Propositions

attached to the thesis

Market Risks and Strategies in Power Systems Integrating Renewable Energy

Derck Koolen

Erasmus University Rotterdam
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I

The increasing market share of intermittent renewable energy sources affects motives for forward trading such as hedging, convergence bidding and strategic trading in short-term sequential power markets.

(This thesis)

II

The increase of intermittent production sources affects risk preferences of producers and retailers and may lead to non-monotonic behavior of the forward risk premium.

(Chapter 2)

III

Influenced by the ability to predict and gather information of producers and retailers, large-scale renewable production and distributed renewable energy sources oppositely affect the short-term forward risk premium.

(Chapter 3)

IV

With a high share of intermittent producers with low marginal production costs, non-intermittent producers with higher marginal production costs can retain their profits by shifting their focus from the forward to the spot market.

(Chapter 4)

V

There is a strategic convenience yield for flexibility in short-term power markets with increasing shares of intermittent renewable energy sources.

(Chapter 4)

VI

The key to a successful energy transition is to ensure that markets provide adequate price signals for assets and investments, ensuring the security of supply in an efficient and sustainable manner.

VII

A market efficient integration of intermittent renewable energy resources may be enhanced by leveraging the value of real-time information, data and price signals from smart meters and other IoT devices.

VIII

The analyses of relationships between market participants, technology adoption and market strategies provide key ingredients for devising a robust well functioning electricity market, its design and governing policies.

IX

Power market design must be inherently robust, as markets and financial stakeholders may create instabilities, potentially leading to huge losses and black-outs, while the bill is eventually paid by the customer.

X

Supported by an abundance of renewable energy sources, we have the potential to galvanize an energy transition and decarbonize our energy markets. In today's fossil era, we stand at a crossroads. Given what is at stake, taking the wrong turn is not an option.

XI

As a PhD researcher, every day feels like a Saturday. Note that the researcher works on Saturdays.