Brandenburgische Technische Universität Cottbus - Senftenberg

Chair of energy economics
Bachelor / Master Thesis

Topic description:

Over the past years, auctions have been widely adopted as an essential policy instrument to promote the investment in renewable energy technologies. Auctions have generally been perceived as successful around the world due to an often high supply together with falling, and sometimes very low, resulting prices. Low prices may indicate that renewables are already mature and competitive technologies, but they can also indicate uncompetitive behaviors that could translate into low project realization, thus, jeopardizing the policy's objective. Measuring project realization is therefore imperative when evaluating the success of an auction program.

However, tracking project realization can be cumbersome for the following reasons: First, the information can only be retrieved after the project construction deadline is met and second, the information on project construction is usually not unified and requires the merging of several datasets.

Germany started auctioning wind onshore projects in 2017, that is, the first deadline was met in 2019. Your job is to calculate the project realization rate and explain drivers for the success/failure of the program.

A bachelor thesis should involve the following parts:

- An understanding of the wind auction program design in Germany (Regulation)
- An update of a database on wind onshore auctioned projects
- The merging of different datasets to find realized projects (R or python needed)
- An analysis of factors fostering and deterring construction

A master thesis should additionally include:

- An analysis of project duration
- An analysis of market concentration involving the aggregation of developers.
- The merging of different datasets to find single bids (R or python needed)
- An explanation of drivers behind the bids.

Our expectations:

- Basic knowledge of R or Python and willingness to work with these programming languages.

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