



Bachelor Thesis

A comparison of Italy's and Germany's conditions for a unique system marginal price

An ongoing debate of the German power market design concerns the form of the locational price signal on the transmission grid level. Currently, entire Germany constitutes one price zone, so that all electricity generators and consumers are subject to the same electricity price. The transmission grid operator uses a redispatch mechanism to meet the transmission grid capacities and pass on the resulting costs to the consumer. An alternative to this approach would be to incorporate the grid capacities into the power market by splitting Germany to distinct price zones.

One common argument against this zonal split is that it is undesirable to charge consumers of the same country different electricity prices based on their location (Eicke et al., 2022). Italy, however, relies already on a zonal split. To address the distribution concerns, Italy provides a unique system marginal price (USMP) on the demand side as average of zonal supply prices (Bigerna, 2016), i.e., while generators face different locational prices, all consumers in Italy face the same price. This poses the question, whether an USMP would be applicable in Germany.

The goal of this thesis is to compare the Italian and German power systems' conditions for the applicability of a USMP. This analysis includes a familiarization with the concept of zonal pricing and the Italian power system and conducting the analysis and comparison itself.

Key tasks and objectives of the thesis

- Describe the Italian USMP.
- Compare the Italian and German conditions regarding the applicability and effect of the unique system marginal pricing scheme.

Your profile

- Economics major, best with a focus on energy
- Analytical thinking and the ability to carry out independent scientific work

Literature

- Eicke, Anselm, and Tim Schittekatte. "Fighting the wrong battle? A critical assessment of arguments against nodal electricity prices in the European debate." *Energy Policy* 170 (2022): 113220.
- Bigerna, Simona, and Carlo Andrea Bollino. "Ramsey prices in the Italian electricity market." *Energy Policy* 88 (2016): 603-612.
- Bigerna, Simona, and Carlo Andrea Bollino. "Electricity demand in wholesale Italian market." *The Energy Journal* 35.3 (2014): 25-46.
- <https://www.terna.it/it>

Contact



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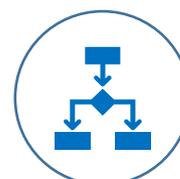
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Topics



- Zonal pricing
- Demandside

Methods



- Literature review
- Comparative analysis