FLOW BASED MARKET COUPLING @ THEMA

Flow based market coupling (FBMC) will be introduced as the new market design in Central West Europe (CWE), i.e., Germany, France, The Netherlands, and Belgium. FBMC is a complex market design, impacting markets significantly. THEMA helps clients understanding and modelling FBMC.

ABOUT FBMC

FBMC will be the new market design in CWE for handling cross border *and* internal bottlenecks. In the ATC (Available Transfer Capacity) market design, market flows can differ significantly from physical flows. In the FBMC market design both are more similar as the FBMC algorithm solves market dispatch *and* flows simultaneously. What sounds like a trifle is in fact a major difference.

UNDERSTANDING FBMC

The FBMC algorithm uses so-called PTDFs (Power Transfer Distribution Factors) in order approximate physical flows. Parallel runs for 2014 indicate a significant impact on power prices in the CWE countries. Power markets in neighbouring countries are also affected. THEMA helps you understanding the new market design, what it actually implies, and how markets – also outside CWE – may be affected.

MODELLING FBMC

THEMA has developed a generic modelling framework simulating FBMC and mimicking the new market clearing algorithm. The model can be run with exogenously parametrized demand and supply curves, taking into account forecasts for intermittent generation and up-to-date demand forecasts. The model is implemented in GAMS, using CPLEX or other solvers, while inputs and outputs can be handled in e.g. MS Excel or R, or be included in an automated workflow.
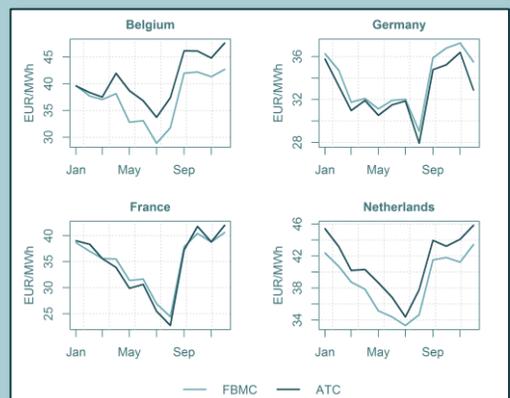
CONTACT INFORMATION

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Deliverables and Models

THEMA offers a wide range of services around FBMC, including introduction workshops, tailored studies, as well a model simulating FBMC and mimicking the new market clearing algorithm.

We also help clients in handling the required input data for the model, analysing the output, and automating the processes.

SAMPLE: ATC vs. FBMC

MODEL

GAMS

WORKSHOP

I/O DATA