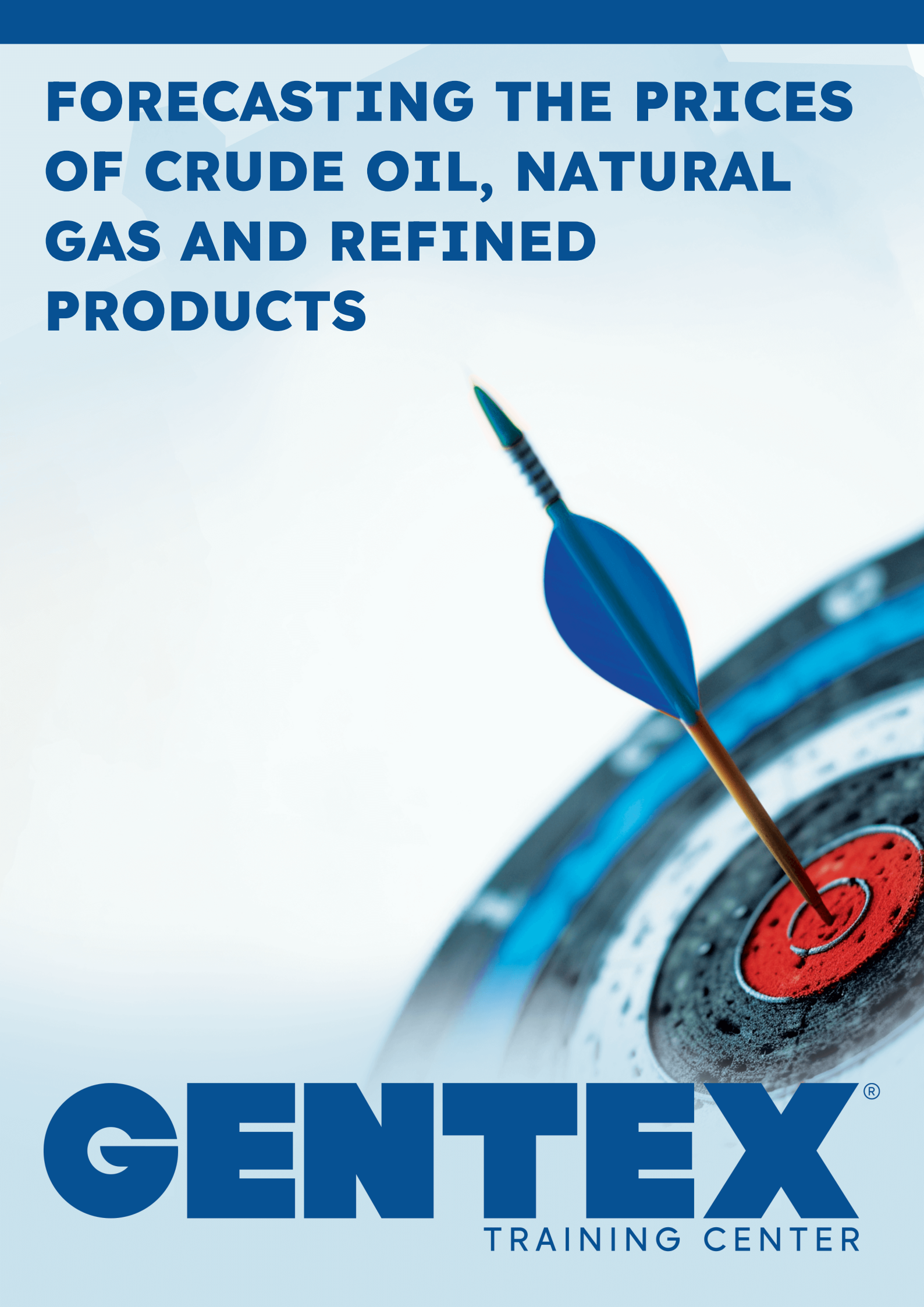
# FORECASTING THE PRICES OF CRUDE OIL, NATURAL GAS AND REFINED PRODUCTS



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TRAINING CENTER

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# Introduction

Forecasting the Prices of Crude Oil, Natural Gas and Refined Products Training Course builds the analytical skills that energy professionals need to anticipate price movements with discipline. Participants learn how physical supply, demand, inventories and financial markets combine to set prices across crude, gas and refined products. The programme covers benchmark crude grades, hub pricing, futures curves, crack spreads and seasonality. Furthermore, it teaches practical forecasting methods, from fundamental balances and econometric models to scenario and probabilistic approaches. As a result, delegates can build defensible price decks for budgeting, valuation and hedging decisions. Gentex Training Center delivers the programme through live data workshops and forecasting case work.

# Forecasting the Prices of Crude Oil, Natural Gas and Refined Products Course Objectives

- Explain how crude oil, natural gas and refined product prices form in physical and financial markets.
- Interpret benchmark grades including Brent, WTI, Dubai and Oman and their differentials.
- Analyse gas pricing mechanisms across hub, oil-linked and regulated markets.
- Build supply and demand balances from inventory, refinery and production data.
- Read futures curves, contango, backwardation and time spreads correctly.
- Calculate crack spreads, refinery margins and product price relationships.
- Apply econometric techniques including regression and time-series analysis.
- Build fundamental price forecasts linked to OPEC policy and spare capacity.
- Use scenario and probabilistic methods including Monte Carlo simulation for price decks.
- Present price assumptions clearly for budgeting, valuation and hedging purposes.

