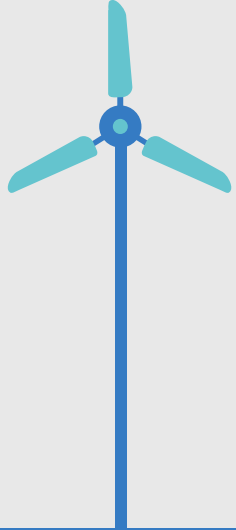




From Scarcity to Surplus

Navigating the Era of Negative Prices

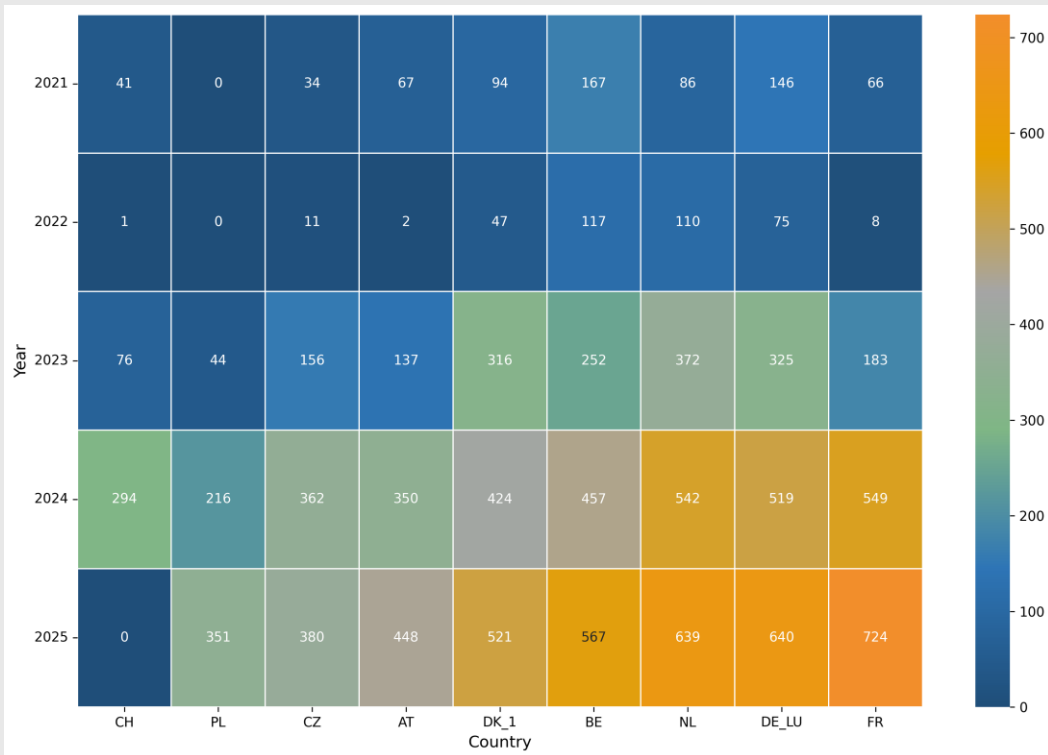
Dr. Vija Pakalkaite
Strommarkttreffen 17.10.2025





Tracking the Rise of Negative Electricity Prices

The count of (sub)zero price hours in Germany and its neighbours



- Negative prices aren't just about renewables—they signal systemic inflexibility driven by inelastic demand, rigid generation, and grid bottlenecks.
- A combination of inelastic demand, inflexible conventional generation, and grid constraints, all catalysed by the rise of zero-marginal-cost power.



