

Conference
November 24-25, 2008
London

Post conference workshop:
November 26, 2008



MODELLING & MEASURING ENERGY RISK

Pricing Electricity Forwards using the Real Option Theory

Case Study: Managing the cross-commodity portfolio of a large European utility

Generation Asset Analytics and Risk Management

Speakers:

- Mahmoud Hamada, **Essent Trading**
- Daniel Schölderle, **SWM**
- Henrik Specht, **Vattenfall Europe AG**
- Rafal Weron, **the Hugo Steinhaus Center for Stochastic Methods**
- Koen den Blanken, **DELTA Energy**
- David Yamoah, **Essent Trading**
- Dr Chris Strickland, **Lacima Group**
- Volker Termath, **Evonik Trading**
- Luca Taschini, **University of Zürich**
- James Tipping, **Redpoint Energy**
- Afzal Siddiqui, **University College London**

Intensive post-conference workshop:
POTENTIAL FUTURE EXPOSURE
FOR ENERGY PORTFOLIOS

Meet the advisory board for this conference:



Matthew Hunt
Head of
Quantitative
Analysis at
British Energy



Olivier Bardou
Project
Manager at
GDF SUEZ



Koen Minderhoud
Manager Portfolio
Analytics at DELTA
Energy



Klaas Peerenboom
Quantitative Market
Risk Analyst at
RWE Trading

Day 1: Monday November 24th

8.30-9.00: Registration and coffee

9.00-9.10: Chairman opens the conference

Portfolio and risk management

9.10-10.10: Calculation of efficient hedging strategies for power plants in outage situations

- A simple model for random restart of power plants
- Combined spot-forward power price simulations
- Aggregation of both risk-factor models into an risk-assessment approach
- Deriving efficient hedging strategies for short-term and long-term restart horizons



Henrik Specht, Risk Manager, Vattenfall Europe AG

Henrik Specht works for the Central Risk Management and Risk Controlling at Vattenfall Europe AG. His main tasks are the qualitative and quantitative analysis of market risk exposures in complex energy contracts and products. He is consulting different business units on efficient hedging and pricing methods and coordinates the quantitative work across the Vattenfall Group. Before joining Vattenfall, he worked as an analyst in the Bewag energy trading department and as a research associate at the Institute for Energy Economics and the Rational Use of Energy (IER), University of Stuttgart.

10.10-10.40: Coffee and tea

Keynote speaker

10.40-11.40: Generation Asset Analytics and Risk Management

- Methodologies for modelling energy prices
- How to treat generation assets as 'real options'
- The effects of operational constraints and emissions on the value of thermal generation assets
- Measuring the risk in a portfolio containing generation assets and financial contracts



Dr Chris Strickland, Director, Lacima Group

Chris Strickland is a Co-founder and Director of Lacima Group, which provides energy and commodities pricing, valuation and risk management software, advisory services and training world-wide. He is an Associate Research Fellow at the School of Finance and Economics, University of Technology Sydney, Australia and the Financial Options Research Centre, University of Warwick, UK. Chris is the co-author, with Dr Les Clewlow, of the books "Energy Derivatives Pricing and Risk Management" and "Implementing Derivatives Models" and co-editor of the book "Exotic Options: The State of the Art" and has a regular series of articles in Energy Risk Magazine. He has a First Class Honours degree in Pure Mathematics (Liverpool, UK), an MSc in Mathematics (Warwick, UK) and a PhD in Finance (Warwick).

11.40-12.40: Case Study: Managing the cross-commodity portfolio of a large European utility:

- Portfolio management as the central platform for commodity risks within a utility - importance and consequences
- The process of identification, consolidation and mapping of commodity risks to tradable products
- Modified Earnings at Risk (MEaR) - a new approach to measure and manage price risks for energy utilities
- Is a risk adjusted performance measurement the right approach to evaluate the success of portfolio managers in the energy business?



Daniel Schölderle, Senior Portfolio Manager, SWM

Daniel Schölderle is currently working as a senior portfolio manager for Stadtwerke Munich where they are currently establishing a state of the art portfolio management process. He started his career as a financial engineer with E.ON Energy Trading in 2003. Two years later he became a portfolio manager within E.ON Energy Trading responsible for the German generation and sales portfolio. Mr. Schölderle holds a master in finance and engineering of the University of Karlsruhe and the North Carolina State University.

