

Energy Risk magazine's 14th annual

Energy Risk USA

Hedging strategies and quantitative models in the energy market

energyriskusa.com
Houston, May 24-27, 2010

- Market risk
- Quantitative modeling
- Regulatory risk

Top speakers include:



Edward Morse,
Head of Global
Commodities
Research,
CREDIT SUISSE



Matthew Simmons,
Chairman Emeritus,
SIMMONS &
COMPANY
INTERNATIONAL



Richard Sandor,
Chairman,
CHICAGO CLIMATE
EXCHANGE



Vincent Kaminski,
Professor,
RICE UNIVERSITY'S
JESSE H. JONES
GRADUATE
SCHOOL OF
MANAGEMENT



Michael Bertuccio,
Director,
ARTURUS CAPITAL



John Wengler,
Chief Risk Officer,
ENERGY SERVICES



Chris Schlegel,
Manager, Risk
Analysis Services,
SOUTHERN
COMPANY



Darilyn Jones,
Senior Vice
President, Risk
Control,
SEQUENT ENERGY

➤ Full speaker list on the website

Separately
bookable
seminars:

Pre-conference seminars

- 1 CURRENT PERSPECTIVES ON ENERGY DERIVATIVES, STRUCTURED PRODUCTS AND RISK MANAGEMENT
- 2 PERSPECTIVES AND TECHNIQUES ON MODEL RISK MANAGEMENT AND EFFECTIVE VAR TECHNIQUES FOR THE RISK MANAGER

Post-conference seminars

- 1 ASSETS AS OPTIONS – VALUATION AND RISK METRICS FOR POWER PLANTS, GAS STORAGE FACILITIES AND SHIPPING LNG
- 2 LIQUIDITY AND MARKET RISK MANAGEMENT IN ENERGY AND SHIPPING MARKETS

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Key highlights:

- Assessing the impact of macro-economic conditions on oil demand
- Discussing CFTC position limits on commodities trading
- Analyzing how the changing landscape of the gas market in the US are affecting prices
- Evaluating how to integrate solar and wind power with the grid
- Identifying model risks and methods of model validation
- Learn effective techniques for modeling gas prices and storage
- Understand how you can use real options in valuing your physical assets



Who's it for:

The following job titles dealing with energy:

Chief Risk Officers
Heads of Risk Management
Risk Managers
Market Analysts
Portfolio Managers
Quantitative Analysts
Structurers
Pricing Analysts
Financial Engineers
Traders
Trade Control Managers
Carbon Traders
Heads of Emissions
Manager Origination
Heads of Business Development

From the following companies will attend:

» Energy and Utilities	» Hedge funds	» Investment banks	» Consultants
» Brokers	» Technology vendors	» Legal firms	» Regulators



Past companies who attended include:

- Alcan Aluminium Limited
- AltaGas Ltd.
- Amerex Energy
- American Airlines
- American Electric Power
- Anadarko Petroleum
- Apache Corporation
- Bank of America/Merrill Lynch
- Barclays Capital
- BASF
- Bentek Energy LLC
- BG Group
- BNP Paribas Energy
- Bonneville Power Administration
- BP Plc
- Brookfield Renewable Power
- Caisse de Depot et Placement du Quebec
- Cargill
- Carvill America Inc
- Centerpoint Energy
- Centrica
- Cheniere Energy Inc.
- Chevron
- Citigroup
- CME Group
- Commerce Energy Group
- Committee of Chief Risk Officers
- ConocoPhillips
- Constellation Energy Commodities Group
- Deutsche Bank
- DTE Energy Trading
- Dynegy Inc
- Ecopetrol S.A
- Edison Mission Energy
- Electrabel
- Enxus Energy
- Exelon
- FERC
- GDF Suez Energy
- GE Capital
- Goldman Sachs
- Halliburton
- Hess Corporation
- JP Morgan
- Koch Supply & Trading LP
- Lacima Group
- Macquarie Bank
- Mission Point Capital
- Mitsui & Co USA Inc
- Morgan Stanley
- N.V. Nuon
- Niska Gas Storage
- Ontario Power Generation
- Osaka Gas
- Peabody Energy Corp
- Pemex Gas y Petroquimica Basica
- PG & E
- Portland General Electric
- Public Utilities Commission of Texas
- Reliant Energy
- Rio Tinto
- Sempra Energy
- Sequent Energy
- Shell Trading
- Simmons & Company International
- Societe Generale
- Southern Company
- Statoil
- Suez Energy North America
- Tesoro Petroleum Companies, Inc.
- U.S. SENATE
- UBS Investment Bank



