

# FCR-D Down bidding strategy

**Day ahead bidding strategy to maximise the value of FCR-D Down offered from wind parks.**

## The Project

There is a new balancing market opening at the turn of the year 2021/2022. This market is suitable for wind power and the basis is that wind turbines will produce less power at times when the system frequency is too high. SVK will be procuring this service for all hours of the year and pays the participants to be ready to curtail (reduce production). The payment is received by the wind park whether any curtailment is needed or not.

At Modity we have historical wind production data, wind forecast data, frequency data etc. and a need to find an optimal (or near optimal) bidding strategy (volume and price) that maximises the value of the wind parks flexibility.

The volume part is quite straight forward. Based on historical variations from wind forecast to actual production, and an assumption on the penalty fee for selling more than you can deliver, it should be possible to find a strategy that maximises the hourly volume each park can offer. The price part however is trickier since the market has not yet opened and we have no historical prices. Here it might be possible to find proxy markets with similar price dynamics otherwise theoretical reasoning might have to suffice. Or an approach based on the prices that will become available from 1 Jan 2022.

## About the company

Modity are an energy trading company with 40+ employees situated in central Lund. Our customers are energy companies, energy producers (mainly windfarms) and industry. We manage risk and take care of energy trading for our customers so they can focus on their core business. Modity is also working for a sustainable society and a reduced climate impact, one way we do this is to actively work for an increased share of renewable power in our portfolio as well as in the power system.

### The master thesis position

Modity can offer the right applicant:

- A seat at our office in central Lund
- A standard master thesis compensation (TBD with applicant before work commences)
- A thesis subject where we hope to incorporate the result to solve existing problems.

**Please send any questions and applications (including CV and short presentation of yourself) to:**

Erik Östberg  
Head of Quant and Business IT

072-246 91 27  
[erik.ostberg@modity.se](mailto:erik.ostberg@modity.se)

