

New trends in energy market forecasting

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In the smart grid era, the demand for electricity – and hence the electricity wholesale price – is more active and less predictable than ever before. As a result, probabilistic load and price forecasting, which provides additional information on the variability and uncertainty of future load values, is becoming of great importance to power systems planning and operations. In this talk I will explain the complexity of available solutions, their strengths and weaknesses, and the opportunities and threats that the forecasting tools offer or that may be encountered. I will also look ahead and speculate on the directions the forecasting community will or should take in the next decade or so. In particular, I will present a novel method of computing prediction intervals – *Quantile Regression Averaging* (QRA) – which involves applying quantile regression to a pool of point forecasts of individual forecasting models. As such, QRA can leverage existing development of the point forecasting literature and yield high quality probabilistic forecasts. I find QRA particularly attractive from a practical point of view and expect its widespread use in probabilistic forecasting, not only in the context of electricity loads and prices but also in other areas of finance, and in risk management in particular.

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