

2nd Annual

European Electricity Price Modelling & Forecasting Forum

Modelling Market Risks and Volatility through Practical Analysis and Pricing Techniques

Radisson Blu Scandinavia Hotel
Düsseldorf, Germany

30th November-2nd December 2011

Including Half Day Interactive Pre-Conference
Workshop:

**Scenario Analysis & Risk Management in Electricity Price
Forecasting**

Led by:

Dr. Konstantin Lenz

Director

Lenz Energy

Senior Advisor

Energy Brainpool

Attending this Premier **marcus evans**
Conference will Enable You to:

- **Analyse** the key variables affecting price forecasting
- **Learn** how to build the most accurate price forecasting model
- **Understand** the role of renewables in the European market place
- **Diagnose** the limitations on pricing posed by current grid infrastructure
- **Review** the developments in market coupling

Learn from Key Practical Case Studies:

- **E.ON AG** outline the modelling methods to capture the impacts of uncertainty
- **EnBW Trading** address the key variables to incorporate in fundamental models
- **Edison** reveal results from European spark spreads
- **Vattenfall** consider the benefits of combining fundamental and statistical modelling techniques
- **Statkraft** examine how to manage renewables in market analysis

Gold Sponsor:



Establish the key variables impacting electricity prices to build the optimal price forecasting model

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In the Chair:

Sascha Enderle

Director of Analysis & Evaluation

EnBW Trading

Dr. Matthias Klapper

Senior Analyst, Modelling & Analysis

Vattenfall Europe Sales GmbH

marcus evans Expert Speaker Panel:

Dr. Armin Ardone

Vice President Commercial
Analysis Power &
Emissions

E.ON AG

Kasper Lou

Head of Power Price &
Market Analysis

DONG Energy

Paolo Maffeis

Senior Expert Market
Regulations

Alpiq Trading AG

Sascha Enderle

Director of Analysis &
Evaluation

EnBW Trading

Dr. Matthias Klapper

Senior Analyst, Modelling
& Analysis

**Vattenfall Europe Sales
GmbH**

Stefan Erath

Power Market Analyst &
Meteorologist

Norsk Hydro

Dr. Sven Orłowski

Head of Analysis

**Vattenfall Energy
Trading GmbH**

Derek Bunn

Professor of Decision
Sciences

London Business School

Evelin Luckerath

Head of Analysis

Statkraft Markets

Elisa Scarpa

Head of Market Analysis &
Forecasting

Edison Trading

Javier Alonso Perez

Deputy Director for
Bidding & Operations

Endesa

Dr. Konstantin Lenz

Director

Lenz Energy

Senior Advisor

Energy Brainpool

David Viduna

Head of Long Term
Origination

CEZ

Charles Verhaeghe

Head of Cross-Border
Power Trade Department

**Commission de
Régulation de l'Énergie**

Stefan Konstantinov

Formerly
Senior Strategy Analyst

EDF Energy

Dr. Glenn Drayton

Founder and Chief
Technology Officer

Energy Exemplar

Mahmoud Hamada

Visiting Professor

**HEC University of
Geneva**

Oliver John

Convener of ENTSO-E
Day-Ahead Drafting Team

Amprion GmbH

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Half Day Interactive Pre-Conference Workshop

30th November 2011

14:00 Registration and Coffee

14:30 Workshop Leader Introduction and Opening Remarks

Led by:

Dr. Konstantin Lenz

Director

Lenz Energy

Senior Advisor

Energy Brainpool

SCENARIO ANALYSIS & RISK MANAGEMENT IN ELECTRICITY PRICE FORECASTING

14:45 **"What if..." Price Simulation in Extreme Scenarios**

- The 'baseline' scenario
- Common adaptation of the parameters of this scenario by group:
 - Commodity prices
 - CCS construction
 - Construction of different types of renewable electricity sources
- A pan-European analysis

15:45 Coffee Break and Networking

16:15 **Market Reactions to the Unexpected & Unpredicted**

- Simulation of power prices with new parameters
- Resulting prices
- Consequences for investments in new capacities and politics

17:00 Closing Remarks from the Workshop Leader and End of Workshop

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1st December 2011

08:30 Registration and Coffee

09:00 Opening Address from the Chair

Sascha Enderle

Director of Analysis & Evaluation

EnBW Trading

MODELLING PUT INTO PRACTICE

09:10 **Opening Address**

Fundamental Modelling: The Key Variables in Today's Energy Market

- Understanding the role of weather
- Power plant availability
- Optimising multi-commodity portfolios:
 - Fuel costs
 - Long term gas contracts
 - Carbon management

