TUBAF The University of Resources. Since 1765.

INSTITUTE OF ENERGY PROCESS ENGINEERING AND CHEMICAL ENGINEERING

PROFESSORSHIP OF ENERGY PROCESS ENGINEERING

EwOPro

Development of the Olefins-to-Jetfuel process as a highly innovative stage in the production of kerosene from renewable methanol

CHALLENGE

Liquid fuels, thanks to their specific properties, will continue to play a major role in many areas of the energy sector in the long term. While electricity as an energy source is primarily a preferred alternative for passenger cars and light trucks in cities, low-GHG liquid fuels are especially needed for long-haul heavy-duty transport, aviation, and shipping, as well as for petrochemical feedstocks, lubricants, and other products. In the EwOPro project, the highly innovative Olefins-to-Jetfuel process is the central focus as the core of the methanol-to-jetfuel route.

OUR PROJECT

The main goal of EwOPro is the detailed investigation of the process for converting olefins into paraffins or oligomers with the appropriate chain length and branching within the methanol-to-jetfuel process, which is relevant for the target product fraction kerosene and the co-products high-octane/aromatic-free gasoline and diesel/heating oil. The focus is particularly on knowledge-based catalyst development and the optimization of process parameters for the individual process stages methanol-to-olefins (MtO), olefin oligomerization (OtJ), and hydrogenation, as well as their combination. At the Chair of Energy Process Engineering, the STF+ pilot plant, which has been adapted for operation in MtO mode, is expanded with upscaled OtJ process stages for this purpose. The oligomerizate produced during subsequent experimental investigations for process optimization is used by the project partners for hydrogenation, fractionation, and fuel testing.

PARTNERS

- CAC Engineering GmbH
- DBI Gas- und Umwelttechnik GmbH
- Fraunhofer-Institute for Ceramic Technologies and Systems IKTS

& other associated partners

FUNDING

Federal Ministry for Economic Affairs and Climate (BMWK), FKZ 03EI3083C

DURATION

March 2023 – August 2026 (3.5 years)

Gefördert durch:

Bundesministerium für Wirtschaft und Klimaschutz

aufgrund eines Beschlusses des Deutschen Bundestages

TUBAF
The University of Resources.
Since 1765.

INSTITUTE OF
ENERGY PROCESS ENGINEERING AND
CHEMICAL ENGINEERING

PROFESSORSHIP OF
ENERGY PROCESS ENGINEERING