Topic Description
Master’s Thesis / IDP / Research Internship (Forschungspraxis)

Global Potential of Renewable Energies

Background
In order to make Germany climate-neutral by 2050, the power, transport and heating sectors require low emissions solutions. Renewable energies such as solar, wind, biomass and hydropower will make a big contribution. For this reason, we are developing an opensource tool, called pyGRETA¹, which estimates the global potentials and generates time series of renewable energies worldwide. The knowledge about the estimated global potentials help to understand and support the transformation to become climate-neutral by 2050.

What are the goals of the work?
The goal is to extend our existing tool pyGRETA to further renewable energies such as hydro or biomass. For instance, hydro energy has huge potentials on a global scale and helps to balance the power system. The output can also be used as inputs to our optimization model urbs to optimize energy systems worldwide.

What should you bring with you?
- Interest in renewable energy technologies
- Knowledge of Python; GIS/geo-referencing tools is preferred (not mandatory)
- Please attach your CV and grade report to your application

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¹ www.github.com/tum-ens/pyGRETA