Paradigm

Houston – April 2010

Essentials of Energy Risk Management

April 13-14

Register On-line

Renaissance Houston Hotel Greenway Plaza

Houston, TX

Program Topics Include:

- Managing risk in an energy enterprise
- Structure of forward energy prices
- Forward price curve and storage arbitrage
- Hedging using swap structures
- Separating physical from financial risks
- Hedging weather risks
- Basis trading and transportation
- Synthetic transportation & generation
- Fixed Transmission Rights (FTR's)
- Understanding options on energy risks
- Beyond puts and calls: "Real" Options
- Essentials of option pricing
- Hedging energy price risks using options
- 'Costless' collars

Detailed Seminar Outlines Below

+$495 Value

Includes Comprehensive Reference Textbook

4th Person Free

3 Signups from Your Organization & 4th is Free

NATIONAL REGISTRY OF CPE SPONSORS

Paradigm Strategy Group, Inc. is registered with the National Association of State Boards of Accountancy (NASBA) as a sponsor of continuing professional education on the national Registry of CPE Sponsors. State boards of accountancy have final authority on the acceptance of Individual courses for CPE credit. Complaints regarding registered sponsors may be addressed to the National Registry of CPE Sponsors, 150 Fourth Avenue North, Nashville, TN, 37219 -2417. Web site: www.nasba.org

Course Essentials of Energy Risk Management

Day 1

COURSE
8am–5pm, Oct 20
8am–3pm, Oct 21

Management of Enterprise Risk

Risks within an Energy Enterprise

- Directional price risk
- Spread risk vs. price risk
- *Force Majeure* & physical supply risk
- Credit and cash liquidity risks
- Operational Risk

Interdependence of Risk

- No risk elimination - only risk trade offs
- Choosing among risk positions
- Risk and capital allocation
- Portfolio management of enterprise risks and capital

Why Companies Hedge

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

Identifying Risk Positions

- Physical vs. financial risk exposure
- Indexation and its implications to risk exposure

Structure of Trading

- Factors influencing the bid-offer spread
- The dealing process
- Role of the market makers and broker

Pricing Energy in the Forward Market

Knowledge of forward pricing concepts for energy products and their relationship to forward price curves is central to understanding derivatives and trading, including forwards, futures, swaps and options. This section focuses on the concept of forward pricing
and price curves, and how they come into play in developing hedge strategies, position valuation and other business applications.

Energy Pricing and the Forward Price Curve

- Defining the Forward Price Curve
- The theory of forward pricing
- Why forward prices in energy do not conform to theory
- Forward pricing disciplines for storable energy products
- Synthetic forwards

The Structure of Forward Prices

- Physical supply risk and backwardation in energy price curves
- Seasonality and the price curve for natural gas and refined products
- Price curves for natural gas and power
- Synthetic storage and storage arbitrage
- The economics of lending energy

Price Curve Applications

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

Group Review

Course Essentials of Energy Risk Management

Day 1

Using Swaps to Manage Risk

This section explores financially settled hedge instruments like swaps and futures in energy risk management. 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. Applications of swaps beyond energy price risk are also explored including weather, shipping and default risk hedging.

The Fixed/Floating Swap

- Swap mechanics
- Advantages to companies
- Separating physical risk from price risk
- *Force majeure* issues

Using a Swap to Hedge Price Risk

- Interpreting a dealer quote on a swap
- 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
- Embedding financing in a swap structure

Extending the Swap Concept

- Gas Daily/Swing swaps
- Weather hedging/Cooling Degree Day (CDD) swaps
- Hedging LNG and crude oil ocean shipping rates
- Storage swaps
- Volatility swaps
- Credit default swaps
- Contract for differences

Group Review

Day 2

Basis Trading and Transportation

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
- Using a basis swap to optimize risk/return

Benchmark Pricing of Physical Natural Gas

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

Using Basis Swaps to Transform Risk

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

Transmission/Congestion Revenue Rights (TRR/CRR)

- Locational Marginal Pricing
- TRR as a basis swap
- Firm transmission through a TRR

Group Review

Course Essentials of Energy Risk Management

Day 2

Energy Options

Following a review of the fundamentals of option structures and pricing, the program takes participants into the world of option structures being used today. It explores opportunities that can be developed using creative combinations of option and swap structures. Participants will also explore the economic values associated with options, a critical tool for their future understanding of risk management structures.