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## Course Methodology

The course combines concise market briefings with hands-on data workshops and forecasting case studies. Participants analyse live price data, build balances and run regression, scenario and Monte Carlo forecasts in Excel. In addition, structured peer review and group debate test each forecast, and every day closes with an applied forecasting task.

## Who Should Take This Course

- Energy economists, analysts and market researchers.
- Planning, budgeting and corporate finance professionals in energy firms.
- Traders, risk managers and hedging specialists.
- Refinery, supply and trading commercial staff.
- Investment analysts and advisers covering oil, gas and refining.
- Government and regulatory energy analysts.

## Forecasting the Prices of Crude Oil, Natural Gas and Refined Products Course Outlines

## Day 1: Price Formation and Market Structure

- Physical and financial drivers of crude, gas and product prices.
- Benchmark grades: Brent, WTI, Dubai, Oman and regional differentials.
- Pricing mechanisms for natural gas: hub, oil-linked and regulated tariffs.
- Refined product markets: gasoline, diesel, jet fuel and fuel oil.
- Role of inventories, storage and freight in short-term pricing.
- Market participants: producers, refiners, traders and financial investors.

- Workshop: mapping how one barrel moves from wellhead to end user price.

## Day 2: Fundamental Analysis and Supply-Demand Balances

- Building crude balances from production, refinery runs and demand data.
- OPEC production policy, spare capacity and quota compliance.
- Natural gas balances: LNG supply, pipeline flows and seasonal storage.
- Refinery capacity, utilisation and planned and unplanned outages.
- Inventory reporting cycles and data sources including IEA and EIA.
- Elasticity, substitution and demand destruction at high prices.
- Workshop: constructing a twelve-month supply and demand balance.

## Day 3: Futures Markets and Quantitative Techniques

- Futures, forwards, swaps and options in energy markets.
- Contango, backwardation, time spreads and calendar spreads.
- Crack spreads, refinery margins and inter-product relationships.
- Regression analysis: linking prices to drivers and exogenous variables.
- Time-series methods, autocorrelation and mean reversion.
- Volatility measurement and implied versus realised volatility.
- Workshop: building a crack spread model and reading the forward curve.

## Day 4: Building Price Forecasts and Scenarios

- Choosing between fundamental, econometric and hybrid forecasting approaches.
- Constructing base, high and low price scenarios with clear narratives.
- Monte Carlo simulation for probabilistic price distributions.

- Handling structural breaks, shocks and geopolitical events.
- Benchmarking forecasts against consensus and forward curves.
- Measuring and communicating forecast uncertainty.
- Workshop: producing a crude and gas price forecast with scenarios.

## Day 5: Price Decks, Hedging and Business Application

- Building a multi-year price deck for planning and valuation.
- Aligning price assumptions with budgets, impairment tests and project models.
- Hedging strategy design using futures, swaps and collars.
- Managing basis risk between benchmarks and realised sales prices.
- Reviewing forecast accuracy and updating assumptions regularly.
- Presenting price assumptions to management and investment committees.
- Workshop: defending a price forecast and hedging plan before a review panel.

## Conclusion

By successfully completing Forecasting the Prices of Crude Oil, Natural Gas and Refined Products Training Course, participants will have acquired the knowledge to analyse energy markets and build credible price forecasts. They will understand price formation, supply and demand balances, futures curves, crack spreads and quantitative forecasting methods, and they will know how to turn assumptions into usable price decks. As a result, delegates support better planning and hedging decisions. Gentex Training Center builds the programme around current market practice.

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# FAQs for the Forecasting the Prices of Crude Oil, Natural Gas and Refined Products course

## Q1 What is the "Forecasting the Prices of Crude Oil, Natural Gas and Refined Products" course about?

It teaches how energy prices form and how to forecast them. You learn benchmark grades, gas pricing mechanisms, supply and demand balances, futures curves, crack spreads and quantitative methods, then build usable price decks.

## Q2 What are the key benefits of the "Forecasting the Prices of Crude Oil, Natural Gas and Refined Products" course?

You gain the ability to build defensible price assumptions rather than relying on single-point guesses. You also improve budgeting and valuation accuracy, understand market signals better, and design hedging strategies that reflect real price uncertainty.

## Q3 What skills will I gain from the "Forecasting the Prices of Crude Oil, Natural Gas and Refined Products" course?

You will gain energy price forecasting, fundamental supply and demand balance analysis, futures curve and crack spread analysis, and quantitative forecasting using regression, scenario and probabilistic techniques.

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## Q4 What tools, methods, or standards are covered in the "Forecasting the Prices of Crude Oil, Natural Gas and Refined Products" course?

The course covers Brent, WTI, Dubai and Oman benchmark pricing, hub and oil-linked gas pricing, IEA and EIA inventory data, futures curve analysis with contango and backwardation, crack spread modelling, regression and time-series analysis, Monte Carlo simulation, and hedging with futures, swaps and collars.

## Q5 How is the "Forecasting the Prices of Crude Oil, Natural Gas and Refined Products" course applied in real-world practice?

Graduates apply it to prepare price decks for budgets and long-range plans, support project valuation and impairment testing, set hedging programmes, assess basis risk on realised sales, and brief management and investment committees on market outlook.