

Master Thesis

An Analysis of Errors in Forecasts for Energy Prices

Background

Energy prices are highly volatile and future price developments are notoriously hard to predict. Nevertheless, since energy prices are an important cost component for many companies there exist a range of long-term forecasts of prices for energy commodities supplied by international agencies as well as private firms. However, these forecasts have often been found wrong in the past.

Research Questions

The thesis topic is a systematic comparison of forecast quality between different suppliers and an analysis of the forecast errors with a focus on oil and gas markets.

In particular, the following questions should be investigated:

- What is a suitable framework for the evaluation of forecast errors from different providers?
- What causes forecast errors? Are the errors mainly driven by demand shocks (new technologies, global economic trends, political events, ...) or supply shocks (regulation, extraction technologies, ...)? Would these trends have been predictable?
- Are there systematic errors in some of the forecasts?
- Are the forecasts driven by the interests of the clients of the forecasters?
- Which forecasts performed best in the past? Which work best in certain situations?

The thesis is co-supervised by the *Stadtwerke München (SWM)*. The selection of a suitable candidate and the detailed specification of the project will take place in close cooperation with the SWM.

Qualified applicants are invited to send their electronic application to cem@wi.tum.de.