

# Term Project

(Theoretical)

## Determination of a Sustainable Hydrogen Production Potential in Germany

### Description:

As part of the 'H2-Reallabor Burghausen', potentials for the sustainable transformation of the Bavarian ChemDelta are being identified. A particular focus is on climate-neutral energy and material supply. A key input needed is sustainable hydrogen (H<sub>2</sub>) which can be produced by means of electrolysis. Surplus electricity and waste heat are required for this technology. Based on a literature research on the current regulations for the construction and operation of electrolysis plants in Germany, a data collection of relevant criteria for the identification of possible production sites is carried out.

The data collection is used to implement a spatially-resolved model using geo-information data (GIS), which makes it possible to determine the current geographical potential in Germany. Based on the geographical potential, a spatially resolved calculation and visualisation of the technical potential will also be carried out. In addition to the current geographical potential, a methodology will be 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 potential and a description of possible future obstacles and drivers.

### Requirements:

- Experience with Python

### Work packages:

- Collection of relevant technical and structural data
- Implementation of the model in Python and creation of a potential map
- Discussion of the results

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