

This document outlines a 4-day training course which is specifically designed to expand delegates' knowledge of energy derivatives, clearing and settlement of derivatives contracts, margining procedures and collateral requirements, trading platforms, price references, benchmarks and indices, cleared products as well as pricing and valuation of these products.

Terminology from trading & risk management is also covered and an overview of the activities of trading organizations is provided to show insight in cross-department relations. Extensive explanation of products and markets is provided, as well as the working of processes and systems.

The training sessions have a strong interactive character whereby the involvement of participants is of utmost importance. While dealing with each subject, attention is given to the various characteristics, aspects, opportunities and risks attached to that subject.

Learning objectives

The learning objectives of this extensive education programme are to acquire insight and knowledge of, and practical skills regarding:

- The role and organization of the dealing room
- Asset classes: Financial instruments & products
 - Their working
 - Pricing, benchmarks & indices
- Trading platforms
 - Exchanges & OTC markets
- Markets: market participants and their role
 - Clients and their role or desires
 - The role of banks, brokers, exchanges and clearing organizations
- Clearing of financial instruments
 - Margin requirements and collateralization
- Settlement of financial instruments & products
- Risk management (operational, market and credit risk)
 - Value at Risk
 - Reporting (positions, limits)
- The working of processes with respect to several asset classes
 - Straight Through Processing (STP)
- Pricing & Valuation
 - Mark-to-Market valuation
 - End of day prices
 - Indices
 - Data & news providers
- Systems
 - Reporting systems
 - Trading & risk management systems
 - ICT applications
- Compliance and recent developments
 - Fraud
- Regulation and recent developments

Target group

This training course is specifically suitable for -but certainly not limited to- Back Office staff and ICT experts, including: Confirmations officers, Settlements officers, Operations staff, Project managers, ETRM experts. But also for: Staff from the finance department, Controllers, Exchange staff, Clearing corporation's staff, Bank employees, Brokers

4-DAYS ENERGY DERIVATIVES OPERATIONS

DAY 1

Markets

- Globalization and cross-border activity of organizations
- Markets & market working
 - Pricing in the spot markets
 - Liberalization vs. regulation
 - Liquidity
 - Volatility
 - Valuation of derivatives (theoretical vs. practical)
 - Mark-to-Market valuation
 - Mark-to-Model valuation
 - Liquidity
 - Volatility
 - Supply & Demand and non-fundamentals pricing factors
- OTC markets vs. Exchange trading
 - Exchanges
 - Trading platforms
 - Counterparty risk
 - Clearing
 - Clearing organizations
 - Clearing houses
 - Clearing members
 - Margining & Collateralization
 - Margin call
 - Initial margin
 - Variation margin
 - Bilateral vs. Multilateral netting
 - Standardization vs. tailoring
 - Anonymity
 - Transparency
 - Liquidity
 - Regulation
 - OTC markets
 - Brokerage services
 - Master agreements
 - Frameworks
 - EFET
 - ISDA
 - Credit Support Annex (CSA)
 - Credit lines
 - Sleeving
 - Trayport
 - Regulatory packages:
 - EMIR and its consequences
 - REMIT
 - MiFID

Exercise

Valuation – M-to-M

Exercise

Margining – Initial & variation margin

Exercise

Netting – Bilateral & multilateral

Exercise

Trayport – Sleeving, masters & brokers

Simulation

Trading simulation

Transactions

- Executing transactions
 - Procurements & Sales
 - Trading
- Markets
 - Spot market (prompt market)
 - Forward market (future market)
- Reasons for executing transactions
 - Physical need
 - Sourcing
 - Sales
 - Financial desire
 - Hedging (forward markets)
 - Arbitrage (spot & forward markets)
 - Speculation (spot & forward markets)
 - Proprietary trading
 - Optimization (of assets)
 - Asset backed-trading

DAY 2

Trading & Position management

- Products
 - Oil
 - Crude
 - Refinery products
 - Crack spread
 - Natural gas
 - High calorific gas – Hi cal
 - Low calorific gas – Lo cal
 - Coal
 - API#2
 - API#3
 - API#4

- Freight and transport
 - Pipelines for oil & gas
 - Grids for electricity
 - TSO
 - Nomination process
 - Balancing regime
 - Negative prices
 - Chartering vessels
 - Forward freight agreements (FFAs)
- Currency exchange rates
 - Foreign exchange
 - FOREX or FX
 - Hedging currency exchange rate exposures

Contract specs

Gas forward, oil, coal & emission futures

Exercise

Trayport – Sleeving, masters & brokers

Exercise

Hedging with forward freight agreements (FFAs)

Trading processes

- Trading processes
 - Sending order to market
 - Order execution
 - Deal confirmation
 - Deal entry
 - Allocation
 - Reconciliation
 - Risk monitoring
 - Margining (depositing; capital allocation)
 - Settlement
 - Billing & Invoicing
 - Payment
 - Cash flow forecasting (margining; accounts payable/receivable)
- ETRM system
 - Information centre, Monitoring & Reporting
 - Transactions
 - Positions
 - Valuation (products, quantities, prices)
 - Performance (P/L)
 - Risk exposure
- Trading desk
 - ICT
 - Connectivity to trading platforms
 - Internet
 - Yahoo messenger

