> <li>• Geocycle</li> <li>• Stadtwerke Graz AG</li> </ul>	<ul style="list-style-type: none"> <li>• TU Graz (Institute of Chemical Engineering and Environmental Technology)</li> <li>• TU Graz (Institute of Thermal Engineering)</li> <li>• TU Vienna (Institute of Chemical, Environmental and Bioscience Engineering)</li> </ul>
	<b>Selected international partners</b> <sup>1</sup> (max. 5)
	<ul style="list-style-type: none"> <li>• Chalmers University of Technology</li> <li>• Spanish National Research Council (CSIC)</li> <li>• National Institute of Chemistry, Slovenia</li> </ul>
<b>Start of the COMET Module</b>	4/20 (4 years)
<b>Number of personnel</b>	8 (FTE) are involved (0.5 FTE are scientists)
<b>Project management</b>	Kai Schulze, Area Manager Modellierung und Simulation
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<sup>1</sup> Partners with headquarters outside Austria