

We are looking for committed applicants for the following master's thesis:
Multi-Energy Grid (MEG) - Energy lab network modelling

Mechanical engineering, Energy engineering, or comparable

The “Centre of Excellence for Combined Heat and Power” (CECoGen) bundles the research activities of the OTH Amberg-Weiden in the field of sector coupling technologies with an interdisciplinary team of engineers and scientists. CECoGen operates an energy lab on the campus in Amberg which provides electricity and heat to the university. Additionally, energy systems models are researched and developed using optimization, machine learning, and simulation methods to represent the energy system and its components interaction. Ultimately, the robust technology model of energy system is coupled with the economic efficiency and emissions reduction.

Topic Description

- Model the energy lab on OTH campus and its network as a multi-energy grid (MEG).
- Assessment of the grid performance and efficiency with different energy carriers of electricity, heat, and gas.
- Tasks include collecting data, designing model blocks, and initiating the twin model.

Basic Qualifications

- Bachelor's degree in the fields of energy technology, mechanical engineering, environmental technology, renewable energies, or similar.
- High level of creativity, ability to work in a team, independence, commitment & flexibility.
- Basic knowledge of modelling and optimization methods.
- Basic computer programming knowledge (preferably Python).

What we offer

As part of your master's thesis, you will gain valuable practical experience in applied research. Within our team, you will receive individual support for your thesis and a comprehensive introduction to the topic. If required, a workstation is available for you in the CHP pilot plant.

If you are interested and have any questions on the topic, please contact:

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