Pre-conference seminar **one** May 24, 2010



CURRENT PERSPECTIVES ON ENERGY DERIVATIVES, STRUCTURED PRODUCTS AND RISK MANAGEMENT

Ehud I Ronn, Lead Modeler, MORGAN STANLEY
Michael Rosenberg, Director, Energy Trading, EMTRI



08.30 Registration

09.00 **The current state of the equity and commodity markets – The 'Message from Markets'**

- Measuring the nervousness/uncertainty of equity and commodity markets
- Assessing the status of credit markets and the credit spread
- Quantifying future inflation rates
- Computing equity markets' expected rates of return and risk premiums
- Projecting expected/forecast crude-oil prices
- Impact of energy prices on consumer prices
- The refining spread and retail gasoline prices

10.30 Morning break

10.45 **Understanding the stochastic behavior and modeling of energy prices**

- Representing energy prices using stochastic processes
- Typical energy price processes: random walk, mean reversion, Brownian motion
- Representing energy prices using stochastic processes
- Single and multi-factor models for futures and forwards
- Description of stochastic processes: Analytical, Tree, Monte Carlo

12.15 Lunch

13.15 **Basics of structured products in energy**

- Risk exposures of energy players: consumers, producers, traders, 'all-purpose' players
- No-arbitrage principle and the replicating portfolio
- Pricing drivers of derivative products: forward prices, volatilities, correlations, cross-commodity features
- Categorizing derivative products

15.00 Coffee break

15.15 **Risk management in energy**

- Measuring price- and quantity-risk exposure at the corporate level
- Hedging corporate-level price- and quantity-risks using linear (futures/ swaps) and non-linear (option) instruments
- Presenting the trade-offs of an optimal corporate risk strategy to decision-makers
- Value-at-Risk in the energy industry
- Overview of VAR
- "Basic Principles" of Value at Risk
- Computation of Analytical VAR

17.15 End of seminar



Pre-conference seminar **two** May 24, 2010



PERSPECTIVES AND TECHNIQUES ON MODEL RISK MANAGEMENT

Vincent Kaminski, Professor, RICE UNIVERSITY'S JESSE H. JONES
GRADUATE SCHOOL OF MANAGEMENT

Bullet points to be confirmed shortly. Please visit www.energyriskusa.com for updates.

EFFECTIVE VAR TECHNIQUES FOR THE RISK MANAGER

Speaker to be confirmed



- **What is the best framework for your organizational set-up?**
- **Calibration issues**
- **Components in calculating CVaR**
- **Application of CVaR**

These pre-conference seminars are separately bookable – visit energyriskusa.com





Day one agenda

May 25, 2010

08.00	Registration and breakfast	
09.00	Welcome address	
09.10	Keynote address Edward Morse, Head of Global Commodities Research, CREDIT SUISSE	
09.50	Keynote address Matthew Simmons, Chairman Emeritus, SIMMONS & COMPANY INTERNATIONAL	
10.30	Coffee break	
11.00	Keynote address Michael Bertuccio, Director, ARTURUS CAPITAL	
11.40	Keynote address Financial reform proposals - impact on energy trading Vincent Kaminski, RICE UNIVERSITY'S JESSE H. JONES GRADUATE SCHOOL OF MANAGEMENT	
12.20	Lunch and opportunity to visit the exhibitions	
	 STREAM 1 Strategic risk management	 STREAM 2 Quantitative methods
13.30	Chairman's opening remarks Risk management in energy trading	Chairman's opening remarks
13.40	How have risk managers kept pace with the trading environment?	Managing model risk – aligning what you think you are doing, what you are actually doing and what you should be doing
14.10	Developments within Enterprise-Wide Risk Management	Determining strike specific volatility estimates for off-Hub locations
14.40	Managing extreme market risk	Managing a book of financial positions and physical assets in the commodity space
15.10	Panel on risk management in energy trading	Modeling counterparty risk in commodity markets
15.30	Coffee break	
16.00	Chairman's opening remarks Credit risk management	Chairman's opening remarks
16.10	Innovations from financial institutions to overcome credit and collateral challenges	Financial transmission asset pricing and portfolio selection
16.40	Incorporating liquidity risk and operational risks in the formal risk management process	Short-term forecasting of wind energy
17.10	Assessment of counterparty risk in energy trading	Algorithmic trading in energy trading
17.40	Panel on credit risk management	Dealing with "market price of risk" in fundamental market modeling
18.00	Closing remarks	Chairman's closing remarks
18.10	Cocktail reception	
19.30	End of day one	



