

## **GAS MARKET IMPACTS ON POWER PRICE FORMATION IN FUTURE POWER MARKETS**

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### **Extended Abstract**

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### **Abstract Summary**

The existing literature shows clear results on the predominance of gas power plants in setting prices in future European power markets. However, it is unclear how structural changes in the gas markets, driven by exposure to global LNG, affect price formation, i.e., how strong these spillover effects are. Using a perfect foresight power market model, we analyze these impacts by developing synthetic profiles based on historical within-month volatility patterns in gas prices. Using the September 2025 and October 2023 prices as references for Low and High Volatility gas price scenarios, we run the market models for 2035 in Northwestern Europe. The results indicate that higher volatility can lead to a greater share of gas plants on the margin, but only at the middle range of renewable shares (i.e., 30%-50%) of total generation. Overall, this results in higher carbon emissions because it displaces cleaner fuels such as biomass and hydrogen. However, the within-day spreads of power prices lie within a similar absolute range across both scenarios, despite varying gas prices, suggesting potential consequences for utility companies in terms of cross-commodity risk assessment.