



Oil and Gas Value Chain Course: Upstream, Midstream and Downstream Fundamentals



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Introduction:

Oil and Gas Value Chain Course: Upstream, Midstream and Downstream Fundamentals is a five-day course for newcomers and non-technical staff in energy companies, service firms, public energy bodies and finance houses, ending with a Well-to-Customer Value Chain Map and Briefing Note. Organisations make weaker decisions when staff see only their own link and cannot connect pipelines, refineries, gas cargoes, benchmarks and margins. Nominees work in commercial, financial, policy or support roles without engineering training, and learning runs through case studies of a traced barrel and gas cargo. CoreConcept Training Center delivers this oil and gas value chain course.

Course Objectives:

- Describe how crude oil, natural gas and natural gas liquids form, differ in quality and move through each segment of the industry
- Explain the role of gathering systems, gas processing plants, pipelines, tank farms, marine terminals and tankers in linking producers to buyers
- Outline how refineries, petrochemical crackers, LNG plants and fuel distribution networks turn raw hydrocarbons into saleable products
- Interpret marker crude benchmarks, quality differentials, crack spreads and gas hub prices quoted in market reports and internal briefings
- Analyse how revenue and margin are shared between producers, midstream operators, refiners, traders, retailers and governments along the chain
- Assess the safety, environmental and energy transition pressures that affect each link and summarise them in a Well-to-Customer Value Chain Map and Briefing Note

Target Audience:

- Newly appointed staff in operating, trading and service companies who must understand where their unit sits in the hydrocarbon chain
 - Finance, treasury and credit staff responsible for lending to, investing in or analysing energy businesses
 - Policy, planning and economic analysis staff in public energy bodies who prepare briefings on supply and markets
 - Procurement, legal, HR and communications staff who support operations without a technical background
 - Sales and account staff in oilfield, logistics and engineering service firms who deal with clients across several segments
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Course Outline:

Day 1: Hydrocarbon Origins, Industry Structure and the Whole-Chain Picture

- Segment Boundary Diagram from Reservoir to Retail Forecourt
- Petroleum Composition Primer on Crude Grades, Gas and NGLs
- Hydrocarbon Formation Story of Burial, Heating and Trapping
- Industry Player Landscape of National, Integrated and Independent Firms
- Exploration and Production Snapshot from Licence Award to Output

Day 2: Midstream Links: Gas Processing, Pipelines, Storage and Shipping

- Gas Processing Plant Overview from Sweetening to NGL Fractionation
- Crude and Product Pipeline Networks with Pump Stations
- Tank Farm and Strategic Stockholding Roles in Supply Balancing
- Marine Terminal Loading and Crude Tanker Size Classes
- Midstream Fee-Based Business Model and Custody Transfer Points

Day 3: Downstream Conversion: Refining, Petrochemicals, LNG and Fuel Distribution

- Refinery Block Flow Diagram from Crude Unit to Finished Fuels
- Petrochemical Building Blocks from Ethylene and Propylene to Polymers
- LNG Chain Snapshot of Liquefaction, Carriers and Regasification
- Pipeline Gas Markets, Trading Hubs and Long-Term Supply Contracts
- Fuel Distribution Path from Depot and Road Tanker to Station

Day 4: Pricing, Economics, HSE and Energy Transition Pressures

- Marker Crude Benchmarks Such as Brent and Quality Differentials
- Product Crack Spreads and Physical Versus Paper Trading Basics
- Value Distribution Waterfall Showing Who Earns What per Barrel
- HSE Hazard Map for Spills, Fires, Process Safety and Emissions
- Energy Transition Pressure Points from Methane Limits to Demand Shifts

Day 5: Case Study: Building the Well-to-Customer Value Chain Map and Briefing Note

- Case Barrel Traced from Wellhead to Refinery and Pump
 - Case Gas Cargo Traced from Field to Power Station Buyer
 - Margin Allocation Exercise Across Producer, Shipper, Refiner and Retailer
 - Disruption Scenario Review of a Pipeline Outage or Price Shock
 - Well-to-Customer Value Chain Map and Briefing Note Completion
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Skills You Will Gain:

- Hydrocarbon Chain Literacy
- Midstream Infrastructure Awareness
- Refined Product and Petrochemical Recognition
- Benchmark Price Interpretation
- Margin Distribution Analysis
- Energy Market Briefing
- Industry HSE Awareness
- Transition Risk Screening

Why Attend This Course:

- Deliver a Well-to-Customer Value Chain Map and Briefing Note to line managers and induction leads as a shared reference for the unit
- Judge whether a price move, outage or policy change reported in the news affects upstream, midstream or downstream earnings first
- Avoid misreading market reports, supplier proposals and investment papers that rely on unfamiliar segment, benchmark and margin terms
- Brief new colleagues on how barrels and gas cargoes move and earn money using the same map and vocabulary

Conclusion:

Back at work, the participant hands line managers, induction leads and analyst teams a Well-to-Customer Value Chain Map and Briefing Note showing how a barrel of crude and a cargo of gas travel, change form and earn value from wellhead to end buyer. Managers can use it to brief new joiners, frame market updates and check which link a contract, loan or policy proposal really touches. After its first use, the unit should review which segments generated the most questions and update the price and margin examples with current market data.

Frequently Asked Questions FAQ:

What do participants need before an oil and gas value chain course for non-technical staff?

No engineering or geology background is needed. Participants should work in, or be about to join, an energy company, service firm, public energy body or finance team, and bring one example of a decision in their own role that depends on oil or gas markets.

How does this oil and gas value chain course differ from an upstream fundamentals or refining course?

It covers the whole chain at overview depth, from formation and production through pipelines, shipping, refining, petrochemicals, gas markets and retail to pricing and margins. Upstream or refining courses go much deeper into one segment and its technical decisions.

Why does the oil and gas value chain matter for margins and prices?

Each link adds cost and earns its own margin, so a pipeline outage, refinery outage or shift in a marker crude price moves earnings differently for producers, shippers, refiners and retailers. Seeing the whole chain explains who gains and who loses.

What do participants take back from the oil and gas value chain course?

Participants take back a Well-to-Customer Value Chain Map and Briefing Note tracing a case barrel and gas cargo, with segment roles, price points, margin shares, HSE issues and transition pressures, ready to adapt for induction and team briefings.