4-DAYS ENERGY DERIVATIVES OPERATIONS

- Data & News providers
 - Bloomberg
 - Thomson Reuters
 - Platts
 - Argus
 - ICIS Heren
 - Genscape
 - Montel
 - Weather tools
- Telecom
 - Telephone tapes
- Squawk box
 - Voice brokerage

Settlement procedures – part 1

- Settlement
 - Unwinding a transaction
 - Physical delivery versus cash settlement
 - Physical delivery
 - Delivery versus payment
 - Delivery period vs. moment
 - Cash settlement
 - Paper trading
 - Financial trading
 - Cascading
 - Administrative process
 - Yearly contracts fall apart into quarters
 - Quarterly contracts fall apart into months
- Trading at Settlement (TAS)
- Alternative Delivery procedure (ADP)
 - Two European energy companies
 - Company A prefers to deliver in Europe
 - Company B prefers to take delivery in Europe
 - Open interest changes due to ADP
- Exchange of Futures for Physicals (EFP)
 - Using EFPs
 - Exchange of Futures for Physicals
 - Open interest changes due to EFP
- Cheapest to deliver
 - Seller's choice
 - Quality range

Exercise

Exchange Futures for Physicals

Exercise

Cascading – Impact on valuation of individual contracts (seasonality)

Exercise

Cascading – Impact on margining

Settlement procedures – part 2

- Spot trading versus forward trading of gas & power
 - Day
 - Power day: 00.00-24.00
 - Gas day: 06.00-06.00
 - Peak vs. off-peak
 - Base load vs. peak load
 - Historical differentials per country
 - 07.00-23.00
 - 08.00-20.00
 - Spot markets & products
 - Intraday market
 - Day ahead market
 - Individual hours
 - Block hours / Strips
 - BOW
 - BOM
 - BOY
 - WKND
 - WDNW
 - Curve trading
 - Month ahead, Quarter ahead, Year ahead
 - Quarters, Seasons (Summer/Winter), Calendar, Year
 - Balance of week, month, year

DAY 3

Products

- Products
 - Differences per exchange
 - Category of underlying value
 - Spot (*prompt*) vs. Forward (*derivatives*)
 - Physical delivery vs. cash settlement
 - Spreads (*derivatives: futures, forwards, swaps and options*)
 - Derivatives
 - Legal agreements
 - Time contract for delivery in the future
 - Obligation
 - 2 (counter) parties
 - Contract specifications
 - Futures/forwards, options
 - Zero sum game
 - Limited maturity (expiration)
 - Forward & Future
 - Forward contract
 - Tailored

- Bilateral
- Physical delivery only on pre-determined date(s)
- No intermediary cash flow
- Specifications: date, price, amount individually agreed
 - Futures contract
- Standardized: date (maturity), price, amount
- Exchange & clearing
- Daily cash settled (market to market)
- Anonymous
- Physical or cash delivery
- Actual price present
 - Futures vs. forwards vs. options
 - Combinations of forwards/futures
 - Spreads
 - Spark spread
 - Dark spread
 - Options
 - Call & Put options
 - 1-sided rights
 - Underlying value
 - Physical product
 - Future
 - Premium
 - Hedging with options
 - Cap
 - Floor
 - Collar
 - Swaps
 - Types
 - Fixed-for-floating
 - Fixed-for-fixed
 - Floating-for-floating
 - Settlement
 - Cash settlement
 - Physical delivery
 - Hedging a physical position with cash settled swaps
 - Mismatch in settlement/delivery

Exercise

Swaps - Hedging physical position with cash settled swap (Settlement of swaps)

Exercise

Options - Hedging physical exposures with caps & floors (Settlement of options)

4-DAYS ENERGY DERIVATIVES OPERATIONS

DAY 4

Risk Management

- Market risk
 - Value-at-Risk
 - Historical Simulation
 - Monte Carlo Simulation
 - Stress Testing
- Operational risk
- Identify and define the boundaries of operational risk
- Understand specific risks in financial institutions and their impact on operational efficiency
- Examine some of the models
- Identify solutions and tackle line management, internal control and the effect of human error
 - Fraud
 - Anti-money laundering
- Execution error
- Booking error
- Transaction and mis-matching of trades
- Objectives of operational risk management
- Responsibilities
- Developing a risk awareness culture
- Developing operational risk management procedures
- Operational risk management techniques

Cases

Enron & Barings - Operational risk

Exercise

Value at Risk - Quantification of exposures

Reporting & Accounting

- Book structure
 - Who is responsible for which portfolio?
 - Internal transfer pricing (ITP)
 - Internal transfer prices
 - Sales department vs. Trading department
 - Prop desk vs. Asset & portfolio management desk
 - Assets vs. Traders
- Hedging
 - Hedge accounting
 - IAS 39
- Segregation of duties
 - Chinese walls
- Quality of reports
 - Quality of input
 - Quality of output
 - Quality of model

- Reports
 - Risk reporting
 - Cash flow reporting
 - Position reporting
- End-of-day (EOD) processing
 - Month-by-month reporting
 - Year end reports
- Limit structures & mandates
- Greeks (sensitivity analysis)
- Delta
- Gamma
- Theta
- Vega
- Rho

Exercise

Book structure

Exercise

Internal transfer pricing

Exercise

Greek variables

Exercise

Value at Risk calculations, interpretations & consequences