



## Master Thesis

# Developing objective function for optimization of renewable energy systems

The main objective everyone talks about regarding renewable energies is the reduction of CO<sub>2</sub> emissions. For decisions makers in SMEs the main objective is often only the net present value of the invest. However, to bring these two closer together new objectives like autarky, the independence of the power grid or resilience against shortages are on the rise. The start-up concept works on a mathematical optimization to solve the individual decision problem for designing a new energy system under individual constraints of the customers.



The aim of this thesis is to research and develop a mathematical function which quantifies the autarky, independence or resilience of an industrial energy system applicable to the optimization done by concepte.

## Key tasks and objectives of the thesis

- Familiarization with the concepte optimization
- Analysis of existing measures and their applicability
- Discussion of the value of discovered measures for the decision making of SMEs
- Potential development of improved measures
- (Optional) Implementation of objective function into concepte software

## Your profile

- Study of mathematics, computer science, engineering or related
- Motivation for renewable energy transformation
- Experience in optimization

## We offer

- Intensive and reliable supervision during your thesis
- Practical application of your work
- A young dynamic partner team in concepte

## Topics



- Energy systems
- Autarky

## Methods



- Optimization

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## Contact

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