

Research expertise in the fields of energy storage (PtX, H2), alternative mobility technologies and energy grid modeling



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OTH Regensburg / RCER

bayern  innovativ

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Energy Clusters of Finland and Bavaria – regional expertise!

17.06.2021

OTH Regensburg – Research, Teaching, Practice

- University of applied sciences in Bavaria
- Over 11.000 students
- **50 practice-oriented bachelor and master degree programmes** in engineering, business studies, design, architecture, health and social studies
- **120 state-of-the-art laboratories**
- Regensburg Centers with research topics in:
 - **Energy and Resources**
 - **Biomedical Engineering**
 - **Health Sciences and Technology**
 - **Artificial Intelligence**



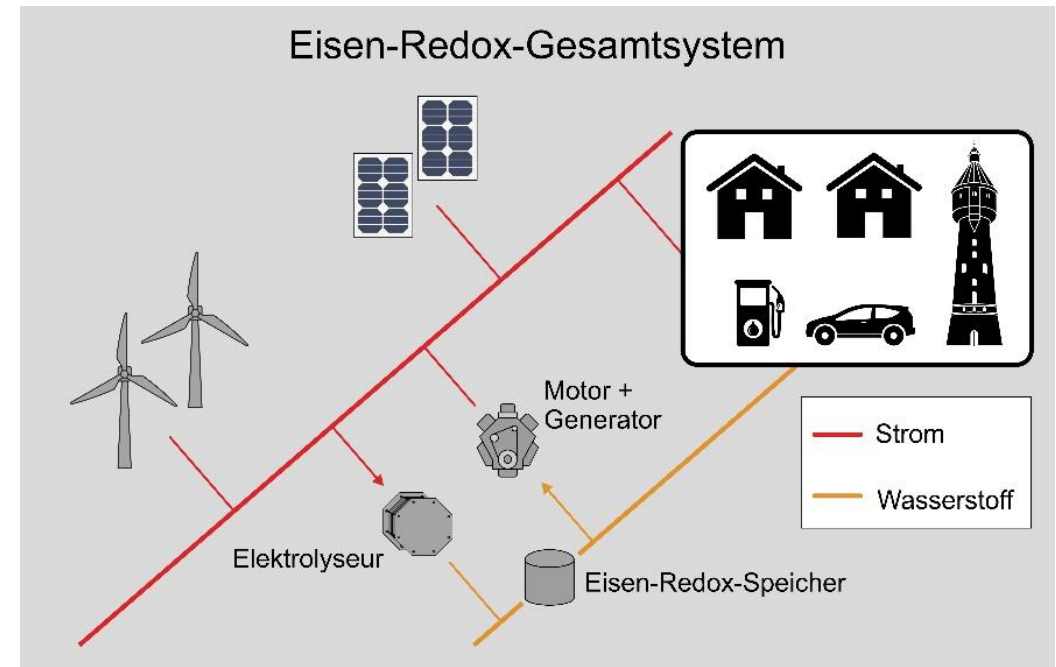
Energy storage

- ORBIT - Optimisation of a trickle bed reactor in power-to-gas plants by biological CO₂ methanisation



ORBIT reactor

- System analysis and integration Power-to-X technology pathways
- Development of an iron redox storage system



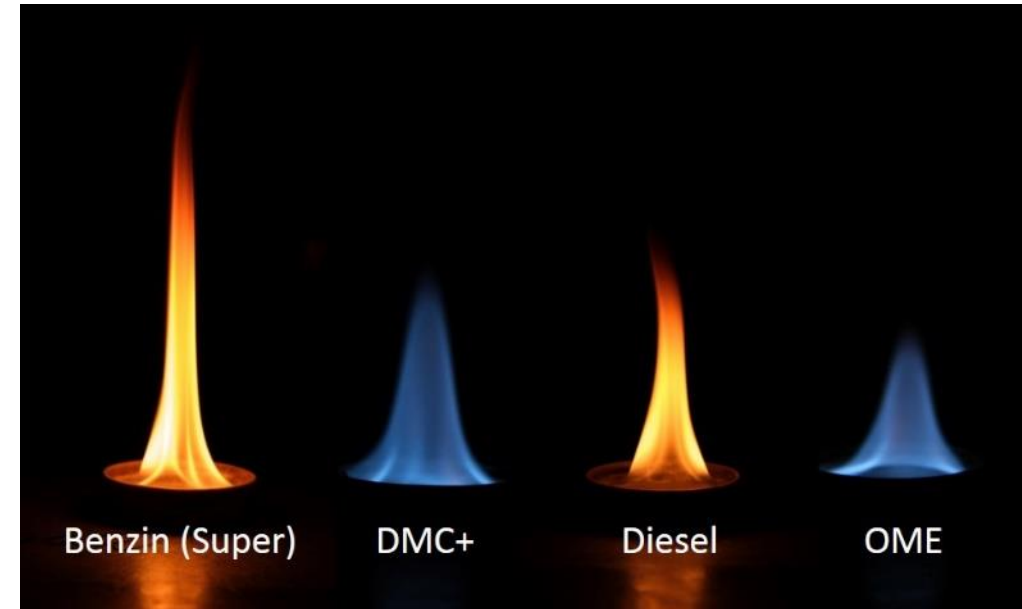
Schematic representation of the integration of the storage system into an existing electricity and gas network