Sascha Enderle

Director of Analysis & Evaluation

EnBW Trading

09:50 **Keynote Address**

New Research on Models & Forecasting

- The evolving drivers in the short & longer term
- Modelling volatility & spikes
- Balancing complex explanations with robust forecasts

Derek Bunn

Professor of Decision Sciences

London Business School

10:30 Morning Coffee and Networking Break

11:00 **Case Study**

Benefits of the Combined Use of Fundamental & Statistical Modelling

- Comparisons of the model types
- Which to use when?
- Effective integration of fundamental & statistical modelling

Dr. Sven Orłowski

Head of Analysis

Vattenfall Energy Trading GmbH

MARKET RISKS ON THE INCREASE

11:40 **Case Study**

Weather: The Short Term Variable

- The Nordic power market and its weather impact – historically and in the future
- Translating a weather forecast into an accurate forecasting tool
- Weather risk management: controlling volatility and jumping forecasts
- Short term optimization of a hydro power producer
- Long term forecasts and hedging

Stefan Erath

Power Market Analyst & Meteorologist

Norsk Hydro

12:20 **Interactive Roundtable Discussion**

Causes & Effects of Small Scale Price Volatility

- What volatility is caused by an increasingly complex energy market?
- What are the impacts of the interconnection of energy markets?
- Out of control: dealing with renewables, demand-side management & unusual weather conditions
- How is best to deal with these factors in modelling?

Moderator:

David Viduna

Head of Long Term Origination

CEZ

13:00 Pre-Lunch Address

PLEXOS Game Theoretic Models and 10-minute Dispatch in Price Forecasting



Dr. Glenn Drayton

Founder and Chief Technology Officer

Energy Exemplar

13:20 Lunch Sponsored by **Energy Exemplar**

14:20 Coffee and Networking Break

HARMONISING CROSS BORDER TRADING AND PRICE FORECASTING MODELS

14:50 **Adapting Models in Wake of Market Integration**

- What will increased market coupling mean for prices?
- Flow based market agreements and the effects on pricing
- Long-term rights to hedge for price spreads
- Avoiding bottlenecks and investing in interconnectors

Charles Verhaeghe

Head of Cross-Border Power Trade Department

Commission de Régulation de l'Énergie

15:30 **Case Study**

Towards an Integrated European Market

- The role of ENTSO-E in the electricity market
- Physical structure challenges
- Controlling price volatility in a European market

Oliver John

Convenor of ENTSO-E Day-Ahead Drafting Team

Amprion GmbH

16:10 Afternoon Tea and Networking Break

LOW FREQUENCY, HIGH IMPACT EVENTS – MODELLING FOR THE UNEXPECTED

16:40 **Case Study**

Nuclear Shutdown: Effects from the Short to Long Term

- Price differences: variations between the EEX & rest of Europe
- Will Germany stand alone or will others follow?
- Impacts on the grid & future investment decisions
- Adapting models to nuclear shut down
- What can substitute nuclear?

Paolo Maffei

Senior Expert Market Regulations

Alpiq Trading AG

17:20 **Panel Discussion**

What Are the Consequences of Large Scale Events on Company Strategy?

- What large scale events (such as German nuclear exit, economic crisis) can we still expect in Europe?
- What impact would it have on energy markets & a power company?
- How to protect a company against these events?
- How will these events & factors impact on the development of companies' strategies?

Moderator:

David Viduna

Head of Long Term Origination

CEZ

18:00 Closing Remarks from the Chair and End of Day One

2nd December 2011

08:30 Registration and Coffee

09:00 Opening Address from the Chair

Dr. Matthias Klapper
Senior Analyst, Modelling & Analysis
Vattenfall Europe Sales GmbH

INFRASTRUCTURE CHALLENGES AND IMPACTS ON PRICING

09:10 Opening Address

Managing Renewables in the European Market Place

- Seasonality and the impact of intermittent renewable supply on production and pricing
- Renewable production and cross border power flow
- Impact of the regulatory framework

Evelin Luckerath
Head of Analysis
Statkraft Markets

09:50 Case Study

Impact of the Grid on Short Term Forecasting

- Modelling grid limitations
- Fundamental & hybrid market models
- Production scheduling