Broad Concept of Optionality Required in the Energy Business

- Options as asymmetrical payouts
- ‘Real’ optionality embedded in energy assets and contracts

Fundamentals of Options

- Call and put structures and payouts
- Option terminology
- Intrinsic and time (extrinsic) value
- Identifying embedded options by recognizing payouts

Opting Pricing Basics

- Concept of an option premium
- Influence of the price curve
- Time value and time decay
- How energy options differ from options on financial products
- Understanding volatility

Timing of Exercise

- European vs. American options
- Variations in American-style options in energy
- Embedded financial storage in certain American options

Group Review

Buying Options to Hedge Physical Risk Positions

- Hedging a buyer with a call
- Hedging a seller with a put
- Options as insurance
- Option vs. fixed-price hedging strategies
- Physical vs. financial settlement
- Risk-reward trade off

Recognizing Embedded Optionality

- Using option payout diagrams to identify hidden options
- Identifying options embedded in supply contracts
- Identifying optionality in energy assets

Reducing Energy Costs by Selling Options

- Covered vs. naked options
- Cost structure after selling options

Packaged Option Structures

- Linking option strips to create caps and floors
- Call strips as synthetic generation
- Combining puts and calls to create costless collars
- Comparing collar hedging strategies to fixed price and option hedging

Group Review

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 programs are basic level (group-live offering) courses with no prerequisites or advanced preparation required. *CPE Credits: Marketing 1, Management Advisory Services 2, Economics 2, Production 2, Specialized Knowledge & Applications 7: Total = 14*

April 13-14, 2010, Course — Essentials of Energy Risk Management — $1,595 USD REGISTER HERE

The resurgence in energy trading and the volatility of energy prices has highlighted the need for energy professionals in all areas to develop a functional proficiency in the management of energy risks. This program imparts a practical understanding of the array of tools and concepts that are at the core of the contemporary energy markets. It also provides insights into diverse approaches to evaluating and managing risks unique to the energy business. This course compresses into two days much of the material covered in Paradigm's four-day (two two-day) programs on Fundamentals — 1) Energy Trading and Hedging and 2) Using Energy Options. Participants preferring to learn these concepts in a less hurried and less intense format should consider the two two-day programs.

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 M. Ferguson

Prior to joining Paradigm in 1999, Venitta spent her entire career in the natural gas industry. Recognition of her work lead 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 the acceptance of Exchange instruments within the natural gas industry. Venitta has practical experience in 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 Paradigm registered participants.**
- **Early Bird Discount — Register now through March 12th and receive $100 off of your registration fees.**

Event Location

Renaissance Houston Hotel, Greenway Plaza
6 Greenway Plaza East
Houston, Texas 77046 USA
Phone: 1-713-629-1200

Mention Paradigm for our special rate:

$99 / night

Paradigm has made a special arrangement with the Renaissance Houston Hotel for accommodations. Callers identifying their affiliation with Paradigm Strategy Group, Inc. will be eligible for our special rate.

Cancellation Policy

Should you be unable to attend, a substitute participant from within your company is welcome at no extra charge. For all cancellations received (by phone, email, letter, or fax) 14 days or more prior to the program start date, we will make a prompt refund less an administrative charge of $100. Those cancellations received within 14 days of the program start date will be given a credit (good for one year from the original program date) to attend a future paradigm program. For more information regarding administrative policies such as complaint and refund, please contact our offices

Paradigm®

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

Fax or Mail This Form To
The Power Marketing Association
PO Box 2303, Falls Church, VA 22042
Tel 201 871 0474 Fax 253 663 7224

Register with PMA by Fax or Mail for Paradigm's Training Programs

Name:____

Title:____

2nd Attendee:______________________________________

Title:____

3rd Attendee:______________________________________

Title:____

4th Attendee *(free)*:_________________________________

Title:____

Organization:______________________________________

Street Address:____________________________________

City:_________________ State:_______ Zip Code:_______

Work Phone:__________________ Fax:__________________

E-mail:____

Check the course you will attend:
($100 **Early Bird** discount if registered before March 12th)

___ *Essentials of Energy Risk Management*
(April 13th-14th, $1595 USD)

Your credit card will be charged based upon your selections above.

Credit Card Type: ___Visa ___MasterCard ___American Express

Cardholder Name:___________________________________

Card Number:___________________________Exp.Date:_______

Signature:____

Click Here to Register Online

Cancellation Policy

Should you be unable to attend, a substitute participant from within you company is welcome at no extra charge. For all cancellations received (by phone, email, letter, or fax) 14 days or more prior to the program start date, we will make a prompt refund less an administrative charge of $100. Those cancellations received within 14 days of the program start date will be given a credit (good for one year from the original program date) to attend a future paradigm program. For more information regarding administrative policies such as complaint and refund, please contact PMA at 201.784.5389.