A Stochastic Unit Commitment Model for a Local CHP Plant

Local CHP development in Denmark has during the 90’s been characterised by large growth primarily due to government subsidies in the form of feed-in tariffs. In line with the liberalisation process in the EU, Danish local CHPs of a certain size must operate on market terms from 2005. This paper presents a stochastic unit commitment model for a single local CHP plant (consisting of CHP unit, boiler, and heat storage facility) which takes into account varying spot prices. Further, additional technology is implemented in the model in the form of an immersion heater. Simulations are conducted using the spot prices of the years 2001-2003, both with and without the immersion heater included in the model, and the results are compared to the full information case.