Javier Alonso Perez
Deputy Director for Bidding & Operations
Endesa

10:30 Morning Coffee and Networking Break

11:00 Case Study

The Impact of Commodity Prices on Electricity Markets

- Different generation costs & fuels mix in European countries
- Evidence from European spark spreads
- Results of a sensitivity analysis using a fundamental model

Elisa Scarpa
Head of Market Analysis & Forecasting
Edison Trading

"DEMANDING" BETTER PRICE FORECASTS

11:40 Case Study

Integrating Demand-Side Management (DSM) in Price Forecasting

- Long term scenarios for the shape of the UK power demand curve
- DSM as a tool for reducing high peak demand
- Value and benefits of DSM for the economy and the individual household

Stefan Konstantinov
Formerly
Senior Strategy Analyst
EDF Energy

12:20 Case Study

A Pertinent Regime – Switching a Hybrid Model for Power Price Forecast

- Combining statistical and fundamental modelling
- Estimation of regime transition probabilities
- Spike detection using demand / supply factors
- Performance measurement of the forecasting model

Mahmoud Hamada
Visiting Professor
HEC University of Geneva

13:00 Lunch

14:00 Coffee and Networking Break

14:30 Case Study

Reducing Price & Volume Risk Exposures

- Protecting against price spikes
- Matching supply & demand
- Risk techniques to reduce profit risk

Dr. Matthias Klapper
Senior Analyst, Modelling & Analysis
Vattenfall Europe Sales GmbH

FORECASTING FOR THE FUTURE

15:10 Case Study

Stochastic Long Term Price Modelling

- Method & computational approach to capture the impact of uncertainty in long term market modelling
- Scenarios & stochastic modelling to capture volatility & long term trends
- Case studies at E.ON

Dr. Armin Ardone
Vice President Commercial Analysis Power & Emissions
E.ON AG

15:50 Afternoon Tea and Networking Break

16:20 Case Study

Long Term Fundamental Power Price Modelling – The Shape of the Future Duration Curve

- How to determine the shape of the future duration curve
- The impact of the duration curve on the profitability of investments in a new generation
- Addressing the 'missing money' issue

Kasper Lou
Head of Power Price & Market Analysis
DONG Energy

17:00 Panel Discussion

Changing Dynamics: Retail & Wholesale Pricing

- How are wholesale & retail pricing currently linked?
- How & why will dynamics change?
- Consumer incentives & the effects on demand & supply

Panellists

Dr. Armin Ardone
Vice President Commercial Analysis Power & Emissions
E.ON AG

Javier Alonso Perez
Deputy Director for Bidding & Operations
Endesa

17:40 Closing Remarks from the Chair and End of Conference

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Does your company have services, solutions or technologies that the conference delegates would benefit from knowing about? If so, you can find out more about the exhibiting, networking and branding opportunities available by contacting our sponsorship division.

Athul George
Tel: +44 (0)20 3002 3172
Email: athulg@marcusevansuk.com

Speaker Profiles

Oliver John

Oliver John has been engaged in the electricity industry since 2001. After working in wind farm development (E.ON UK) and electricity trading (EnBW) he has joined Amprion in 2003. Over the years he has gained substantial experience in various fields of electricity markets and regulatory affairs. Present activities include convenorship of the ENTSO-E day ahead Capacity Allocation and Congestion Management network code drafting team, engagement in various ENTSO-E studies and papers on electricity market related topics, and development of Amprion internal positions and strategies on electricity market issues.

Dr. Armin Ardone

Dr. Armin Ardone was born in 1966 in Lörrach (Germany). After his General Qualification for University Entrance he studied chemical engineer at the technology college in Karlsruhe. He obtains a doctorate in 1998 in "development of national and multinational strategies for the reduction of greenhouse gas for the Federal Republic of Germany by means of optimizing models for energy and material flow" on the chair for industrial engineering and operations research. Since several years of working at the engineer company Fichtner in Stuttgart, where he concerns himself with the planning of long-term strategies for extension and reduction for energy supplying companies, he changed in 2000 to system optimization of Preussen Elektra in Hanover. In 2002, after the fusion of Bayernwerk to E.ON Energy, he gains control of the department market analysis of power and gas. Since 2011 he is responsible as Vice President for the department Commercial Analysis Power & Emissions at E.ON AG

Paolo Maffeis

Paolo Maffeis is a management engineer graduated at the "Politecnico di Milano. Paolo works at ALPIQ Trading Ltd., the trading subsidiary of the ALPIQ group, in the role of senior expert in market regulation. Paolo is directly and actively involved in several European working groups set to develop and promote an efficient regulatory environment for the integration of the European markets, both in the electricity and in the gas sectors. In his previous working experience Paolo was the head of the Regulatory Management Department at E.ON Italia, the Italian subsidiary of the E.ON group. Before Paolo was the responsible of the Market Regulation Department at Thüga Italia.