Alternative mobility technologies

- Alternative fuels (injection and combustion behaviour of vegetable oil fuel)
- Developing synthetic fuels (SynFuels) for diesel and petrol engines, as CO₂ neutral alternative



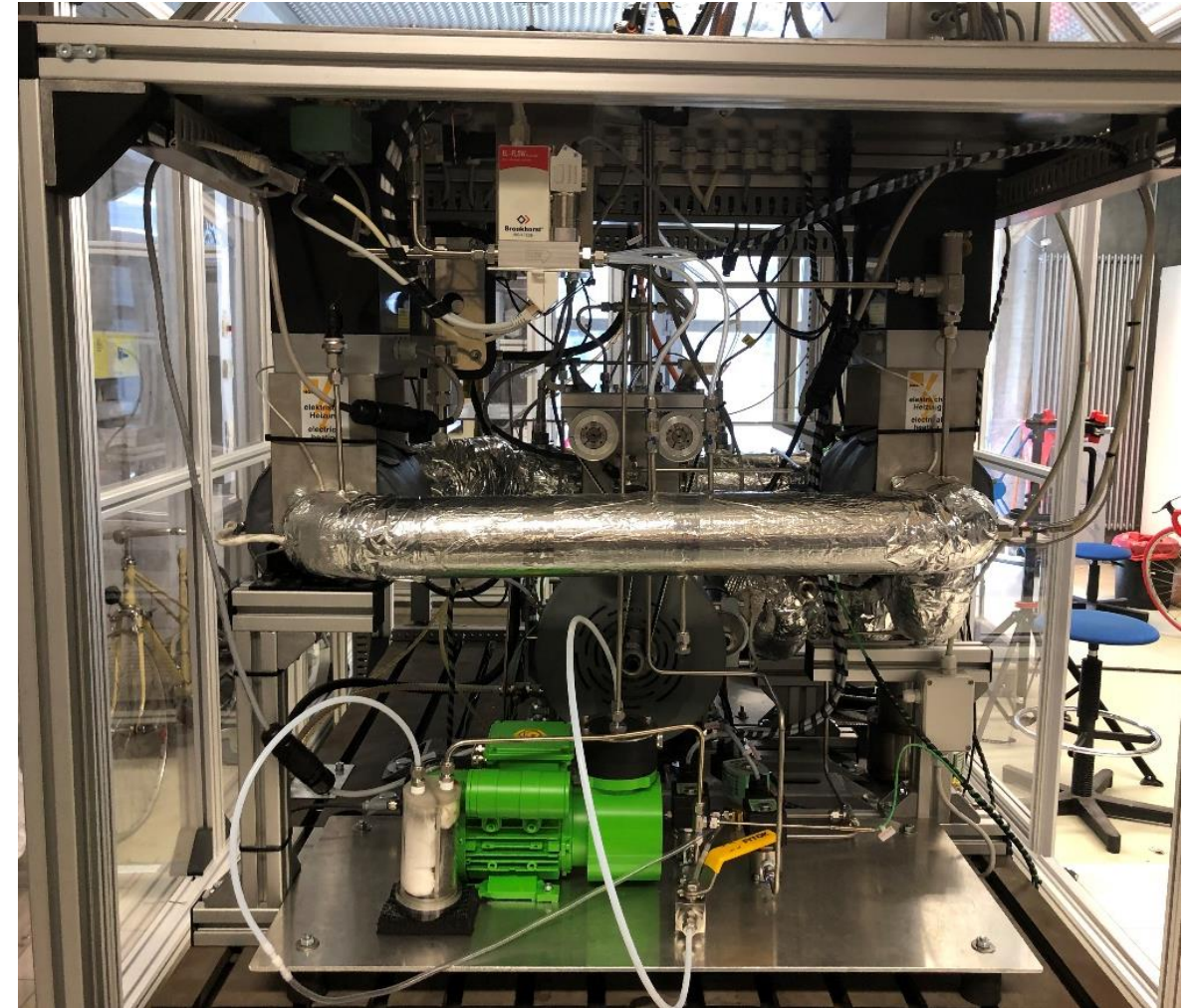
Alternative fuels



Flame formation during combustion of different fuels. No soot glow with the synthetic fuels.