12.40-13.40: Lunch

Long-run energy prices and investment in alternative technologies

13.40-14.40: Forecasting long-run energy prices

- Random walk tests: Are long-run fuel prices predictable? Mean-reversion versus random walk hypothesis.
- Modelling long-run fuel prices: a time series approach, what are the options? Model 1: vector error correction model. Model 2: multivariate unobserved components model
- Out-of-sample performance of forecasting models
- What is the impact of fuel price uncertainty on power plant investment decisions?



Koen den Blanken, Quantitative consultant, DELTA Energy

Koen den Blanken has written his Master thesis about the subject in cooperation with DELTA Energy during his internship at Portfolio Analytics in Middelburg. He studied Applied Econometrics at the Erasmus University Rotterdam where he specialized in financial risk management and business cycle analysis. Furthermore he is a self-employed quantitative consultant at Veneficus performing quantitative research projects and advice for various parties.

14.40-15.10: Coffee and tea

15.10-16.10: Investment decisions and market outcomes in a world of high renewable electricity penetration

- Methodology for modelling investment decisions in electricity markets
- Financial incentive schemes for renewable technologies
- Renewable technology operating characteristics and supply curves
- Capacity credit of renewable technology
- Price shape and volatility
- Risk of outage and probability of spill
- Capture prices and financial performance of renewable technologies

James Tipping, Redpoint Energy

16.10-17.10: How to Proceed with the Thorium Nuclear Technology

- For a government planner facing high electricity prices due to restrictions on fossil fuels, thorium-fuelled nuclear power is a promising, but costly and technically challenging, technology
- We analyse how a government may proceed with a staged R&D thorium programme under uncertain electricity prices
- A real options approach also allows us to compare this ambitious project with a more modest one involving an existing renewable energy technology



Afzal Siddiqui, University College London

Afzal Siddiqui is a Lecturer in the Department of Statistical Science at University College London. His research interests lie in investment and operational analysis of electricity markets. In particular, he focuses on distributed generation investment under uncertainty, optimal scheduling of distributed generation, real options analysis of renewable energy technologies, and demand response. He holds the following degrees in industrial engineering and operations research: a B.S. from Columbia University, New York, an M.S. and a Ph.D. from the University of California, Berkeley.

17.10-17.20: Questions

19.00: Conference dinner

Early Bird

Register before
October 24
and
save 200€

Day 2: Tuesday November 25th

8.50-9.00: Chairman opens the conference

Modelling energy prices

9.00-10.00: Pricing Electricity Forwards using the Real Option Theory

- Detailed specification of the half-hourly electricity forward contract as an instrument to hedge pool price risk
- Specification of the dynamics of the weekly average price by peak and off-peak periods and discussion of the link to forward contracts
- Forward contracts pricing using real options theory
- Derivation of a recursion formula for electricity forward prices



Mahmoud Hamada, Vice President Quantitative Analysis, Essent Trading

As VP of Quantitative Analysis at Essent Trading Mahmoud is responsible for the maintenance and development of the key financial

evaluation models used to assess complex deals and to measure their intrinsic and extrinsic values. Prior to joining Essent Trading in 2008, Mahmoud has gained extensive experience with organisations such as BNP Paribas in Paris and Classic Solutions and Energy Australia in Sydney. Mahmoud holds a MSc in Financial Engineering from the Polytechnic Institute of Grenoble in France, Ph.D in Mathematical Finance from the university of New South Wales in Sydney and an executive MBA from Macquarie Graduate School of Management in Sydney, Australia.

10.00-11.00: Heavy-tails and regime-switching in electricity prices

- Stylized facts of electricity spot prices
- Seasonal decomposition
- Identification and treatment of spikes in spot prices
- Heavy-tailed distributions of price changes
- Markov regime-switching (MRS) models for prices and log-prices
- Calibration issues
- Derivative pricing and risk management considerations



Rafal Weron, the Hugo Steinhaus Center for Stochastic Methods

Dr. Rafal Weron is affiliated with the Hugo Steinhaus Center for Stochastic Methods (Wroclaw University of Technology - WUT, Poland) where he is in charge of

developing forecasting and risk management models and software for the energy industry. He holds a Ph.D. in applied mathematics and gives graduate level lectures on energy and financial markets at Humboldt University-Berlin and WUT. He has also been a consultant or executive teacher to a number of energy companies (BOT Holding, Polish Power Grid Co., Vattenfall) and banks.

