

# KET\*

Focus on (\*) Key Enabling Technologies - nanotechnologies, advanced materials, advanced manufacturing and processing

# 360

# INNOVATE TOGETHER

27th June 2019 - Strasbourg - FRANCE

**Project idea/ Field of expertise:**

Local low carbon energy solutions

**Organisation Name:**

European Institute for Energy Research  
EIFER



**Adressed challenge(s)/ PPP(s):**

Renewable and energy efficient solutions for buildings, city quarters, mobility

**Adressed topic(s) in Work Programme:**

Secure, clean and efficient energy

# European Institute for Energy Research EIFER

## Research Areas

### Smart and Sustainable City



**100**  
Employees



More than  
**40**  
trainees per year



**32**  
Public funded projects in progress

### Local Multi-Energy Systems

Geographers

Urban Planners

Economists

Architects



### Low Carbon Hydrogen Systems

Engineers

Data Scientists

Geo Scientists

Sociologists

### Energy Transition, Markets, Environment



**5**  
Laboratories



**24**  
Patents in total



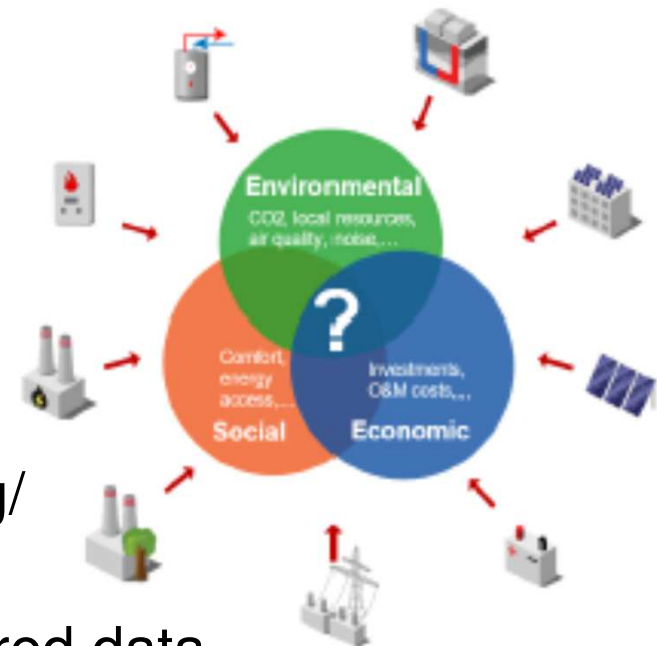
**25**  
Scientific publications per year

EIFER is an European Economic Interest Grouping

Two equal Members: EDF and KIT - Karlsruhe Institute of Technology

# EIFER's expertise « Energy Planning »

- Planning of Local Energy Systems
- Multi-Method Modelling for Energy Planning in Urban Areas
  - Agent-Based Simulation
  - Local energy system models
  - 3D Geosimulation
- Spatial analysis of building properties and infrastructure
- Calculation of geo-referenced parameters (PV potentials, buildings' heating/cooling demand)
- 3D Visualization of calculated or monitored data
- Augmented reality applications for end users



# EIFER's past experience in projects



**Topic:** Bringing flexibility provided by multi-energy carrier integration to a new MAGNITUDE.

**Timescale:** 09/2017 – 02/2021  
**Funded by:** EU Horizon 2020  
**Link:** <http://www.magnitude-project.eu/>



**Topic:** Replicability concept for flexible Smart Grids.

**Timescale:** 04/2016 – 03/2019  
**Funded by:** Federal Ministry for Economic Affairs and Energy (BMWi) through Era Net SG+ programme  
**Link:** <http://reflex-project.eu/>



**Topic:** Smart integration of energy storages in local multi-energy systems for maximising the share of renewables in Europe's energy mix.

**Timescale:** 12/2016 – 12/2019  
**Funded by:** EU Horizon 2020  
**Link:** <https://www.ecria-smiles.eu/>



**Topic:** Simulation supported real time energy management in building blocks.

**Timescale:** 04/2016 – 03/2020  
**Funded by:** EU Horizon 2020  
**Link:** <https://www.ecria-smiles.eu/>



**Topic:** New solution for hydrogen compressors for decentralised energy storage and refuelling stations.

**Timescale:** 01/2017 – 12/2019  
**Funded by:** EU Horizon 2020 and Fuel Cells and Hydrogen Joint Undertaking (FCH 2 JU)  
**Link:** <https://www.cosmhye.eu/>



**Topic:** Large-scale demonstration of refuelling infrastructure for road vehicles.

**Timescale:** 01/2016 – 12/2022  
**Funded by:** EU Horizon 2020 and Fuel Cells and Hydrogen Joint Undertaking (FCH 2 JU)  
**Link:** <http://h2me.eu/>



**Topic:** Green industrial hydrogen via reversible high-temperature electrolysis.

**Timescale:** 02/2016 – 01/2019  
**Funded by:** EU Horizon 2020 and Fuel Cells and Hydrogen Joint Undertaking (FCH 2 JU)  
**Link:** <http://www.green-industrial-hydrogen.com>



**Topic:** High temperature electrolyser system at TOTAL H2 refuelling station Karlsruhe.

**Timescale:** 01/2016 – 12/2018  
**Funded by:** BWPlus

# Contact details

---

<b>Contact person</b>	<b>Ute Karl</b>
Organisation	EIFER
Adress	Emmy-Noether Str. 11
Phone	+49 721 6105 1335
E-mail	karl@eifer.org

---