

Fundamentals of Energy Trading & Hedging

November 8-9

**Register
On-line**

Houston Renaissance Hotel

Houston, TX

The first “Fundamentals” course includes topics such as:

- Managing Risk in the Energy Enterprise
- Forward pricing and hedging energy
- Forward curve and storage arbitrage
- Hedging using swap structures
- Futures and on-line trading platforms

Detailed Seminar Outlines Below

+\$495 Value

**Includes Comprehensive
Reference Textbook**

4th Person Free

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Course 1 Fundamentals of Energy Trading & Hedging

Day 1

Understanding Risk Management

Why Companies Hedge

- Earnings stability vs. price certainty
- Accessing capital
- Comparing volatilities of crude oil, natural gas, coal and power

Risks Faced Doing Business in Energy

- Directional price risk
- Spread risk vs. price risk
- The critical role of physical supply risk
- Credit risk
- Hedging vs. trading strategies

Identifying Risk Positions

- Physical vs. financial risk exposure
- Being long/short energy without a physical position
- Indexation and its implications to risk exposure

Structure of Trading

- Understanding bid-offer quotes
- Factors influencing the bid-offer spread
- The dealing process
- Role of the market makers and brokers

Pricing Energy in the Forward Market

Knowledge of how to construct and use forward price curves is central to understanding how the core derivative products — futures, options and swaps — function. This section focuses on the

concept of forward pricing and price curves, ending with a discussion of basis risk and how it affects different strategies.

Defining the Forward Price Curve

- Based on dealable prices
- Not a price forecast

Pricing Energy in the Forward Market

- The theory of arbitrage-free forward pricing
- Why forward prices in energy don't conform to theory
- Forward pricing disciplines for storable energy products
- Synthetic forwards

The Structure of Forward Price Curves

- Physical supply risk and backwardation in energy price curves
- Seasonality and the price curve for natural gas and refined products
- Price curves for power and coal
- Synthetic storage and storage arbitrage
- Valuing inter-period exchanges of physical energy

Price Curve Applications

- Pricing transactions
- Valuing existing positions
- Role of the price curve in developing hedge tactics
- Role of the price curve in analyzing capital energy investments

Group Review

Using Swaps to Manage Risk

This section explores swaps as a financial tool in energy risk management including its relationship to the price curve. It explains

how swaps serve to separate price risk from physical risk and the array of benefits this generates. Popular strategies are discussed along with more tailored solutions to risk management situations. The concept extends to basis swaps and the increasingly important multi-fuel swaps.

The Fixed/Floating Swap

- Swap mechanics
- Advantages to companies
- Separating physical risk from price risk
- *Force majeure* issues
- Interpreting a dealer quote on a swap
- Determining the index price for natural gas and power
- Constructing a hedge using swap
- Creating and interpreting swap diagrams
- Calculating a hedger's all-in cost with a swap

Swap Pricing

- Defining a fair-value exchange pricing for a swap
- Relationship between swap prices and the price curve
- Fixed price structuring in a swap
- Embedding financing in a swap structure

Group Review

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Course 1 Fundamentals of Energy Trading & Hedging

Day 2

Basis Trading

Basis and Transportation

- Defining location basis
- Basis as synthetic transportation

The Basis Swap as a Risk Management Tool

- Basis as a risk to a hedger
- The structure of the basis swap
- Pricing basis transactions
- Understanding bid-offer quotes in the basis market

Using the Basis Swap to Hedge Location Risks

- Managing natural gas basis risk
- Hedging transport/transmission costs with a basis swap
- Managing price risk using basis swaps
- Using a basis swap to eliminate basis risk

Pricing Physical Natural Gas Forward

- Pricing from the benchmark price curve
- Embedded options — swing
- Credit and capital adequacy
- Combining value components to price delivered gas forward

Congestion Revenue Rights as a Basis Swap

- Locational Marginal Pricing
- Fixing transmissions costs with a basis swap (CRR)

Using Basis Swaps to Transform Risk

- Using basis swaps to optimize risk/return
- Using basis swaps to synthetically transport energy
- Spark spread swaps

Group Review

Energy Futures

Futures are one of the key building blocks of derivative products. This section introduces participants to exchange traded futures and shows the important differences between the various traded energy contracts. It continues with an introduction to basic hedging techniques before exposing participants to the practical issues involved in settling contracts through EFP and EFS.

