

Name of supervisor(s)

Roithner, Max
Zeyringer, Marianne

Preferred background of candidate(s)

Computational Science and/or
Informatics and/or
Physics and/or
Energy Systems and/or
Meteorology and/or
similar

Number of available projects

1

Preferred project period

Summer/Autumn 2023

Outline of project work, including expected outcomes/deliverables

Refactoring of data processing for model input and/or
Automation of modelling pipeline and/or
dashboard/visualization of model results

Brief description of the project (max 300 characters):

Would you like to contribute your software development/modelling/energy system skills to a real research project and learn more about the energy future of Europe?
Our research group works with/develops an open source electricity system model for Europe called highRES.
We use it to research and understand challenges and opportunities in the current large scale transformation of the energy system to low carbon emissions.
Join us in improving the workflow, by making the model more transparent, reproducible and easy to understand.

Technologies we use currently or would like to use with you are:

- * The Python programming language & the pandas, xarray and geopandas packages amongst others
- * The version control system Git
- * The workflow management system snakemake
- * The general algebraic modelling system (GAMS)
- * The high performance computing system FOX

Tasks can include:

- * rewriting Excel formulas in Python
- * creating snakemake automation
- * wrting plotting and analysis scripts

If you possess expertise with one or more of the above-mentioned technologies and are motivated to work on tasks like the ones mentioned in the examples, please apply for this project. We are somewhat flexible and will try to match the task with your expertise and interests.

This project provides you with the opportunity to prove, increase and learn new skills. There are few better ways than actually learning those with a project and problem at hand, and they can be very helpful in your further career.