Stefan Erath

Stefan Erath holds a Master degree in Meteorology and Geophysics, University of Innsbruck. Since 2006 he has been employed as Market Analyst and Meteorologist at Norsk Hydro. Commodity related weather forecasts in the long and short term are one of his main responsibilities, in addition to short- and long-term price forecasting, with focus on Nordic and German power markets. Another important task is to track the Scandinavian hydrological balance continuously with help of several hydrological models.

Sascha Enderle

Sascha Enderle is responsible for short-, mid- and long-term analysis for the commodity markets natural gas, coal, oil and CO₂, the macroeconomics outlook, weather forecast and -risks and the commercial evaluation of investments in this areas. Before his current position he worked for several subsidiaries of EnBW mainly in the financial and controlling area. He studied business administration at the University of Mannheim and graduated the IEP at INSEAD.

Charles Verhaeghe

Charles Verhaeghe is an engineer graduated from the Ecole Nationale des Ponts et Chaussées in France and has a Master Degree in Sustainable Development and Energy Economics. He started his career in the renewable industry at EDF Energies Nouvelles. He joined the French national regulatory agency (CRE) in 2008 as an analyst on balancing markets and interconnection management, taking part in the Central West developments. Since February 2011, he has been the head of cross-border power trading department at CRE.

Derek Bunn

Derek W. Bunn is a Professor at London Business School, with research on the energy sector extending back over 30 years. Author of numerous research papers and books in the areas of forecasting, decision analysis and energy economics, he has been Editor of the Journal of Forecasting since 1984, a previous Editor of Energy Economics, and Founding Editor of the new Journal of Energy Markets. He has advised many international companies and government agencies in this sector.

Dr. Matthias Klapper

Dr. Matthias Klapper joined Bewag (now Vattenfall) in 2001 and worked in Trading and Sales research teams. Current position is Senior Analyst at Vattenfall Europe Sales. Responsible and involved in many major modelling projects at Vattenfall including customer profiling, risk models, market models, and long term fundamental models for power and gas. Before, he worked in the credit card business for AT&T and Advanta in the United States. Matthias obtained a M.Sc. in Statistics at Iowa State University (USA) in 1995 and PhD in Statistics at University of Dortmund (Germany) in 2000.

Kasper Lou

Kasper Lou is head of Price & Market Analysis in DONG Energy Power with responsibility for forecasting of electricity and certificate prices within DONG Energy's geographical footprint. He joined DONG Energy in 2007 and has occupied various positions in the fields of corporate finance, strategy, and investment analysis. Prior to working with DONG Energy, Kasper was active in strategy consulting (McKinsey & Co), Pharmaceuticals (Novo Nordisk) and process engineering (GEA Group). He holds a MSc in Economics from University of Copenhagen and an MBA degree from University of Cambridge.

Dr. Glenn Drayton

Glenn's experience in power system modelling and economics spans 15 years. He was involved in the design of the New Zealand, Australian and Singapore power markets, in particular the energy-ancillary services co-optimisation. Glenn started Drayton Analytics (now called Energy Exemplar) in 1999 to produce a next-generation power market model based entirely on optimisation, the result being PLEXOS for Power Systems® (PLEXOS). Glenn obtained his B.Sc.(Hons) in Operations Research, and Ph.D. in Management Science from the University of Canterbury, New Zealand. Glenn manages the development team for PLEXOS in the Adelaide, Australia office. He specialises in mathematical optimisation applied to power system planning.

Mahmoud Hamada

Visiting Professor
HEC University of Geneva

Since 2003, Dr. Hamada has been a Visiting Professor at universities in Australia and Switzerland, teaching mathematical finance and commodity risk management courses and has published a book and articles in refereed scientific journals. His achievements are supported by a Ph.D. in Mathematical Finance from UNSW, Sydney, Australia, an Executive MBA from Macquarie Graduate School of Management, Sydney and an MSc in Financial Engineering from ENSIMAG, France. He started as an analyst and programmer with BNP-Paribas, and his last role was as VP Head of Quantitative Analysis with RWE Supply and Trading.