ELECTRICITY PRICE FORECASTING FORUM

Date: 07 - 08 March 2023, Venue: Berlin, Germany

prima

INTRODUCTION

Electricity price forecasting (EPF) is the process of using mathematical models to predict what electricity prices will be in the future. EPF is an extremely important factor in the utilities' decision-making process.

There is short-, medium- and long-term forecasting.

- **Short-term forecasting,** generally involves horizon from a few minutes up to a few days ahead and is of prime importance in day-to-day market operations.
- **Medium-term forecasting,** from a few days to a few months ahead, is generally preferred for balance sheet calculations, risk management and derivatives pricing.
- **Long-term forecasting,** with lead times measures in months, quarters or years, concentrates on investment profitability analysis and planning.

Short industry description and background to the topic

Electricity (energy commodity) is traded on the wholesale market. Suppliers (electricity generators) and demanders (retailers) are active on the wholesale electricity market. They meet on the power exchange. Electricity generators disclose the amount of power they are willing to sell for a given price and demanders disclose the amount of power they are prepared to buy for a given price. As electricity cannot be stored economically, the electricity market has a highly volatile character. That is why electricity price forecasting has to be based on reliable models that take into account all major factors affecting the price.

Glossary

Wholesale Market: Electricity (energy commodity) is traded on the wholesale market. Suppliers (electricity generators) and demanders (retailers) are active on the wholesale electricity market.

Retail Market: Retailers purchase significant volumes of electricity in the wholesale market and sell packages of smaller volumes to its customers.

A **spot price** is the current price in the marketplace at which a given asset such as a security, commodity or currency can be bought or sold for immediate delivery.

A **forward price** is the predetermined delivery price for an asset decided upon by the long (the buyer) and the short (the seller) to be paid at predetermined date in the future.

Price volatility

Liquidity

Why this conference and why now

The European Electricity market is constantly changing. These changes are posing challenges to utility companies, especially to modellers, forecasters, traders and analysts. **The key question is how to make reliable models and forecasts if the market is so volatile and constantly changing.**

DAY 1

09.15 OPENING ADDRESS FROM THE CHAIR

KEYNOTE ADDRESS

09.30 SUCCESSFUL RISK MINIMIZATION WHEN HEDGING LARGE MULTI COMMODITY PORTFOLIOS

- Setting risk-bearing capability and risk appetite Separating
- discretionary position taking and hedging Objectives for hedging
- Cash-liquidity and accounting impacts
- Effective vs. efficient hedging
- Organizing the hedge process – delegated or central?

Henrik Specht
Director Risk Analysis and Deputy Chief Risk OfficerAnalysis

VATTENFALL

10.15 Data-driven Electricity price forecasting for market participants: how transparency and probabilities are changing the game"

- Follow the typical journey of an energy trader and understand how Machine Learning plays an increasingly important role in the quality of the forecasts he/she relies on
- Understand how transparency and explainability of these AI models can enable market participants to unleash the power of data and take better informed decisions
- Discover N-SIDE's probabilistic approach in reconstructing the expected distribution of target quantities

Giancarlo Marzano
Business Development Engineer - Energy Forecasting Lead

N-SIDE

11.00 COFFEE BREAK AND NETWORKING

11.30 European Electricity Market Coupling: look back and forward

- Status of European Day-Ahead and Intra-Day Markets - Roadmap of Market Coupling
- Market Design discussions in Europe

Dr. Andre Estermann, TSO Chairman of European Market Coupling

50hertz

12.30 LUNCH

14 .00 Prices after the shock

- What is the new normal of energy prices after the shock?
- The uncertain coexistence of gas security and climate policy

Michele Governatori
Power and Gas Lead
ECCO Think Tank

14.45 USE OF LARGE-SCALE ENERGY MODELS FOR LONG-TERM ELECTRICITY OUTLOOK – STRENGTHS AND LIMITATIONS

- Insights on electricity transitions from WEO-2022
- Capturing interdependencies within complex energy systems and considering the effect of cross-cutting public energy and climate policies
- Including more granular inter-temporal and geographical constraints: key tools and partnerships for IEA modelling

Max Schoenfisch
Power Sector Modeller

15.30 COFFEE BREAK AND NETWORKING

16.00 Focus on risk minimization via increased hedging volumes"

- Best practices for creating an Energy Risk Management framework
- Deep dive on hedging retail load and merchant generation
- At-Risk reporting and hedge performance monitoring:
- informing dynamic risk management
- Managing margins and portfolio liquidity

Anne Schenk
Vice President of Risk Management & Settlements

DAY 2

OPENING ADDRESS

09.30 The impact of Green Hydrogen on Electricity Price Forecasting

- The impact of Green Hydrogen on Electricity Price Forecasting
- more demand, more flexibility, more pressure

Dr. Sebastian Braun
Head of Power &
Hydrogen Quant Analytics

ICIS
Independent Commodity Intelligence Services

10.15 Forecasting made easy: from load prediction to anticipating critical transitions

- load forecasting in critical infrastructures
- live demo of day-ahead forecast
- anticipating critical transitions and predicting power grid failures

Arndt Telschow
Senior Data Analyst
Cuculus GmbH

CUCULUS

11.00 COFFEE BREAK AND NETWORKING

11.30 Multi-purpose Interconnectors modelling and socio-economic analysis

Multi-purpose interconnectors are dual functionality assets which combine offshore wind
connections with cross-border links between two or more countries
Discuss how we could build synergies in the North Sea and connect offshore wind farms
to multiple markets and elaborate on the market design changes that are required
Present a modelling approach to quantify the socio-economic benefits associated with
multi-purpose interconnectors

Georgios Charalampous
Market Fundamentals Manager

nationalgrid

12.30 LUNCH

14.00 The Global Market for Offshore Wind Energy - Status Quo and Market Potentials until 2030

- Offshore wind energy: expansion targets and requirements until 2050
- The Global Market for Offshore Wind Energy
- Status Quo and Market Potentials until 2030
- Trends and Developments in the (Global) Wind Market

Dirk Briese
Managing Director
Wind:research

14.45 Blockchain and the energy sector

- How blockchain is related to modelling and forecasting
- Philosophy & Technology of blockchain
- Current energy related use cases
- Future of blockchain

Paul Edge
Blockchain Lead

15.30 COFFEE BREAK AND NETWORKING

16.00

Pietro Rabassi
Director of Central European Market