



Natural Gas Trading and Risk Management Course: Hub Pricing, Swing and Derivatives



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Introduction:

Natural gas trading and risk management, with hub pricing, swing and derivatives, is a 5-day course for gas marketing, commercial, trading support, risk and finance staff at producers, utilities and buyers, ending with a Gas Portfolio Position Report and Hedge Plan. Organisations lose margin when contracts, capacity and storage are booked by one team while price, volume and counterparty exposures are measured by another. Nominees already handle gas deals, nominations or exposure reports, and the course runs as a modelling build on a case portfolio. CoreConcept Training Center delivers this natural gas trading and risk management course.

Course Objectives:

- Map a gas trading book from wellhead supply and pipeline or LNG purchases through hub trades to end-buyer sales and settlement
- Interpret daily and annual contract quantities, take-or-pay, make-up, price review and reopener terms in gas sale agreements and LNG master agreements
- Calculate gas contract prices under hub-indexed, oil-indexed slope and hybrid formulas, and price location, time and spark spreads
- Value pipeline capacity, storage and swing rights as options and use them to optimise a multi-source gas portfolio
- Select futures, swaps, basis swaps and spread options to hedge price and volumetric exposure, and measure the result with mark-to-market and value at risk
- Apply counterparty credit limits, netting, collateral and deal capture controls and present a Gas Portfolio Position Report and Hedge Plan

Target Audience:

- Gas marketing and origination staff responsible for negotiating supply and offtake volumes with producers and end buyers
 - Commercial staff responsible for pricing gas sales and purchases and administering contract flexibility
 - Trading support and scheduling staff responsible for nominations, capacity bookings, imbalances and deal confirmations
 - Risk and middle office staff responsible for position reporting, limits, mark-to-market and credit exposure
 - Finance and treasury staff responsible for hedge accounting inputs, collateral funding and gas margin forecasts
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Course Outline:

Day 1: Gas Market Structure, Value Chain and the Trading Book

- Wellhead to Burner Tip Gas Value Chain Map
- Pipeline Gas Versus LNG Supply Flexibility Comparison
- Physical and Virtual Hub Trading Points Explained
- Gas Trading Book Structure From Origination to Settlement
- Current Gas Exposure Inventory for Producers and Buyers

Day 2: Gas Supply Contracts and Price Formation Models

- Gas Sale Agreement Daily and Annual Contract Quantities
- Take-or-Pay Deficiency, Make-Up and Carry Forward Mechanics
- Price Review Clause and Reopener Trigger Assessment
- LNG Master Sales Agreement DES, FOB, Diversion and Cancellation Terms
- Hub-Indexed, Oil-Indexed Slope and Hybrid Price Formulas

Day 3: Transport Capacity, Storage, Spreads and Portfolio Optimisation

- Pipeline Entry-Exit Capacity Booking and Daily Nomination Procedures
- Storage Injection and Withdrawal Valued as a Calendar Spread
- Regasification Slot Capacity Treated as a Location Option
- Location, Time and Spark Spread Calculation for Gas Positions
- Swing Contract Valuation and Daily Portfolio Dispatch Optimisation

Day 4: Gas Derivatives, Market and Credit Risk and Trading Controls

- Hub Gas Futures, Fixed-for-Floating Swaps and Basis Swaps
- Spread Options and Collars for Seasonal Gas Exposure
- Volumetric Risk, Price Risk and Value at Risk Measurement
- Counterparty Credit Exposure, Netting Agreements and Collateral Calls
- Deal Capture, Mark-to-Market and Segregation of Duties Controls

Day 5: Modelling Build of the Gas Portfolio Position Report and Hedge Plan

- Case Portfolio Data Pack With Contracts, Capacity and Storage
 - Net Open Position Ladder by Month and Delivery Point
 - Hedge Ratio and Instrument Selection for the Case Portfolio
 - Stress Test of Swing Volumes, Basis and Counterparty Default
 - Gas Portfolio Position Report and Hedge Plan Completion
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Skills You Will Gain:

- Gas Contract Flexibility Analysis
- Gas Price Formula Construction
- Transport Capacity Valuation
- Storage and Swing Optimisation
- Gas Derivative Hedge Design
- Value at Risk Reporting
- Counterparty Credit Monitoring
- Trade Control Assurance

Why Attend This Course:

- Deliver a Gas Portfolio Position Report and Hedge Plan, built on a case portfolio, to the head of trading and the risk committee for approval
- Decide whether to use swing, storage or capacity flexibility physically or to sell its value through hub trades and spread positions
- Avoid take-or-pay deficiency payments, unhedged basis exposure and uncollateralised counterparty losses that surface only at month-end settlement
- Share the position ladder, spread calculations and control checklist with scheduling, risk and finance colleagues who handle the same gas book

Conclusion:

Back at work, the participant hands the Gas Portfolio Position Report and Hedge Plan to the head of trading and the risk committee, who use it to approve hedge volumes, instrument choices and credit limits for the coming delivery months. Scheduling and finance teams can rely on the same position ladder for nominations, collateral funding and margin forecasts. After the first month of use, the unit should review how far actual swing and storage use departed from plan, which hedges carried basis risk and whether limits and stress scenarios need recalibrating.

Frequently Asked Questions FAQ:

What do participants need before a natural gas trading and risk management course?

Participants should already work with gas contracts, nominations, prices or exposure reports and be comfortable with spreadsheets. Bringing anonymised examples of their own gas contract terms or position reports helps them apply the formulas, spread calculations and hedge choices to their own book.

How does natural gas trading and risk management differ from an LNG contracts course or a crude oil trading course?

It centres on the gas trading book as a whole: pipeline and hub trades, capacity, storage, swing and the risk controls around them. LNG contract negotiation and shipping economics, and crude benchmarks with product cracks, are covered in depth by neighbouring courses, not here.

Why does swing flexibility matter in natural gas trading and risk management?

Swing lets a buyer vary daily and annual offtake within agreed bands, so it carries option value and volumetric risk at the same time. Valuing it correctly decides how much to hedge, when to use storage and whether take-or-pay deficiency payments are likely.

What do participants take back from the natural gas trading and risk management course?

Participants return with a Gas Portfolio Position Report and Hedge Plan built on a case portfolio, covering a net open position ladder, spread and swing valuations, hedge ratio choices, stress tests and the credit and control checks needed before hedges are executed.
