

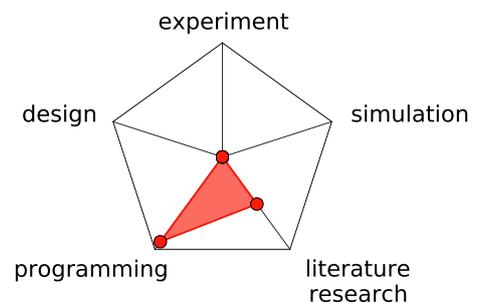
Masterthesis:

Innovative optimization of the energy system of existing buildings

The building sector has a share of 40 % of the worldwide CO₂-emissions. This is why Germany has proclaimed the goal of a climate-neutral building stock for the year 2050. Due to a very low rate of new constructed buildings, currently existing buildings play a crucial role in achieving this goal. Various electricity and heat supply systems are used to increase the energy efficiency and the proportion of renewable energies in existing buildings. In addition to the optimal combination and configuration of these facilities it is decisive when these should be incorporated into an existing building. Here, technical, environmental and economic aspects are important.

Your task:

The aim of this work is the development of a concept to determine the optimal energy system for an existing building and the optimal times to bring this into the building. Against the background of economical, technical and ecological aspects decentralized electricity and heat generation facilities (heat pumps, PV-panels etc.) are in the focus of this work. After a training in the basics of the topic, follows the development of the concept and its implementation in a computational model. For this purpose, you can build up on an existing model of the institute. Finally, the concept should be applied on different buildings and the results will be discussed.



Our profile:

The E.ON Energy Research Center at RWTH Aachen University deals with sustainable energy supply concepts that bear in mind technical feasibility as well as socially and economically relevant aspects. Within a young, motivated team you will get a good insight into a future-oriented topic of the Energiewende and the work with optimization methods. If you are interested, please contact us by phone or e-mail with CV and current grading.

Contact:

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