11.00-11.30: Coffee and tea

11.30-12.30: A Spot Model for the German VHP Gas Market

- An overview of the German VHP market and its relation to other European trading Points
- Chosen modelling framework and relation to existing SARIMA approach
- Fitting procedure and results
- Fundamental time series analysis
- Outlook and application



Volker Termath, Head of Portfolio Analysis, Evonik Trading

Volker Termath is currently head of Portfolio Analysis at Evonik Trading. He has been working for more than 10 years in German utilities industry. Work has included positions at RWE and E.ON as risk controller, analyst and internal consultant. His main interest in the last years was modelling of gas- and power prices for the German market. Further related topics included time series analysis, multivariate approaches to long term models and development of effective simulation algorithms.

12.30-13.30: Lunch

13.30-14.30: Price of the CO2 emission permits in the long and short run

- Marketable permits and abatement measures
- The fuel-switching: A benchmark for the long run
- Equilibrium model for the CO2 price in the short run



Luca Taschini, University of Zürich

Luca Taschini holds a Diploma in Economics and he is completing a Ph.D. in Mathematical Finance at the University of Zürich. His research interests are in financial

engineering, real options, and environmental finance theory. In particular, Luca is developing mathematical methods and techniques for the analysis of the non standard commodities and risks emerging in the carbon-constrained sectors under the Kyoto protocol and the European directives.

14.30-15.00: Coffee and tea

15.00-16.00: A fundamental approach to forecasting EU ETS prices



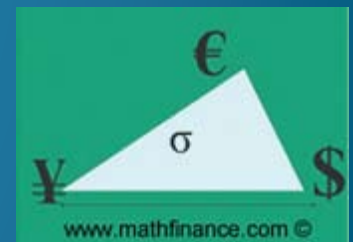
David Yamoah, Vice President of analysis, Essent Trading

David Yamoah is currently Vice President of analysis at Essent Trading where his team are responsible for developing fundamental market views to aid

origination, trading and Investment decision making for Essent Trading in Geneva. David has nearly a decade of experience in the Energy sector and has worked for Nuon in Amsterdam and IPA energy consulting in the UK. He has a PhD in Energy Economics from Edinburgh University.

16.00-16.15: Questions and Closing of the Conference

Media Partners:



Optional Post-Conference Workshop

Wednesday November 26

POTENTIAL FUTURE EXPOSURE FOR ENERGY PORTFOLIOS

9:00 - 11:00

HOW TO SELECT YOUR MODELLING FRAMEWORK: SPOT-CONVENIENCE YIELD VS. FORWARD MODEL

- Spot prices, forward prices, and convenience revenue
- Static arbitrage, forward replication (cash&carry), convenience yield
- Spot-convenience yield models: Gibson-Schwartz, Nielsen-Schwarz, Trolle-Schwartz
- Forward models: Jamshidian, Andersen, Roncoroni-Id Brik
- -Case-study: How to perform a Principal Components Analysis on seasonal data

11:15 - 12:45

HOW TO MEASURE AND MANAGE ENERGY PORTFOLIO RISK

- Energy load serving deals
- Hedging energy portfolios using forward positions
- Simulating forward price scenarios
- Case-study: How assess and hedge load deals risk using RAROC measures

14:00 - 16:00

MODELLING OF POTENTIAL FUTURE EXPOSURE (PFE)

- Definition of PFE
- PFE using Montecarlo
- Estimating potential future prices
- Traded Value
- Driving potential future exposure
- PFE vs credit risk measure

Case-study: Swap example

16:15 - 17:45

MODELLING OF POTENTIAL FUTURE EXPOSURE (PFE)

- PFE vs credit risk measure
- Overview of PCA
- Derivation of forward curve scenarios
- Alternative approach ICA

Case-study: strip of options

Andrea Bucca, Econometrician, BP Oil International

Andrea Bucca is an Econometrician in the Risk Quantitative Analysis team (RQA) in BP Oil International Ltd. His responsibilities include validation and review of existing models, and research and development of new modelling techniques in shipping, gas and power markets. Prior to this, he worked as Senior Market Analyst at the London Metal Exchange and also as a Research Associate at the Commodities Finance Centre at Birkbeck. Andrea holds an MSc in Finance from Birkbeck, University of London.

