# Strategic Petroleum Economics and Risk Analysis Training Course

21 - 25 Dec 2026

Cape town

4600 € (Per Person)

Ref: #OG1724_274980

## Course Introduction / Overview:

The global energy landscape is defined by complexity, volatility, and unprecedented change. Navigating this environment requires a sophisticated understanding of not just the technical aspects of the oil and gas industry, but also the intricate economic forces and multifaceted risks that shape investment decisions. This course provides a comprehensive framework for mastering strategic petroleum economics and risk analysis. Drawing on foundational principles articulated by experts like Daniel Yergin in his seminal work, "The Prize: The Epic Quest for Oil, Money, and Power," this program delves into the entire petroleum value chain. Participants will move from understanding fundamental market drivers to applying advanced techniques in project evaluation, fiscal system analysis, and risk quantification. BIG BEN Training Center has designed this immersive experience to equip professionals with the skills to make robust, data-driven decisions in high-stakes scenarios. The curriculum integrates economic modeling, geopolitical risk assessment, and strategic planning to provide a holistic perspective, ensuring that attendees can confidently assess opportunities, manage uncertainties, and drive value for their organizations in the dynamic world of petroleum.

## Target Audience / This training course is suitable for:

- Petroleum Economists and Financial Analysts.
- Geoscientists, Reservoir Engineers, and Petroleum Engineers.
- Commercial and Business Development Managers.
- Corporate Planners and Strategists.
- Asset and Portfolio Managers.
- Government Regulators and Policy Advisors.
- Investment Bankers and Equity Analysts covering the energy sector.
- Legal and Contract Advisors in the oil and gas industry.
- Project Managers and Team Leaders.

## Target Sectors and Industries:

- Oil and Gas Companies (Upstream, Midstream, and Downstream).
- National Oil Companies (NOCs).
- Independent and International Oil Companies (IOCs).
- Energy Consulting and Advisory Firms.
- Financial Institutions and Investment Banks.
- Private Equity and Venture Capital Firms.
- Governmental bodies, including Ministries of Energy and Petroleum.
- Energy Trading and Commodity Houses.
- Engineering, Procurement, and Construction (EPC) Contractors.

## Target Organizations Departments:

- Finance and Accounting.
- Strategy and Corporate Planning.
- Business Development and Commercial.
- Exploration and Production (E&P).
- New Ventures.
- Economics and Planning.
- Risk Management.
- Legal and Contracts.
- Government and Regulatory Affairs.

## Course Offerings:

By the end of this course, the participants will have able to:

- Analyze the global oil and gas supply chain and its key economic drivers.
- Conduct comprehensive economic evaluations of upstream projects using NPV, IRR, and other metrics.
- Evaluate and compare different international petroleum fiscal systems and contracts.
- Develop robust financial models for oil and gas investment appraisal.
- Identify, quantify, and map various industry risks, including price, political, and operational risks.
- Apply decision analysis techniques like decision trees and Monte Carlo simulation.
- Formulate effective risk mitigation and hedging strategies for price volatility.
- Assess the economic impact of the energy transition and ESG factors on petroleum assets.
- Develop strategic frameworks for portfolio management and capital allocation.

## Course Methodology:

The training methodology at BIG BEN Training Center is designed to be highly interactive, practical, and engaging, ensuring participants can immediately apply their learning. This course moves beyond traditional lectures by immersing attendees in a dynamic learning environment built on real-world case studies of major oil and gas projects and investment decisions. Participants will work in teams on practical exercises, including building financial models, analyzing production sharing contracts, and running risk simulations. Interactive workshops and group discussions will facilitate peer-to-peer learning and allow for a deep exploration of complex topics. The instructor will act as a facilitator, guiding participants through challenging concepts and providing personalized feedback. The program emphasizes a hands-on approach, where theoretical knowledge is consistently reinforced through its application to tangible industry problems. This blend of expert instruction, collaborative problem-solving, and practical application ensures a comprehensive and lasting understanding of strategic petroleum economics and risk management.

## Course Agenda (Course Units):

### Unit One: Fundamentals of the Global Petroleum Industry

- Introduction to the oil and gas value chain.
- Global energy supply, demand, and market dynamics.
- The role of OPEC and other key market players.
- Crude oil pricing mechanisms and benchmarks (Brent, WTI).
- Fundamentals of petroleum geology and engineering for economists.
- Introduction to petroleum law and contract types.
- Key economic and geopolitical trends shaping the industry.

### Unit Two: Petroleum Project Economics and Investment Appraisal

- Cash flow analysis for upstream projects.
- Key economic indicators (NPV, IRR, Payout, Profitability Index).
- Capital budgeting and investment decision criteria.
- Cost estimation for exploration, development, and production.
- Accounting for inflation, escalation, and exchange rates.
- Building a comprehensive petroleum economic model from scratch.
- Sensitivity analysis and scenario planning for project evaluation.

### Unit Three: International Petroleum Fiscal Systems and Contracts

- Analysis of royalty and tax systems.
- Understanding Production Sharing Agreements (PSAs).
- Comparing service contracts and concessionary agreements.
- Modeling government take and contractor take.
- Fiscal design and its impact on investment attractiveness.
- Negotiating key terms in petroleum contracts.
- Case studies of fiscal regimes from different regions.

## Unit Four: Advanced Risk Analysis and Management

- Identifying and categorizing risks in the petroleum sector.
- Qualitative and quantitative risk assessment techniques.
- Introduction to probability analysis and expected value.
- Using decision trees for investment choices under uncertainty.
- Applying Monte Carlo simulation for probabilistic forecasting.
- Managing commodity price risk through hedging and financial instruments.
- Strategies for mitigating geopolitical, operational, and environmental risks.

## Unit Five: Strategic Decision Making and Future Outlook

- Portfolio management and capital allocation strategies.
- Valuation of oil and gas assets and companies.
- The economics of unconventional resources like shale oil and gas.
- Analyzing the impact of the energy transition and decarbonization.
- Integrating ESG factors into economic models and investment decisions.
- Strategic planning in a volatile energy market.
- Course review, final project presentations, and action planning.

# FAQ:

### Qualifications required for registering to this course?

There are no requirements.

### How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

## Something to think about:

Given the increasing pressure of the energy transition, how can traditional petroleum economic models be adapted to accurately value long-cycle oil and gas assets against short-cycle renewable energy projects?

## What unique qualities does this course offer compared to other courses?

This course distinguishes itself by offering a deeply integrated and forward-looking curriculum that bridges the gap between technical economic analysis and high-level strategic decision-making. Unlike programs that focus narrowly on financial modeling or risk theory in isolation, this training provides a holistic framework that mirrors the complex reality of the modern energy industry. A key differentiator is the significant emphasis on the strategic implications of the energy transition and ESG mandates, equipping participants not just with traditional tools but with the foresight to navigate the industry's future. The methodology is rooted in practical application, using real-world case studies and hands-on modeling exercises that go beyond textbook examples. Participants will not only learn how to calculate NPV but will also debate the strategic rationale behind multi-billion-dollar investment decisions. The course fosters a strategic mindset, teaching attendees how to quantify uncertainty, evaluate complex fiscal regimes, and ultimately provide clear, actionable recommendations to senior leadership in a volatile and rapidly evolving global market.