



Petroleum Risk & Decision Analysis

19 - 23 Aug 2024
Rome (Italy)



Petroleum Risk & Decision Analysis

Ref.: 15234_264602 **Date:** 19 - 23 Aug 2024 **Location:** Rome (Italy) **Fees:** 5500 **Euro**

Introduction:

The petroleum industry is one of the most important, highly capital intensive, and risky businesses. Global exploration and production spending in 2013 was \$644 billion, up 7% from \$604 billion the year before. In 2014, the exploration budget reached \$654 billion but this fell to \$521 billion in 2015 and in the following year, 2016, there was a further decline of 27%. This year's global exploration and production spending is expected to increase by 7%.

The upstream sector's profit margins are under real pressure from many factors such as higher costs of developing new reserves, less oil, and gas found per foot of exploration drilling, rising inflation, global oversupply, and price volatility. Competition for investments, acreage/concessions, aging of existing reservoirs, and the unconventional oil and gas revolution all contribute to business risk and uncertainty.

Petroleum industry projects are by their very nature risky, the challenge however is in assessing, managing, and mitigating this risk proactively. The three biggest planning challenges are predicting costs, assessing profitability, and risk management. All these tasks occur in the early stages of capital planning and failure to adequately evaluate these elements can lead to heavy losses.

Targeted Groups:

- Planning Managers.
- Oil & Gas Engineers.
- Project Managers.
- Analysts.
- Commercial Managers.
- Economists.
- Government Officials.
- Geologists.
- Business Advisors.
- Asset Managers.
- E&P Managers.
- Product Managers.
- Project Management Professionals.

Course Objectives:

At the end of this course the participants will be able to:

- Learn how to describe the elements of the decision analysis process and grasp how to construct a project cash flow model incorporating sensitivity analysis.
- Evaluate investment and design alternatives with decision tree analysis.
- Gain the operational decision-making techniques using @Risk.
- Gain valuable knowledge in identifying the important uncertainties in petroleum projects.
- Enhance your awareness of the influential parameters in oil and gas field development projects.

Targeted Competencies:

- Development Economics.
- Uncertainty in Investments.
- Risks and Uncertainties.
- Setting-up Spreadsheet Calculations Using Excel.
- Practical Use of the @Risk add-on: Oil Field Development Model.

Course Content:

Unit 1: Development Economics:

- A Brief History of Energy Usage
- Principles of Development Economics
- Understanding of Economic Terms
- Inflation and its Impact on Nominal & Real CashFlows
- Project Financing

Unit 2: Uncertainty in Investments:

- Handling Uncertainty in Capital Projects
- Understanding Probability Concepts
- The Expected Value Concept: Features and Pitfalls
- Expected Monetary Value EMV
- Expected Profitability Index EPI
- Expected Opportunity Loss EOL

Unit 3: Risks and Uncertainties:

- Risk & Uncertainty
- Risk Aversion and Risk Premium
- Exploration Project Threats and Opportunities
- Economic Decision Criteria
- Decision Tree Analysis
- Probability Distribution
- Monte Carlo Simulation

Unit 4: Setting up Spreadsheet Calculations Using Excel:

- Spreadsheet Calculations
- CashFlow Analysis
- Sensitivity Analysis Calculations
- Tornado Diagrams
- Introduction to Monte Carlo Simulations using @Risk
- Setting up an Oil Field Project

Unit 5: Practical Use of the @Risk add-on: Oil Field Development Model:

- Developing an Integrated Economic Model of an Oil Field Development
- Developing and using an @Risk Model Analysis
- Project Sensitivity Analysis utilizing data from the @Risk Model
- Training Seminar Final Review and Close



**Registration form on the :
Petroleum Risk & Decision Analysis**

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Position:

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Company Information

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