TECHNISCHE UNIVERSITÄT DRESDEN

Fakultät Wirtschaftswissenschaften, Lehrstuhl für Energiewirtschaft (Prof. Möst)











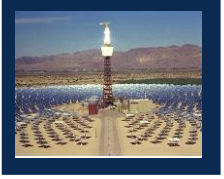

DIPLOMA- / MASTER´S THESIS

EXPLORING DECARBONISATION PATHWAYS IN INDIA WITH THE OPEN-SOURCE MODEL PYPSA-EARTH

BACKGROUND AND SCOPE OF THESIS

We invite students from different disciplines dedicated to energy economics to join us in an exciting master's or diploma's thesis project focusing on modeling India's energy landscape using PyPSA-Earth, an advanced open-source energy system model in Python.

Objective:

This research endeavor will investigate the intricate dynamics of India's energy system, with a particular emphasis on renewable energy integration and the evolving transport sector. By leveraging PyPSA-Earth's cutting-edge capabilities, the thesis aims to explore how renewable energy sources can be optimally integrated into electricity grids and how electric vehicles (EVs) can contribute to handle grid congestion.

Tasks:

- Developing a comprehensive power market model of India's energy system, considering factors such as renewable energy generation, conventional power plants, transmission infrastructure, and EV adoption based on the dataset provided within the PyPSA data frame.
- Analyzing the synergistic relationship between renewable energy deployment and the electrification of the transport sector, considering flexibility avenues for grid management.
- Identifying innovative strategies for decarbonizing the Indian power sector and renewable integration.

The thesis' language and language of supervision can be either English or German according to the candidate's preference.

START / LENGTH

Immediately / 4-6 months based on the candidate's study program.

REQUIREMENTS

Basic knowledge in the field of energy economics/energy engineering
Please apply in written form with a short CV, transcript of grades and a short letter of motivation.

CONTACT PERSON

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