

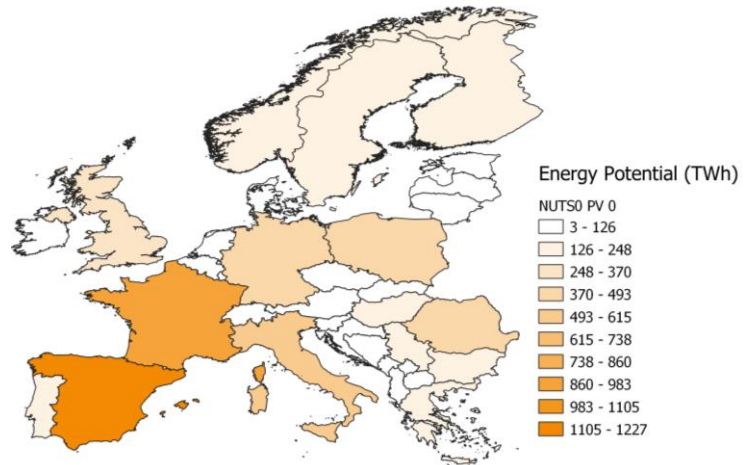
## Master's Thesis

# Expansion of *pyGreta* to Biomass energy

## Background

As a part of the research project ETSAP-Deutschland, the further development and use of *pyGRETA*<sup>a</sup> is planned. *pyGRETA* is a tool written completely in python to generate **renewable time-series** and **maps** for potential for user-defined regions within the globe.

*pyGRETA* is currently developed for the technologies PV, CSP, Wind Onshore and Wind Offshore, all of which take input from historical weather datasets. To expand the tool to calculate potential of biomass at high resolution, new data sources have to be explored and a new infrastructure has to be developed.



Result from *pyGRETA* - PV potential map for Europe

## Goals

Within this Master's thesis:

- Literature review will be done to get the process of evaluation for the **Potential of Biomass**.
- A search for high resolution of data sources that serve as input to the tool will be conducted.
- A first approach towards integrating the biomass energy into the *pyGRETA* will be suggested.

## Learning outcomes

By completing this thesis, you will

- obtain knowledge regarding the **global** biomass energy potential
- get an exposure on modelling and geo-referencing in the field of energy systems
- get familiar with the workflow of the research project ETSAP-Deutschland

## Requirements

- Basic understanding of the renewable energies
- Knowledge of Python and pandas
- Knowledge of GIS/geo-referencing tools is preferred (not mandatory)
- Please attach your CV and grade report to your application

## Contact

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<sup>a</sup> <https://github.com/tum-ens/pyGRETA>