

# MethQuest

## Production and use of methane from renewable energy sources for mobile and stationary applications

### METHQUEST

#### Key Facts



##### Funding Agency

Federal Ministry for Economic Affairs and Energy (BMWi)



##### Project Call

Energy system transformation in transport



##### Duration

10/2018 - 09/2021



##### Coordinator

- MTU Friedrichshafen GmbH
- DVGW Research Center at Engler-Bunte Institute of Karlsruhe Institute of Technology (KIT)



##### Partners

- AREVA H2Gen
- Continental
- Erdgas Südwest
- ESA<sup>2</sup> GmbH
- Fraunhofer IBP
- Fraunhofer IOSB-AST
- Fraunhofer ISE
- Fraunhofer ISI
- iGas energy
- Open Grid Europe GmbH
- Stadtwerke Karlsruhe
- keep it green GmbH
- Kelvion
- InfraserV Höchst
- ILK Dresden
- KIT EBI ceb
- KIT EBI vbt
- KIT ITCP
- DBI
- Ford
- Schaeffler
- Terranets
- TU Berlin - ECEMS
- TUM - LVK
- VKA
- Woodward L'Orange



##### Website

<https://www.methquest.de/en/>

#### Project Objectives

The project MethQuest aims to develop and investigate technologies that can be applied to extract methane-based fuels from renewable sources, use them in mobile and stationary applications, and quickly introduce them to the market. While gas is widely used, especially in heat supply, its potential in passenger, freight and shipping traffic has hardly been exploited so far. The project will look at different technical and economic aspects related to renewable methane in the frame of 6 subprojects.

- MethFuel looks into the generation of renewable methane,
- MethCar develops a passenger car engine specially optimized for RE-methane,
- MethPower develops two new CHP engine concepts which can operate with renewable methane or hydrogen,
- MethMare works on propulsion systems for ships with renewable methane
- MethGrid investigates into a microgrid concept for the inland port facility of Karlsruhe (Rheinhafen),
- MethSys looks into the effects of the large-scale introduction of alternative fuels with a macroeconomic approach

#### EIFER's Contribution

In the frame of the MethFuel consortium, EIFER is leading the work package on optimized SOEC electrolysis. Here, EIFER is in charge of the electrochemical characterization of solid oxide cells at the ENERMAT laboratory - operated jointly with the KIT-ITCP, as well as of technical simulations of innovative Power-to-Gas concepts for the synthesis of renewable methane.

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