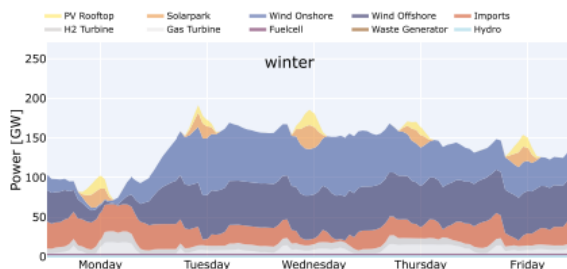


Research Internship

Conceptualization and Development of a Graphical User Interface for Energy System Modeling Results within a Research Project

Background

The [SEDOS project](#) aims to improve sector integration in energy system models (ESMs). Thus, we develop a sector-integrated ESM for the Federal Republic of Germany by using the frameworks FINE, oemof and TIMES and apply it to analyze selected scenarios. We develop and implement a uniform model structure with clearly defined interfaces for the sectors electricity, heat, transport, industry and PtX to significantly improve the robustness and quality of quantitative energy system analysis. The development of an open reference data set and its publication on the Open Energy Platform (OEP) are central components of the project. As we put a special focus on the utilization of input and result data, an effective data management is developed, which together with an expandable graphical user interface (GUI) plays a central role in the project.



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Objectives and learning outcomes

The focus of your work is to support the development of a GUI. This does not only include technical programming activities but also promotes you to understand ESMs and to evaluate relevant results to be visualized in the context of the SEDOS research project. Your task can be divided as follows:

- Compact literature research on state of the art in energy system modeling result visualization
- Carry out survey with the research partners to gather requirements like target groups, user experience & plotting contents
- Make familiar with possibilities of chosen plotting libraries
- Modular definition of relevant plotting functions

By completing this research internship, you will get acquainted with working together in research projects with partners from established University departments from Stuttgart or Karlsruhe as well as with renowned research institutes like “Forschungszentrum Jülich”, “German Aerospace Center” and “Reiner Lemoine Institute”. Additionally, you will get familiar with the energy system modeling domain and the relevant information to communicate to its stakeholders.

Requirements

- Interest to support a research project in the field of energy system modeling
- Independent, neat, and structured way of working
- Communicative attitude
- First experience with python plotting libraries like plotly and matplotlib are beneficial

Contact

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