Oil and Gas Finance and Petroleum Economics

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Edinburgh (UK)



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Oil and gas finance and petroleum economics is the study of how money is raised, invested and valued in exploration, production, transport and refining, using cash flows rather than bookkeeping entries to judge whether a project is worth funding. This one-week course is for experienced finance and planning staff and ends with each delegate completing an investment appraisal of an upstream project. Blackbird Training Centre delivers this course in oil and gas finance and petroleum economics.

Introduction

The course rests on three references. The Petroleum Resources Management System SPE-PRMS is the industry classification of reserves and resources that underpins any valuation. IFRS 6, Exploration for and Evaluation of Mineral Resources, governs how exploration spending reaches the accounts. Discounted cash flow analysis is the method behind net present value NPV and internal rate of return IRR. The level is advanced: delegates are expected to read financial statements already and come to apply them to capital decisions. Teaching is a modelling build, in which each delegate develops a spreadsheet cash-flow model across the week, with examples from upstream fields, pipelines and refineries.

Course Objectives

- Distinguish reserves from resources under SPE-PRMS and justify which volumes belong in a project valuation.
- Compare NPV with IRR and select the criterion that ranks competing projects correctly under a capital limit.
- Apply a cash-flow model to a field development, including royalty, tax or production sharing terms.
- Compare concessionary fiscal regimes with production sharing contracts and interpret their effect on project value.
- Select between hedging with futures and with options to protect a project's revenue from price falls.
- Justify a financing structure, such as reserve-based lending or project finance, for a given capital project.



Target Audience

- Finance professionals in energy companies who evaluate projects, deciding whether a proposed development creates value.
- Corporate planning and portfolio staff, judging which projects receive scarce capital in a given budget round.
- Commercial and business development staff on acquisitions and partnerships, choosing what price to offer for an asset.
- Treasury and risk staff responsible for price and currency exposure, deciding how much production to hedge.
- Analysts at banks and investors who cover the sector, judging whether an energy company's projects justify its debt.

Course Outline

Day 1: Value Chain Economics and Oil Prices

- Upstream vs Downstream Economics: Different Financial Drivers, Margins and Capital Needs
- Oil and Gas Value Chain: Where Cost and Value Arise From Wellhead to Customer
- Midstream Economics: Tariff-Based Pipeline and Storage Income Compared With Commodity Exposure
- Global Energy Markets: Benchmarks, Supply, Demand and Drivers of Price Volatility
- Industry Terms and Metrics: Barrels of Oil Equivalent, Lifting Cost and Reserve Life

Day 2: Reserves, Reporting and Financial Statements

- Reserves vs Resources: SPE-PRMS Categories and Why Only Reserves Carry Value
- Reserve Estimation and Reporting: How Proved and Probable Volumes Feed Valuation
- IFRS 6 vs Full Cost and Successful Efforts: Treating Exploration and Evaluation Spending
- Production Sharing Agreements and Joint Ventures: Cost Recovery and Partner Entitlements
- Financial Statement Analysis: Reading Ratios and Cash Flows of Energy Companies

Day 3: Project Economics and Valuation

- NPV vs IRR: Two Investment Criteria and When They Rank Projects Differently
- Cash-Flow Modelling: Building Annual Revenue, Operating Cost, Capital and Tax Lines
- Fiscal Regimes: Concession Royalty and Tax Compared With Production Sharing Terms
- Asset Valuation Methods: Discounted Cash Flow, Comparable Transactions and Reserve Multiples
- Capital Budgeting and M&A: Ranking Projects, Acquisitions and Divestitures Under Capital Limits



Day 4: Price Risk and Project Finance

- Futures vs Options: Locking a Price Compared With Buying Downside Protection
- Financial Risk Management: Commodity, Currency and Interest Rate Exposure in Energy
- Sensitivity and Scenario Analysis: Testing Project Value Against Price and Cost Swings
- Financing Options: Corporate Debt, Reserve-Based Lending and Limited-Recourse Project Finance
- Capital Structure: Balancing Debt and Equity for Volatile Energy Company Cash Flows

Day 5: Completing the Investment Appraisal

- Budget vs Forecast: Annual Spending Limits Compared With Rolling Price-Linked Outlooks
- Working Capital Management: Cash Conversion When Prices and Volumes Move Quickly
- Performance Measurement: Applying Return on Capital Employed and Unit Costs to the Model
- Strategic Financial Planning: Placing the Model Project Within Long-Term Capital Allocation
- Investment Appraisal: Finalising the Cash-Flow Model, NPV, IRR and Financing Recommendation

Skills You Will Gain

- Discounted cash flow modelling
- Fiscal regime analysis
- Reserve-based valuation
- Commodity hedging selection
- Sensitivity and scenario testing
- Project finance structuring
- Capital rationing

Why Attend This Course

- From reading historical accounts to forecasting the cash a field or plant will generate over its life.
- From quoting a single IRR to showing how value changes when oil prices, costs or fiscal terms shift.
- From treating hedging and borrowing as treasury matters to weighing them as part of the investment case.
- From an unstructured project proposal to an investment appraisal with a cash-flow model, NPV, IRR and a financing recommendation.

Conclusion

Seen another way, petroleum economics asks one question of every barrel, pipeline or refinery unit: will the cash it returns, after royalties, taxes and the cost of capital, exceed the money put in? The course clarifies the gap between reserves and resources, between NPV and IRR, and between concession and production sharing terms. It is the right choice for finance, planning and commercial staff who already understand oil and gas accounts and now need to judge investments, rather than for those seeking accounting and reporting skills.



Course FAQs

What is petroleum economics?

Petroleum economics is the analysis of oil and gas projects through their expected cash flows, combining production forecasts, prices, costs, fiscal terms and the cost of capital to decide whether a project or acquisition creates value.

What is the difference between NPV and IRR in oil and gas finance?

NPV is the value today of a project's future cash flows after discounting at the cost of capital; IRR is the discount rate at which that value falls to zero. When projects differ in size or timing, NPV gives the more reliable ranking.

Which standards does oil and gas finance and petroleum economics training follow?

The course uses SPE-PRMS for classifying reserves and resources, IFRS 6 together with the full cost and successful efforts methods for exploration spending, and discounted cash flow analysis for valuation and capital budgeting.

Is oil and gas finance and petroleum economics training right for a financial analyst?

Yes, for a financial analyst who already reads company accounts and needs to evaluate projects, acquisitions or lending in the sector. An analyst who mainly prepares statutory reports may find an oil and gas accounting course a closer match.

What do delegates produce in oil and gas finance and petroleum economics training?

Each delegate completes an investment appraisal of an upstream project: a spreadsheet cash-flow model with fiscal terms, NPV and IRR results, sensitivity and scenario tests, and a recommended financing structure.

