

IEA Task 39 – Erneuerbare Treibstoffe

Heat-to-fuel - Projektergebnisse der vergangenen 3 Jahre

▶ Dr. Richard Zweiler



This project has received funding
from European Union's Horizon 2020
research and innovation programme
under grant agreement n° 764675

HtF Basic Data

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

Acronym: Heat-to-Fuel

Budget: € 5.896.987,50

Type of action: RIA

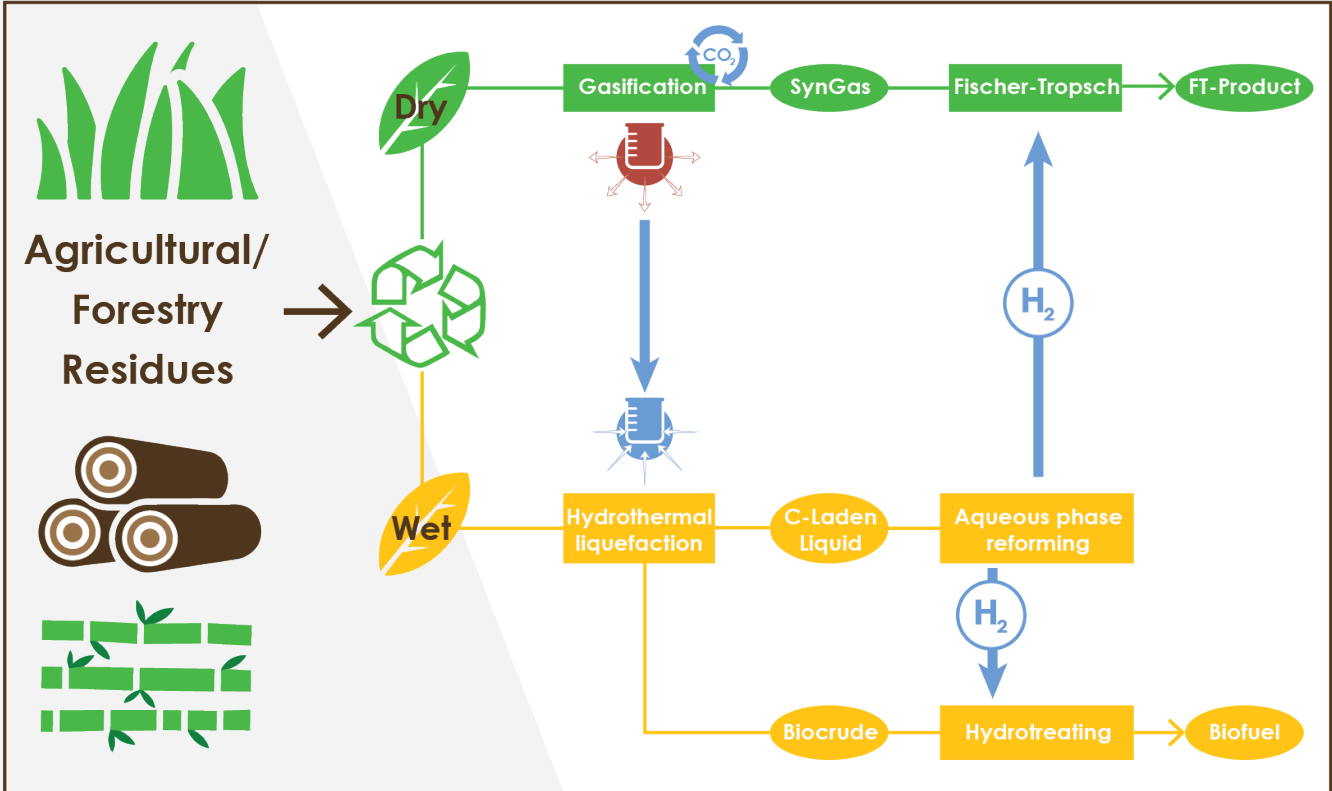
Duration: September 2017 until April 2022

