

GAS-TO-LIQUID TECHNOLOGY

INERATEC GmbH

By using greenhouse gases and renewable energy, INERATEC offers a sustainable and CO₂-neutral alternative to fossil products.

INERATEC provides modular chemical plants for Power-to-X and Gas-to-Liquid applications and supplies sustainable fuels and products. Hydrogen from renewable electricity and greenhouse gases like CO₂ are converted into e-kerosene, CO₂-neutral gasoline, clean Diesel or synthetic waxes, methanol or SNG.

TECHNOLOGY

The innovative reactors provide a high load flexibility as well as quick start-up and shut-down times. Therefore, the reactors are perfectly suitable for fluctuating renewable energy applications, e.g. wind or solar. Additionally, with this reactor concept a cost-efficient, modular numbering-up approach instead of a risky technology scale-up becomes possible, meaning that standardized modules are multiplied to reach higher capacities instead of a traditional scale-up.

APPLICATION



Once through high conversion <-> recycle, inert gases

Decentralized energy storage of synthesis gas, e.g. at the biomass or renewable energy source.



GAS-TO-LIQUID PROCESS

Gas-to-Liquid is a two-stage process. First, synthesis gas is produced from methane and air and then converted into synthetic fuels, waxes or methanol.



DEVELOPMENT OF COMMERCIAL GtL TECHNOLOGY



COMSYN

- Optimizing the operating conditions for max.
 paraffin yield
- Reactor testing with purified gas from VTTs
 gasification: Long term stability of FT-technology
- > Design and establishing the manufacture for reactor modules with 8 bpd size



KEROGREEN

- Demonstration of plasma cracking of CO₂ as a starting point for PtL processes.
- > Synthesis of 100g kerosene/h
- > Evaluation of the impact on society, nature and economy



MOBSU

- Transportable demonstration unit for BtL and GtL technologies.
- > Participated in six research projects at four different industrial and demonstration sites.

CONTACT

ABOUT INERATEC

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FLEXCHX

- > Design of flexible FT-synthesis process to achieve maximal effectivity for summer season and heating
- > Test key design issues affecting the flexibility and performance of the process
- Scale up of plant design and performance for industrial scale synthesis unit



REDIFUEL

- > Coupling of a biomass gasification with FT and subsequent hydroformylation.
- > Optimization of the product composition of the hydroformulation products for motor use

REDIFUEL



KEROGREEN



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COMSYN



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FLEXCHX



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PROJECTWEBSITES

https://redifuel.eu/ https://www.kerogreen.eu/index.php https://www.comsynproject.eu/ http://www.flexchx.eu/