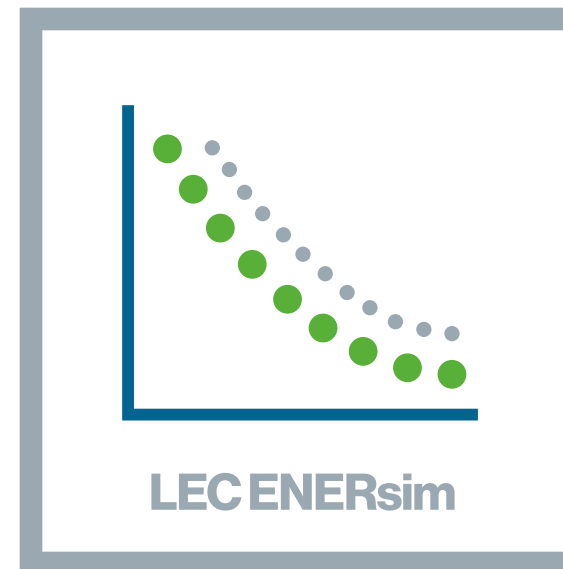




## At the LEC we research for a sustainable tomorrow!

The Large Engines Competence Center, LEC for short, is one of the world's leading research institutions for sustainable large engine technologies and develops innovative solutions for green energy and transportation systems.

Since 2015, the LEC is a funded COMET K1-Center. As a pioneer in climate-friendly innovation and virtual development, the center serves as a global innovation hub for sustainable, environmentally sound transportation and power generation systems for a rapid and economically feasible transition from today's conventional systems to systems with a zero carbon footprint. With its research, a globally unique infrastructure and a large international partner network, it contributes significantly to global decarbonization and massive emission reductions. The research focus is on the use of renewable energies (green e-fuels such as hydrogen, ammonia, methanol, etc.), digital technologies and overall system optimization.



### LEC GmbH

**S** Inffeldgasse 19  
**A** 8010 Graz, Austria

**T** +43 (316) 873-30101  
**F** +43 (316) 873-30102

**M** office@lec.tugraz.at  
**W** www.lec.at

©LEC GmbH

Evolutionary Engine Technologies for a Sustainable Tomorrow








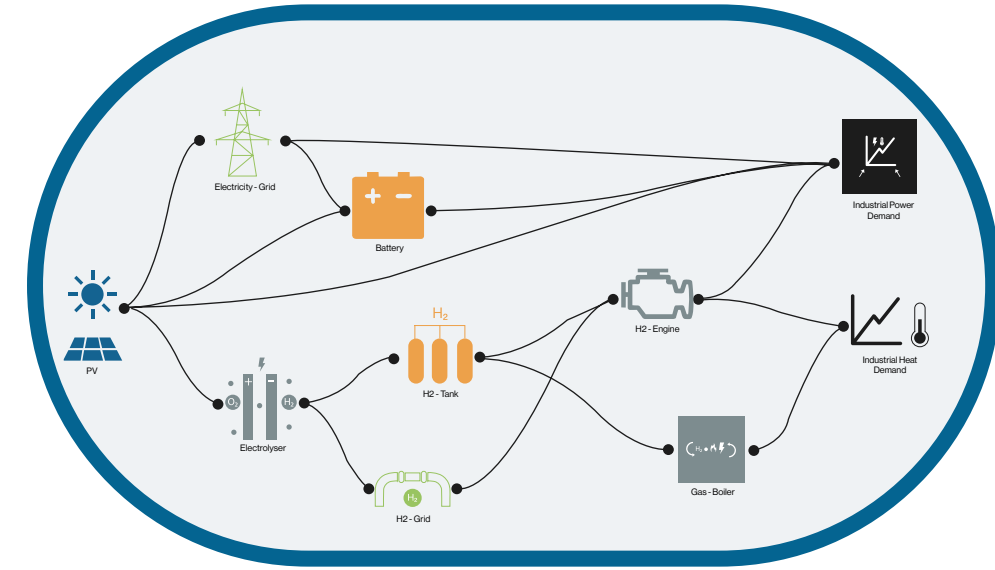


## LEC ENERsim: Your key to a sustainable energy system



### Key Features

-  **Broad application:** all forms of generic energy systems can be assessed
-  **Easy to set up:** allows to quickly find rough statements about the performance of a system
-  **Flexible modelling:** Simulation is possible with simple/generic models, as well as with more complex models
-  **Optimization:** to find the best energy system layout and the best operating strategy; different types of optimization methods possible
-  **Flexible extension possible:** easy adaption of tool structure and modules on new boundary definitions for special systems



### Highly flexible framework for optimizing complex energy systems

Modern energy systems combine a large number of different generators, storage systems and consumers. LEC ENERsim is a simulation platform for optimizing such systems, from the early design phase to commercial operation. ENERsim enables the coupling of numerous components such as energy sources, converters, storage units, grids or demands and allows the assessment of technical performance, as well as economic and ecological evaluations.

### Applications

Power plants (industrial or utility)  
Microgrids

Renewable fuel production  
Maritime systems / shipping