



**BIOGENIC
RESIDUES**

**TO RENEWABLE
METHANE**



Bioresources and hydrogen to methane as fuel

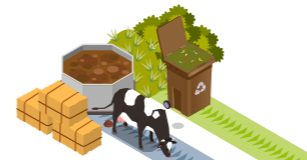
Renewable methane offers the opportunity to make a major contribution to reducing greenhouse gas emissions. Based on biogenic residues and waste with green hydrogen, a sustainable and regional energy carrier can be provided. It can be used for transport sectors difficult or impossible to electrify as well as other energy applications.

The project focusses on further development of advanced renewable methane as a fuel in Germany. Previously, a pilot plant was planned and constructed and preliminary tests and feasibility analyses have already been carried out.

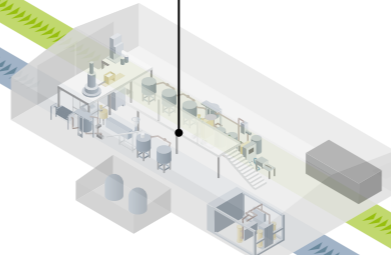
The innovative approach aims to increase the methane yield from the biogas process. Therefore, utilising the biogenic CO₂ with green hydrogen is key. The technological focus of the project is on successful piloting all involved processes and further optimisation. Conclusions will also be drawn for module-specific and conceptual optimisation approaches and success on a commercial scale. The major drivers for optimisation are resource efficiency and the closing of material cycles as well as greenhouse gas abatement costs.



Agricultural and urban residues and waste



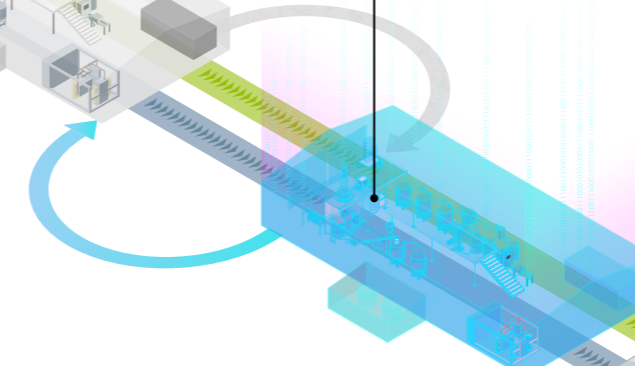
Pilot plant for the production of renewable methane



Simulation and assessment

Digitally supported assessment of technological processes and interfaces

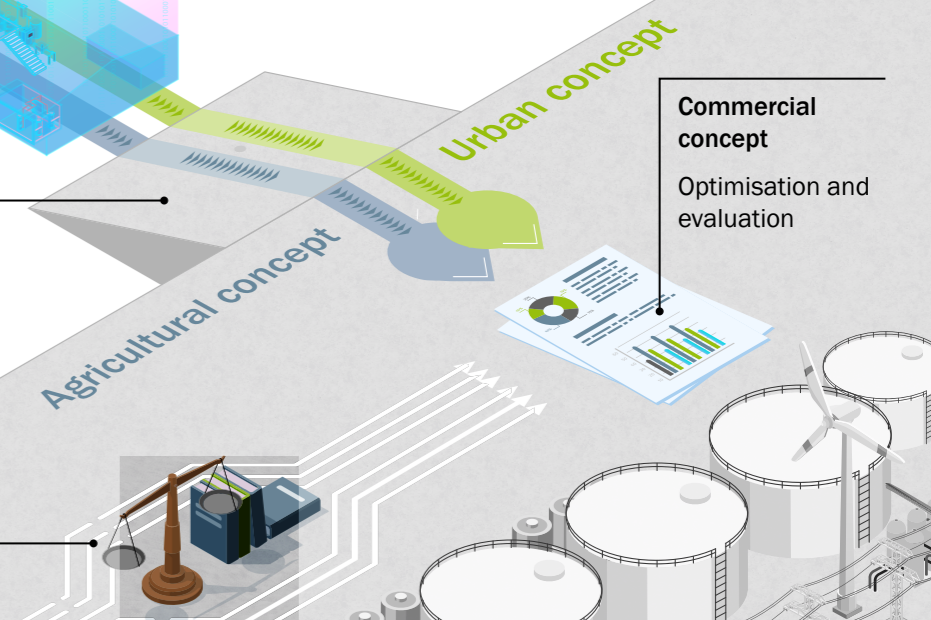
Modular assessment



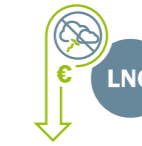
Upscaling

Mass and energy balance
Scaling

Regulatory framework and market mechanisms of renewable methane as a fuel



Project goals



Reduction in greenhouse gas abatement costs for renewable LNG



Optimisation of resource efficiency, especially with regard to maximising specific methane yield and utilising fermentation residues



Development of optimised exemplary concepts on commercial scale and sensitivity analysis



Identification of criteria for long-term viable plant concepts producing renewable methane

Contact

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More information about the research project, the pilot plant, renewable methane and our publications:



FUNDING PROGRAMME
**RENEWABLE
FUELS**

On behalf of:



Federal Ministry
for Digital
and Transport