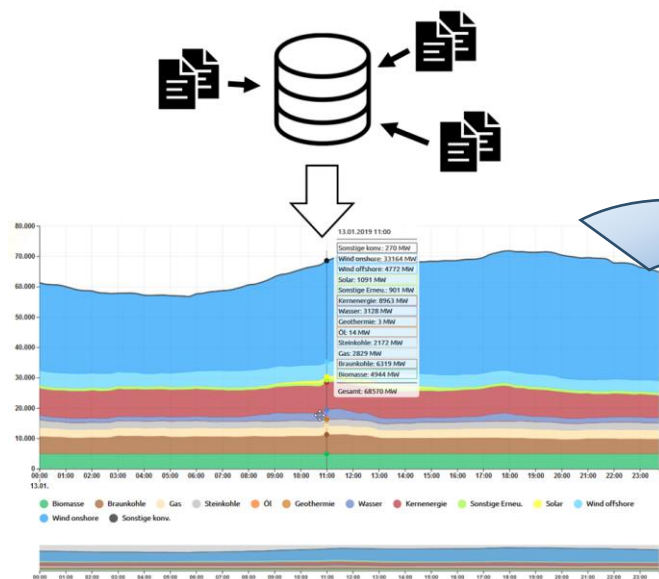
FESMo-Tec Research Facility

- Process investigation of alternative energy storage- and mobility technologies
- Analysis platform - chemical energy conversion technologies investigated in a defined and controlled environment
- validated statements on
 - Storage density
 - Waste heat utilisation
 - Lifetime
 - Robustness
 - Dynamic range

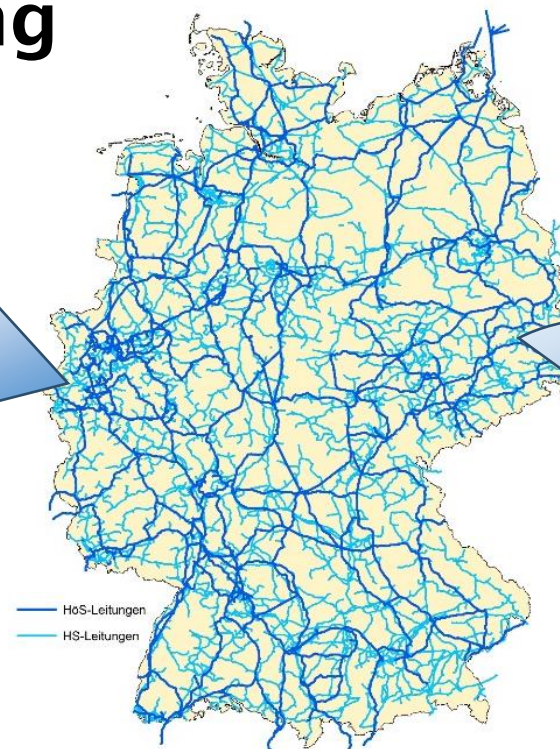


FESMo-Tec Research Facility

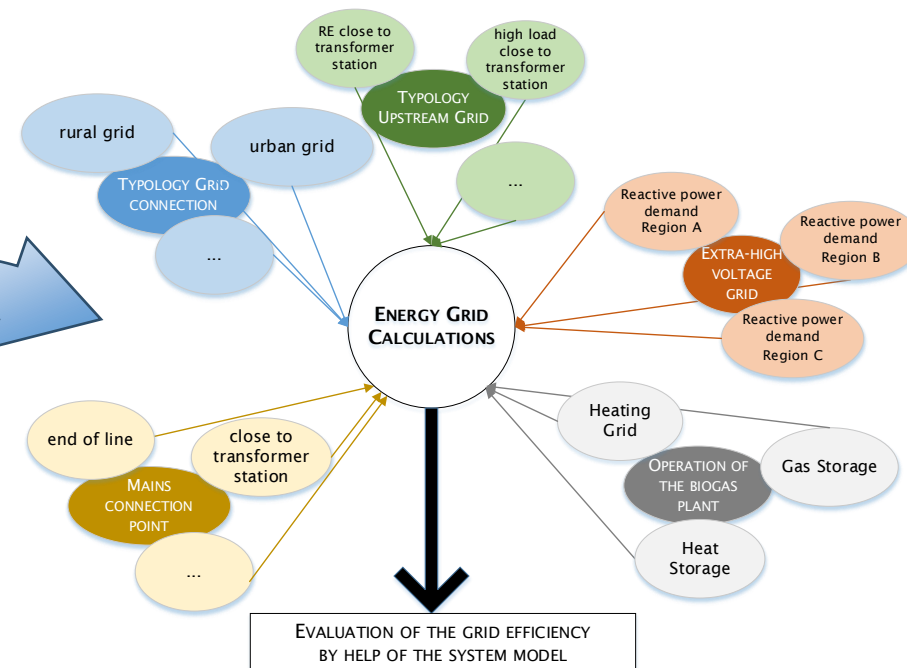
Energy grid modeling



www.energiesdaten.online



System model
Germany-wide electricity
grid model based on real
and generated grids



Application - analysis and evaluation
of scenarios:

- Load & generators
- Grid expansion
- CHP plants
- Storage

Regensburg Center of Energy and Resources (RCER)

Your partner for interdisciplinary energy and resource research

What is my interest in cooperation?

- International Research & Development projects in the area of e.g. energy storage, alternative mobility technologies, energy grid modeling

What can I contribute?

- Research expertise & technological knowledge
- Laboratory and test facilities
- Research facility for the development of alternative energy storage and mobility technologies, in the field of PtX and H2

www.rcer.de

Regensburg Center of Energy and Resources

Matchmaking of Research - Knowhow Transfer - Networking



Prof. Dr.-Ing. Oliver Brückl
Scientific Director



Anna Tommek
Managing Referent



For info and contact please visit us on **www.rcer.de**