Main Category of the Project: Biofuel, Bioenergy, renewable Fuel, Bioeconomy, sector coupling

TRL: 3-5

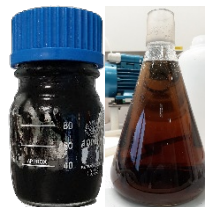
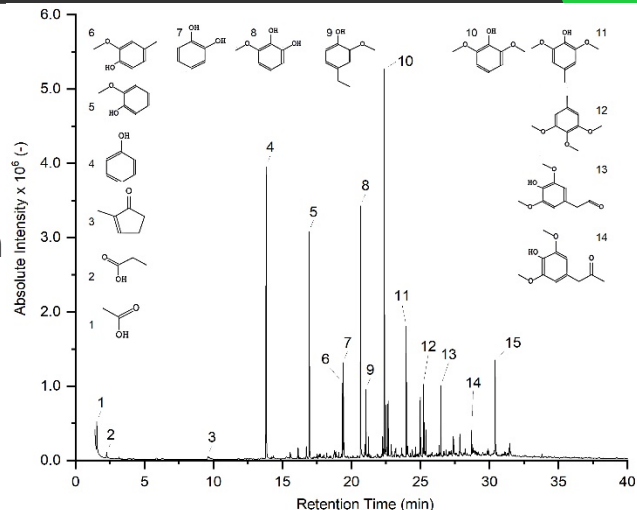
Keywords: HTL (hydrothermal liquefaction), APR (aqueous phase reforming), Fischer Tropsch, DFB (dual fluidized bed) gasification, hydrogen, thermochemical conversion, millistructured reactor

HtF concept



HTL - Main achievements

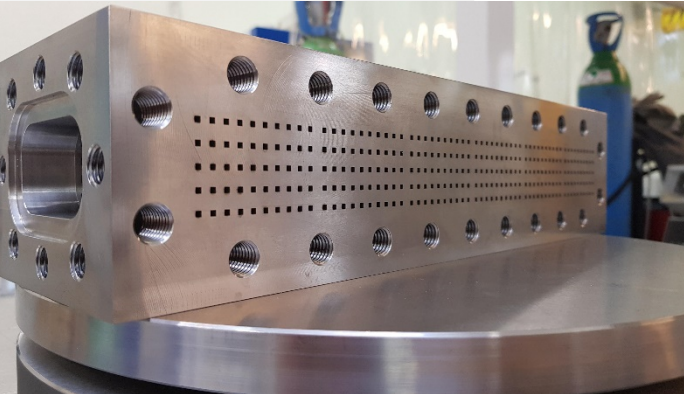
- > **50 batch experiments**
 - Complete characterization of reaction products
 - Influence of reaction parameters on yields and reaction mechanism
 - Carbon balance
- Design, commissioning and operation of a continuous HTL unit**
 - 12 h time on stream
 - 50 h operation
- Liquid-liquid extraction of HTL aqueous phase for APR**
 - Removal of aromatic compounds
 - Evaluation of three extraction solvents
 - Carbon balance



Demonstration FT+APR part



Demonstration continuous APR unit within whole chain demonstration (millistructured FT reactor) October 2021 – April 2022



Impact

- More than **10 peer-reviewed scientific articles**
<https://www.heattofuel.eu/publications/>
- **Videos** are available at
<https://www.heattofuel.eu/media/>
- Recordings & presentations of **e-fuel workshop**:
<https://www.heattofuel.eu/efuels-workshop/>
- Recordings & presentations of **HtF summer school**:
<https://www.heattofuel.eu/heat-to-fuel-summer-school/>
- Social media: Join „**Heat to Fuel**“ at **Twitter** and **LinkedIn**
- More details are forwarded to the members of the user group at the final workshop in 2022
Send a request to join the user group to:
Tatiana Loureiro <tatiana.loureiro@r2msolution.com>

THANK YOU

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