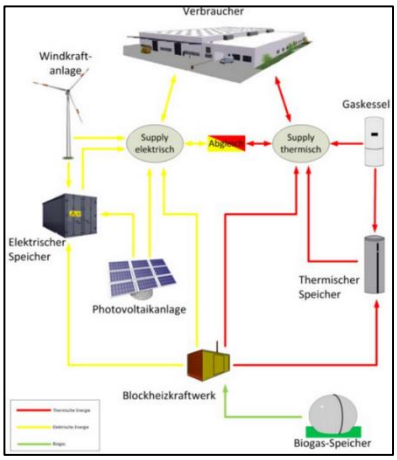
Technical Project or Bachelor Thesis

Update the “Economic Analysis of Decentralized, Electrical- and Thermal Renewable Energy Supply for Small and Medium-Sized Enterprises” for 2022



The German Renewable Energy Sources Act (EEG) was introduced in 2000 to foster, manage, and finance the transition of the energy system, the so-called “Energiewende.” The EEG was revised several times, resulting in significant economic effects for investors and consumers.

To invest in RE SMEs must solve a complex decision problem for a suitable energy supply. Besides the technical and legal feasibility for an installation, installation and operation costs are essential.
Based on an already existing analysis from 2015, the task is to make a simplified analysis for two cases. The optimal energy supply options for the two case studies need to be found.

Project Tasks

- Literature review of current framework conditions and legislative conditions for RE producers for SMEs.
- Design and simulate RE supply scenarios of manufacturing enterprises using the simulation model PREmdeK 2.0 (based on Anylogic)
- Calculating the economic benefits (life-cycle cost analysis) of the RE supply scenarios under Germany’s current legislative conditions (EEG) for two SMEs.
- Designing a showcase for a suitable, sustainable energy system.

Course of studies

- Mechanical Engineering (for Master project)
- Sustainable Energy Systems (for Bachelor thesis)
- M&D , IBS (for Bachelor Thesis)

Qualifications

- First knowledge in Anylogic©
- High interest in the topic of RE production and simulation
- Data processing knowledge or great interest respectively programming skills (Java)

Contact

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