

RES displacement: implications for system operations and EU policy design

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Extended Abstract

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Abstract Summary

The full integration of European electricity markets and its central welfare optimisation means that decisions on national energy policy design has an effect on whole Europe. Already today the different national subsidy schemes for renewable energy sources (RES) influence the bidding behavior in different bidding zones (BZ) in Europe. In the presence of subsidy schemes RES generators can have the incentive to bid negatively since their subsidies upon generation results in an overall positive yield, while RES generators without subsidies bid their marginal costs close to 0 €/MWh. In this paper we show via a case study of the DE/LU, NL, ES, and IT bidding zones for the year 2023 to 2025 that the different bidding incentives lead to RES displacement of RES in bidding zones without subsidies (importing BZ) by RES from bidding zones with subsidies (exporting BZ). RES displacement, hence, results in inefficient curtailment of RES in the importing BZ, and as such counter-intuitive measures for system operations to ensure the possibility of these power flows.

Presenting Author Biography

Marius Schrade has been a European electricity markets and system operations expert at 50Hertz, a German transmission system operator, since 2019, where he focused on regional and pan-European electricity market integration projects within the system operations department. He is co-editor of the book "European Electricity Market Coupling – A Practitioner's Guide". Before joining 50Hertz, he studied European Economics and holds a Double Degree from the universities of Maastricht in the Netherlands and Louvain-La-Neuve in Belgium.