Day two agenda May 26, 2010

08.30	Registration and breakfast	
09.00	Welcome address	
09.10	Keynote session Richard Sandor, Chairman, CHICAGO CLIMATE EXCHANGE	
09.50	Regulatory roundtable Coping with the impact of the latest regulations – how should energy companies respond?	
10.30	Coffee break	
	 STREAM 1 Strategic risk management	 STREAM 2 Quantitative methods
10.50	Chairman's opening remarks Market developments	Chairman's opening remarks
11.00	Risks within ERCOT zonal-nodal transition	Pricing and hedging options on physical gas storage
11.30	Changing landscape of the gas market in the US	Changing dynamics in gas storage modeling
12.00	Oil/gas volatility and impact on gas traders	The one minute risk manager – some quick and effective rules for risk management
12.30	Riding the steel bronco – steel risk management	Risk management and valuation of generation assets
13.00	Lunch and opportunity to visit the exhibitions	
14.00	Chairman's opening remarks Environmental risk management	Chairman's opening remarks
14.10	Regulatory risks within renewable and carbon projects	Liquidity risk – Avoiding the “Roach Motel” Trade
14.40	Integration of solar and wind power with the grid	Simulating multivariate time series while estimating no parameters
15.10	Quantifying your company's exposure to climate risk	Real options theory and applications for your energy assets
15.40	Panel on carbon trading and risk management	Correlation and applications to basket options, spread options, and certain real options
16.00	Closing remarks	Closing remarks
16.10	Coffee break	
16.30	Energy trading roundtable Energy traders, Heads of Trading Desk, and Risk Managers converge to discuss challenges facing commodities trading, latest CFTC regulations, and the importance of incorporating risk measures into trading practices	
17.10	End of Energy Risk USA	



Post-conference seminar **one** May 27, 2010



ASSETS AS OPTIONS – VALUATION AND RISK METRICS FOR POWER PLANTS, GAS STORAGE FACILITIES AND SHIPPING LNG

Chris Strickland, Director, LACIMA

08.30 Registration

09.00 Valuing assets as options and analysis of relevant models

- Generation assets: Thermal assets as spread options, Wind and hydro generation
- Gas storage: Calendar spreads
- Shipping LNG: Locational spreads
- Overview of modelling approaches for asset valuation: Single factor models, Multi factor models, Hybrid models
- Model parameter estimation
- Numerical techniques for implementing models

10.30 Morning break

11.00 Valuation and risk for generation assets

- How to apply the spread option approach to value generation assets
 - Incorporation of emissions and start-up costs
- How to apply Monte-Carlo simulation techniques
- How to apply trinomial trees/Least squares Monte Carlo methods
 - Wind generators & hydro systems
- Delta hedging vs static hedging of power plants
- Distributional analysis of revenues / costs / number of starts / etc

12.30 Lunch

01.30 Valuation and risk for gas storage facilities

- Comparison of storage valuation methodologies
 - Intrinsic
 - Rolling intrinsic
 - Portfolio of calendar spread options
 - Spot optimization
- Detailed examples
 - Intrinsic
 - Rolling intrinsic
- Simulation of forward curves in single factor and multi factor
- Distributional analysis of cashflows and storage levels

03.00 Coffee break

03.30 Valuation and risk for the optionality in shipping lng

- Defining shipping locations and reference prices
- Determining optimal decisions for shipping the cargo
- Determining the marker for each destination – transformation of the reference price
- Using simulations to determine expected values

05.00 End of seminar



Post-conference seminar **two** May 27, 2010



LIQUIDITY AND MARKET RISK MANAGEMENT IN ENERGY AND SHIPPING MARKETS

Helyette Geman, Director of the Commodity Finance Centre, UNIVERSITY OF LONDON and ESCP Europe – Member of the Board, UBS BLOOMBERG COMMODITY INDEX

08.30 Registration

09.00 Liquidity risk

- Overview of liquidity measures across asset classes
- The additional measures in the commodity space: open interest, inventory
- Recognizing the different types of players: CTAs, index traders, commercial traders
- How to account for the new CFTC regulation in energy futures
- A clinical analysis of spikes in electricity and freight price trajectories: are spikes due to the nature of the underlying or to the rational behavior of market players?