Prof. Andrea Roncoroni, ESSEC Business School

Andrea Roncoroni is Professor of Finance at ESSEC Business School (Paris - Singapore) and Visiting Fellow at Bocconi University (Milan). He holds PhD's in Applied Mathematics and Finance. His research interests cover Energy and Commodity Finance, Financial Econometrics and Derivative Structuring. He consults for private companies (Gaz de France, Dong Energy - DK, Fideuram AM - IT, EDISON Trading - IT) and lectures for private and public institutions. He regularly publishes on academic journals (e.g., J.of Business, J.of Banking and Finance, Intl.J.of Business) and financial book series ("Implementing Models in Quantitative Finance: Methods and Cases", Springer, 2008).

Welcome to an intense workshop in an inspiring atmosphere!

Energyforum welcomes you to

Modelling and Measuring Energy Risk

London, November 24-26 2008

Welcome to the last modelling conference of the year. Once again we have lined up an extraordinary program with a unique blend of academic knowledge and practical experience.

New for this year is the advisory board that was created to ensure that the program is aligned with the industry today. This committee of experts enlisted has closely followed the program development to ensure the quality and high standard of the event.



Koen Minderhoud, Manager Portfolio Analytics at DELTA Energy

Koen Minderhoud is head of the Portfolio Analytics team at DELTA Energy. His team is responsible for valuing, hedging and optimising the structured asset portfolio and the large end-users portfolio. Before joining DELTA Energy he worked for the Dutch central bank where he researched the statistical modelling of financial markets.



Matthew Hunt, Head of Quantitative Analysis at British Energy

Matthew Hunt is Head of the Quantitative Analysis team at British Energy. He has eight years experience pricing and modelling energy based structures, assets and contracts in the UK and Europe. Before joining British Energy he worked at Essent Energy Trading heading the Portfolio Analysis & Quantitative Models team. He holds an MSc in Economics (Finance) from the University of Bath and an MA in Physics from the University of Oxford.



Klaas Peerenboom, Quantitative Market Risk Analyst at RWE Trading

Klaas Peerenboom is a Quantitative Market Risk Analyst at RWE Supply & Trading where his main role covers validation of risk measurement and valuation models, product and transaction approval and calibration of pricing models. Before joining RWE Trading in 2005, he was working at Nuon, mainly on VaR reporting - and later in the structuring team. He holds a MSc in Operations Research & Management from the University of Amsterdam and a Certificate in Quantitative Finance.



Olivier Bardou, Project Manager at GDF SUEZ

Olivier Bardou is a Project Manager in GDF SUEZ's Research and Innovation Department and in charge of developing valuation software's and investment methodologies for the operational divisions of the group. He is also Associate Professor at Paris VI University.

Join us for a very interesting event with lots of networking opportunities !

See you in London !

Kind regards,

Johanna Öberg
Director of Business Development & PR
Energyforum

Registration

Register online or call us!

www.energyforum.com +46 8 568 197 00

Conference: 1790 £

Workshop: 890 £

Dinner: 60 £

The price includes admission to all conference sessions, lunches, refreshments and documentation.

Registration

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Phone: +46 (0)8-586 19 700

Fax: +46 (0)8-22 28 20

Energyforum International AB

Sveavägen 56c

SE-111 34 Stockholm, Sweden

Accommodation

We recommend you to stay at the hotel where the conference will take place.

Date and venue

Conference: November 24-26, 2008

The Cavendish London

81 Jermyn Street

London, SW1Y 6JF

Tel: +44 (0) 20 7930 2111

Fax: +44 (0) 20 7839 2125

For detailed information on how to get there, please visit the hotel website:
<http://www.thecavendish-london.co.uk/>



Register before **October 24** and get a **200 £ discount** on the conference price

Discount

Group discount: Register 4 delegates from the same company and pay for 3. Academics please contact us for price.

Discounts cannot be combined.

Further information

If you have questions about the conference, please Contact:

Johanna Öberg

Switchboard: +46 (0)8-586 19 700

Direct: +46 (0)8-586 19 707

E-mail: johanna@energyforum.com

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