The Futures Contract

- Exchange-traded contracts
- Comparison — futures vs. swaps
- Standardized terms
- The NYMEX Natural Gas Contract

The Mechanics of Margins

- Original margin
- Variation margin
- Cash liquidity risk

Paper Hedging Using Futures

- Physical delivery under NYMEX
- Infrequency of physical delivery
- Hedging a risk position using futures contracts
- NYMEX look-alike swaps
- Comparing futures and swap hedge strategies

Exchange of Futures for Physicals (EFP)

- Using EFP Settlement
- EFP vs. basis swaps
- Exchange of Futures for Swaps

Group Review

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About Paradigm and Our Instructors

Paradigm provides practical non-theoretical training in energy derivatives, and their related risk management technologies. Programs are structured to the specific needs of today's dynamic energy industry and are designed to excite participants by knocking down the myths and mystiques built around derivative products. Paradigm's instructors offer participants a clear understanding of the business potential arising from combining physical energy and financial products.

The following program is a basic level (group-live offering) course with no prerequisites or advanced preparation required. *Fundamentals of Energy Trading & Hedging Course CPE Credits: Marketing 1, Management Advisory Services 2, Economics 2, Production 2, Specialized Knowledge & Applications 7: Total = 14. (All fees include a comprehensive reference textbook, continental breakfast, lunch and snacks.)*

November 8-9, 2011 — Fundamentals of Energy Trading & Hedging — \$1,695 USD

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Recently, energy markets have endured wave after wave of disasters. However, market risk is more prevalent and in need of management than ever. The regulator's response has been to create even greater complexity, moving from a physical to a financial energy market with FERC's proposed Wholesale Power Market Platform. The gas markets have also seen sophistication, such as synthetic storage and spark spread hedging. This program introduces you to the fixed-price concepts (price curves, basis, etc.) and tools (forwards, futures, swaps) central to contemporary energy markets and hedging techniques. The other piece of this same puzzle, options, is addressed in the follow-up program –“Fundamentals of Hedging with Energy Options.” Together, these two programs provide an understanding of the full scope of ideas that underlie today and tomorrow's energy market.

Program Instructors:

Paradigm's instructors bring to the classroom the hands-on experience of working in related business areas. Combining this extensive knowledge with their experience in conducting dedicated training for thousands of executives insures that our seminars feature lively interaction between participants and the instructor.

Venitta Ferguson

Prior to joining Paradigm in 1999, Venitta spent her entire career in the natural gas industry. Recognition of her work led to Venitta's appointment as a member of the Natural Gas Advisory Committee to the New York Mercantile Exchange, where she was instrumental in fostering of Exchange instruments within the natural Gas industry. Venitta has practical experience of trading the physical energy markets and working with derivative products to control risk.

Special Promotions

- **Team Discount** — Your organization may send one participant FREE with every 3 registered.
- **Early Bird Discount** — Register now thru October 7th and receive \$100 off of your registration fees.
- **Multi-Course Discount** — Each registrant will receive a \$300 discount by signing up for both courses

Hotel Information

- **Mention Paradigm** — To receive the discounted room rate of \$185/night, mention Paradigm when booking your accommodation.



Contact Paradigm

Phone: 866.637.1092
Fax: 203.637.5927
E-mail: info@paradigmtraining.com
Website: www.paradigmtraining.com

Event Location

Renaissance Houston Hotel Greenway Plaza
6 Greenway Plaza East
Houston, Texas 77046 USA
Phone: 1-800-468-3571
Direct Line: 1-713-629-1200

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Signup for any session through October 7th and we will deduct \$100 from its cost.