

Predicting the Hourly Ontario Energy Price (HOEP) in the medium and long term

submitted by the Hydro-Québec energy trading floor

Predicting the electricity spot price on various Hydro-Québec export markets is a crucial part of the activities of its energy trading floor. The sales planning team uses the spot price to model the evolution of the sales volume (and the resulting revenue) over medium-term and long-term horizons.

Predicting the spot price on the Ontario market is especially difficult because of the characteristics of this market and the variables affecting the spot price.

(a) 12 percent of the Ontario energy production is wind-based and wind energy is an intermittent resource.

(b) Ontario has many fixed-price supply contracts.

(c) There is a lot of uncertainty in the demand forecast by the Ontario market manager.

A large fraction of Hydro-Québec exports are sold to Ontario. Modelling the hourly price is difficult: hence there is a discrepancy between the long-term forecast of sales and the actual sales volume.

The data used to build a better model (supply, demand, price, temperature, etc.) will be made available by Hydro-Québec. Several avenues may be proposed to solve the problem and they will be explored with members of the sales planning team. These members will interact with IVADO researchers and students to answer their questions and provide them with data.