

EXECUTIVE SUMMARY

The paper “**Determining Optimal Interconnection Capacity on the Basis of Hourly Demand And Supply Functions of Electricity (EJ 17-047)**” by Jan Horst Keppler* and William Meunier** deals with optimising the levels of interconnections for cross-border electricity to trade improve price convergence and welfare. Increased production from variable renewables in fact implies higher levels of optimal interconnection capacity than in the past. Rather than using scenario building to determine new optimal levels of interconnection capacity, this paper presents a new methodology for Cost-Benefit Analysis (CBA) based on empirical market data, using the French-German electricity trade as an example. Employing a very fine dataset of hourly supply and demand curves (aggregated auction curves) from the EPEX Spot market, it constructs net export (NEC) and net import demand curves (NIDC) for both countries. This allows assessing hourly welfare impacts for incremental capacity and, summed over the year, the annual welfare benefits for each discrete increase in interconnection capacity. Confronting benefits with the annualised costs of increasing interconnection capacity determines the socially optimal increase in interconnection capacity between France and Germany on the basis of empirical market micro-data.

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