10.30 Morning break

11.00 Forward curves and the key information it contains

- Inventory and spot price volatility
- Inventory and the shape of the forward curve.
- Examples from the crude oil and natural gas market
- The Borovkova – Geman model for the stochastic evolution of the forward curve, with and without seasonality

12.30 Lunch

01.30 Option pricing in illiquid markets

- The existing models correcting Black-Scholes for options on stocks
- Incorporating illiquidity in the valuation and hedging of options on commodityspot and futures prices
- Volatility skews and smiles in commodity markets
- Implied correlations in spread options

03.00 Coffee break

03.30 Liquidity issues when investing in commodities

- The key elements in the construction of a commodity Index: components, weights, rebalancing rules
- How to account for liquidity in the design of the index and ETFs
- The shape of the forward curve and the roll yield
- The recent examples of the crude oil, natural gas and gold markets

05.00 End of seminar

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Register online at: energyriskusa.com



Confirmed speakers include:

- **Alexander Eydeland**, Executive Director, MORGAN STANLEY
- **Art M. Altman**, Research in Methods for Energy Risk Management, ELECTRIC POWER RESEARCH INSTITUTE (EPRI)
- **Brett Humphreys**, MORGAN STANLEY
- **Chris Schlegel**, Manager, Risk Analysis Services, SOUTHERN COMPANY
- **Chris Strickland**, Director, LACIMA
- **Darilyn Jones**, Senior Vice President, Risk Control, SEQUENT ENERGY
- **Dayne Zimmerman**, Head of ERCOT Trading, DIRECT ENERGY
- **Edward Morse**, Head of Global Commodities Research, CREDIT SUISSE
- **Ehud I Ronn**, Lead Modeller, MORGAN STANLEY
- **Hans Tuenter**, Senior Model Developer, ONTARIO POWER GENERATION
- **Helyette Geman**, Director of the Commodity Finance Centre, UNIVERSITY OF LONDON and ESCP Europe - Member of the Board, UBS BLOOMBERG COMMODITY INDEX
- **John Wengler**, Chief Risk Officer, ENTERGY SERVICES
- **Joseph Chen**, Quantitative Risk Manager, TRANSALTA CORPORATION
- **Kevin Kindall**, Director of Quantitative Analysis, CONOCOPHILLIPS
- **Marguerite Wagner**, Director of Regulations, PSEG
- **Mark Morss**, Principal Analyst, Market Risk Analytics, AMERICAN ELECTRIC POWER
- **Matthew Simmons**, Chairman Emeritus, SIMMONS & COMPANY INTERNATIONAL
- **Michael Bertuccio**, Director, ARTURUS CAPITAL
- **Michael Rosenberg**, Director, Energy Trading, EMTRI
- **Nick Cioll**, Chief Financial Officer and Chief Risk Officer, TRIEAGLE ENERGY
- **Patrick McCormick**, Managing Partner, WORLD STEEL DYNAMICS and President, WORLD STEEL EXCHANGE MARKETING
- **Porter Bennett**, President and CEO, BENTEK ENERGY
- **Richard Sandor**, Chairman, CHICAGO CLIMATE EXCHANGE
- **Ron McNamara**, Independent Consultant and ex-Managing Director, Power Trading, SARACEN
- **Vincent Kaminski**, Professor, RICE UNIVERSITY'S JESSE H. JONES GRADUATE SCHOOL OF MANAGEMENT
- **Zak El-Ramly**, President and Chief Executive Officer, ZE POWERGROUP
- **Zimin Lu**, Head of Quantitative Research, BP



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Bob Young, Senior Director,
TOWERS PERRIN

“...it's bigger and better every year. This year exceeded my expectations, and the conference was first class in every aspect”

Tom Murphy, Principal, CRAI

“Always a great conference”

Seth Wilson, Director Trading
Services, NECC

“...overall quality of presentations and opportunities to meet fellow industry colleagues are unparalleled”

Nick Cioll, Chief Financial Officer
and Chief Risk Officer, TRIEAGLE
ENERGY

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Venue & Accommodation

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