

Demand and Supply Management for Electricity Markets: Econometric Analysis of Electricity Prices

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Abstract : This paper investigates the potential for demand-side management for the system price in the Nordic electricity market and the price effects of introducing wind-power into the system. The model proposed accounts for the micro-structure of the Nordic electricity market by modeling each hour individually, while still accounting for the relationship between the hours within a day. This flexibility allows us to explore the differences between peak and shoulder demand hours. Preliminary results show potential for demand response management, as indicated by the price elasticity of demand as well as a small but statistically significant decrease in price, given by the wind power penetration. Moreover, our study shows that these effects are stronger during day-time and peak hours, compared to night-time and shoulder hours.

Keywords : structural model, GMM estimation, system of equations, electricity market

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