



Bachelor/Master Thesis

## Institutional Regulation of Cross-Border Electricity Grid Expansion in the European Union

Efficient and coordinated cross-border electricity grid expansion plays a critical role in the transformation of the European energy system toward a low-carbon future. The European Union has established a complex institutional architecture to manage these developments, involving the Agency for the Cooperation of Energy Regulators (ACER), the European Network of Transmission System Operators for Electricity (ENTSO-E), and the European Commission. These bodies work together to design, monitor, and implement projects of common interest (PCIs) and ensure that network investments align with decarbonization and market integration objectives. However, some questions remain, such as how to divide the costs of cross-border infrastructure between countries and how to structure tariffs (Willems, 2025). Further, conflicts between national regulatory authorities and EU-level coordination mechanisms often lead to delays and inefficiencies in planning and financing interconnectors. Puka & Szulecki, (2014) emphasize the political dimensions of cross-border grid expansion, while Steinbacher et al. (2019) compare institutional architectures in different regions of the world. This topic invites research into the institutional and economic underpinnings of European grid governance, with a focus on how regulatory design, political and economic interests, and financial frameworks shape cross-border cooperation for grid expansion.

### Key tasks and objectives of the thesis

- Assess the effectiveness of ACER, ENTSO-E and the European Commission in coordinating cross-border network expansion.
- Evaluate cross-border cost allocation mechanisms (CBCA) for Projects of Common Interest.
- Compare governance models between national (e.g. German) and EU-level regulators.
- Explore economic arguments for and against regulation and for and against deregulating cross-border network expansion. Explore from a theoretical perspective the institutional setup that is first best.

### Your profile

- Study of economics, industrial engineering or comparable (both BA and MA are accepted, expectations regarding the thesis will adjust)

### Literature

- Puka, L., & Szulecki, K. (2014). The politics and economics of cross-border electricity infrastructure. Energy Research & Social Science.
- Steinbacher, K. et al. (2019). Cross-border cooperation for interconnections and electricity trade. Guidehouse Report.
- Willems, Bert et al. (2025): Cross-border cost allocation for electricity transmission networks. CERRE Report.

### Contact



**Amir Ashour Novirdoust**

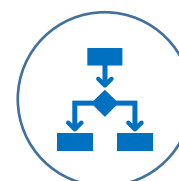
amir.ashour@ewi.uni-koeln.de

### Topics



- European institutions
- Policy evaluation

### Methods



- Economic analysis
- Literature review