

Master's Thesis: Power Price Prediction

Background and data

The electricity market operator Nord Pool publishes the hourly electricity prices for the following day (Day 1) each day around lunchtime (Day 0). This allows companies and private households to schedule energy-intensive activities – such as water heating or electric vehicle charging – in a cost-efficient manner. These scheduling decisions can be made by smart automated devices. However, scheduling could be further optimized if predictions for electricity prices two days ahead (Day 2) were also available.

The goal of this project is to predict hourly electricity prices for Day 2 in the Swedish region SE3, using historical data up to and including Day 1, and using weather (forecast) data.

Historical hourly electricity price data from more than one year is available. You are supposed to reflect on relevant weather data and to collect it for a reasonable time-period. Your task is then to develop a prediction model using a regression model, a random forest model, and/or a time series model and evaluate the accuracy of your predictions by comparing them with the true prices.

Research questions

- How accurate are predictions based on the different models?
- Which features provide the most useful information for predictions?

Eligibility Criteria

Some background in time series models is helpful.

Contact person

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