Dual Role of FBMC in Negative Price Events

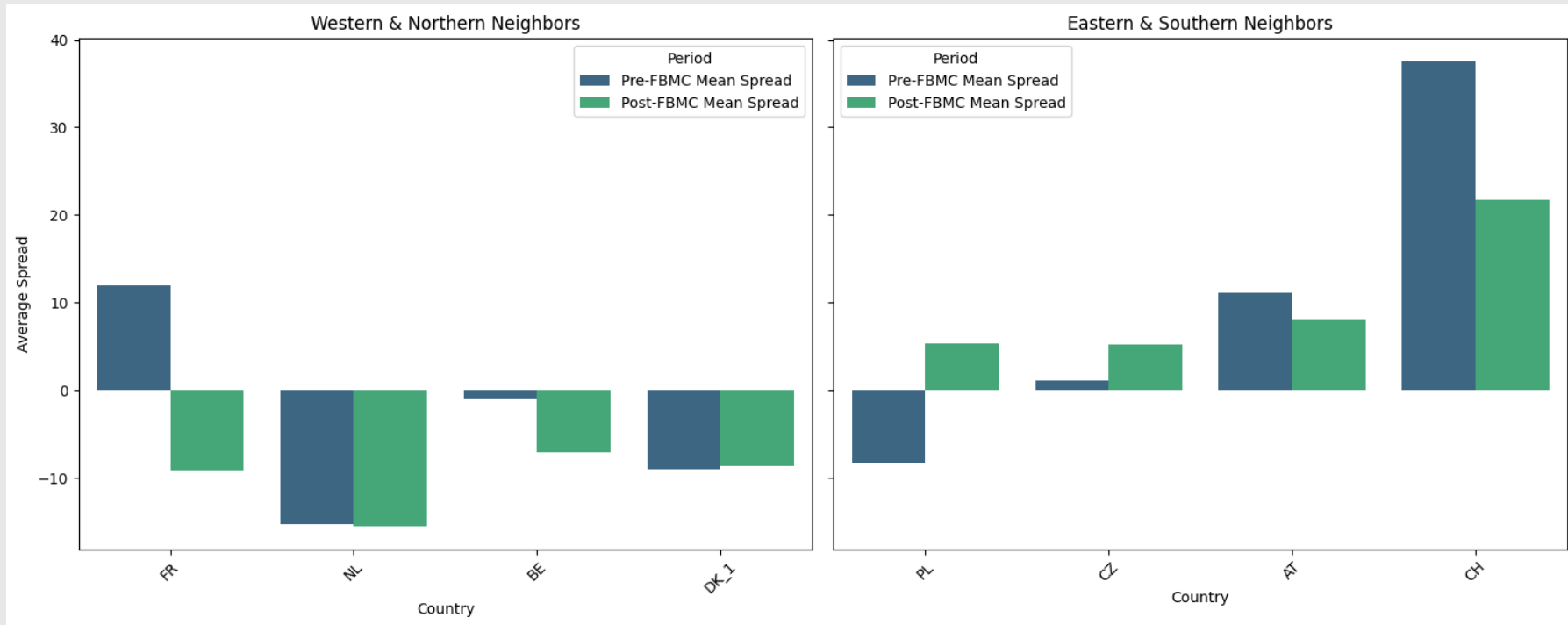
**H1: Mitigation Effect
(The Intuitive
outcome)**

FBMC alleviates negative prices by creating a larger, more efficient market to export surplus energy.

FBMC can worsen negative prices by adding power to an oversupplied zone to ease grid congestion elsewhere

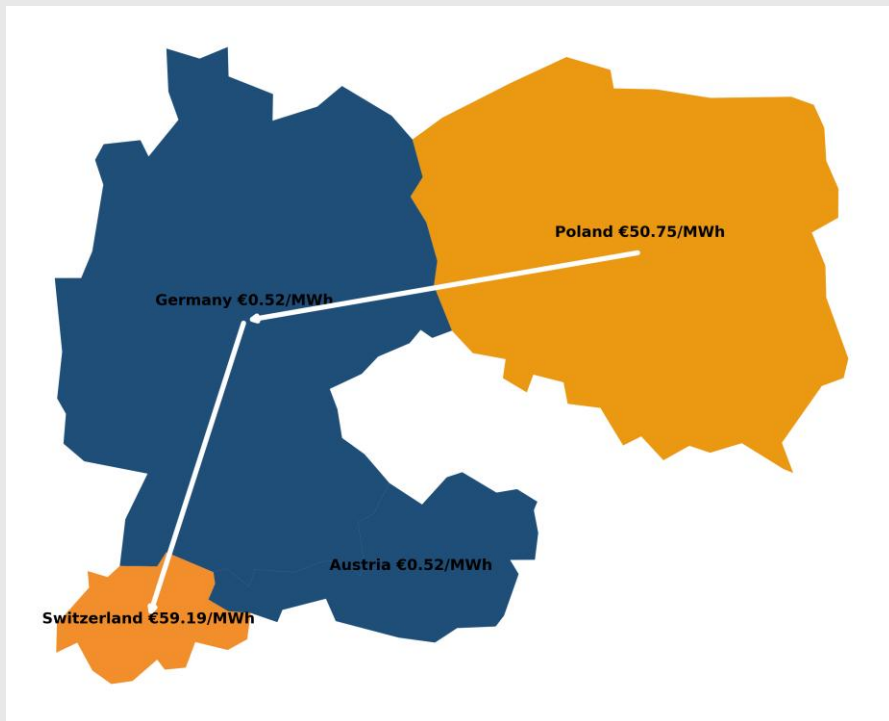
**H2: Amplification
Effect (the
Counterintuitive
Outcome)**

Mitigation



FBMC aligns prices in meshed grids but can't overcome hard physical limits. East/South spreads persist during zero-price events before and after June 2022.

