

# Master's Thesis

(Theoretisch)

## Determination of the Technical Potential of Roof Top PV in Germany

### Description:

As part of the 'H2-Reallabor Burghausen', potentials for the sustainable transformation of the Bavarian ChemDelta are being determined. A particular focus is on CO<sub>2</sub>-neutral energy and material flow supply. Electrical energy from photovoltaics (PV) on roofs is one major contributor to sustainable energy.

Based on a literature research on current regulations for the construction and operation of PV on roofs, a data collection of relevant criteria for the identification of possible PV construction sites in Germany is carried out. With this data, a spatially resolved model is implemented using geo-information data (GIS). Based on this, the current geographical and regulatory potential of roof top PV in Germany is determined. The whole model is designed to be easily adaptable in the event of changes in legislation. Based on the geographical potential, a spatially resolved calculation and visualisation of the technical potential is carried out. In addition to the current technical potential, a methodology is developed that includes future developments and potentials up to 2050.

The work is rounded off with a detailed discussion of the spatial distribution of the potentials and a description of future obstacles and drivers.

### Requirements:

- Experience with Python
- Experience with Geoinformation data is preferable but not necessary

### Working packages:

- Literature research
- Collection of relevant spatially and temporally resolved data
- Development and implementation of a potential model via Python
- Discussion of the final potential map



**Beginning:** Right now

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