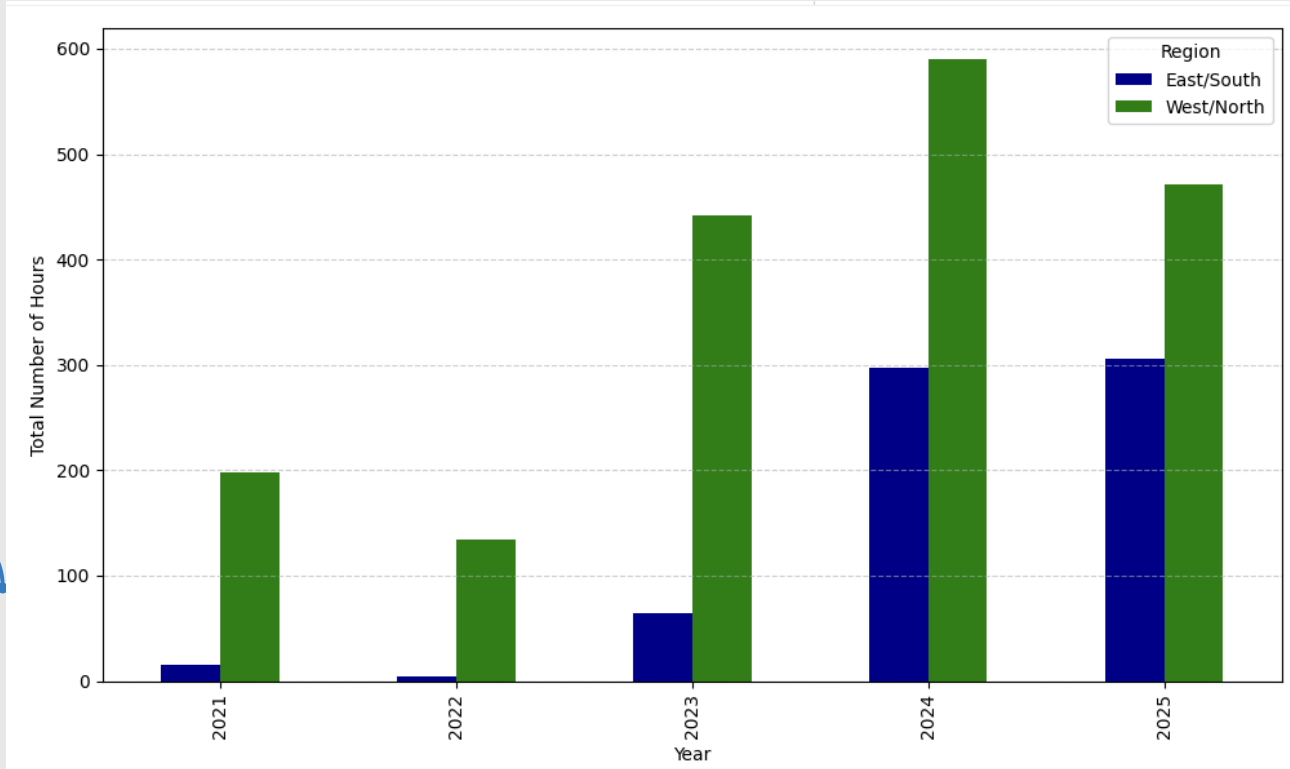
The amplification mechanism



- Counterintuitive flows: importing expensive power eastward to unlock westward exports and maximize system welfare.
- The effect – deeper negative prices in the importing zone as surplus grows, even though overall system welfare improves.

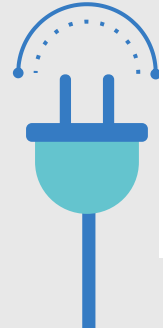
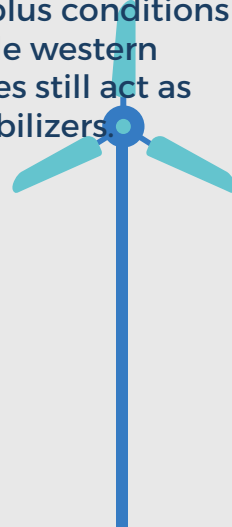


Amplification



- Hours that combine both zero-price and counter-intuitive flow conditions cluster mainly on the eastern and southern borders

Amplification dominates under surplus conditions – while western interfaces still act as stabilizers.



Conclusion

- **Trend:** Negative prices and congestion will grow with RES share.
- **Impact:** Amplification effect becomes more frequent.
- **Action:** Deploy flexibility where amplification clusters (PL, CZ, AT, CH)
 - Business case for flexibility providers