

PROJECT MANAGEMENT



BTS
Training & Consultancy

Petroleum Projects Economics & Risk Analysis With Spreadsheet Application

Website: www.btsconsultant.com

Email: info@btsconsultant.com

Telephone: 00971-2-6452630

www.btsconsultant.com

Petroleum Projects Economics & Risk Analysis with Spreadsheet Application

Introduction:

This workshop provides practical guidance in the application of the techniques of the economic analysis currently used in the oil & gas industry. When executing a petroleum related project, such as a field development, you should be able to choose the best alternative from economic point of view. You should be able to properly evaluate various investment opportunities by determining economic indicators and sensitivity analysis. Techniques for predicting profit, production, costs, and cash flow enable the analyst to evaluate decision alternatives for optimum results. Understanding economic indicators, risk and uncertainty, different economic structures such as tax regimes and production sharing contracts, enhances the quality and the value of economic analysis.

The Process:

The workshop will include a number of exercises aimed at enhancing each participant capability to conduct various economic evaluations. In addition each participant will attempt to develop spreadsheet calculations of various economic analyses. At the end of the workshop each participant will be given a comprehensive spreadsheet program that can carry out a complete economic evaluation including a sensitivity analysis.

Additionally, the workshop assumes no or limited prior knowledge of the topics covered in the course. New concepts and tools are introduced gradually to enable delegates to progress from the fundamental to the advanced concepts of economic evaluation.

The Benefits:

Participants will gain the knowledge and skills of evaluating upstream petroleum assets, including the determination of economic indicators and analyzing risk and uncertainty.

The Results:

This course is a practical petroleum economics course, which introduces participants to methods and practices utilized in the international oil industry to examine the economic viability of upstream oil & gas projects. The development and the application of spreadsheet models will enable participants to evaluate the economics of a field development project.

Who Should Attend?

Engineers, geologists, economists, accountants, technicians who need to learn how to conduct economic evaluation and to understand the role of petroleum economics in investment decision making. This workshop is also recommended for supervisors & managers in the Planning, Exploration, Production, Projects, Financing and Technical Departments in Oil & Gas Companies

Course Objectives:

The Primary Objectives of the Course are to:

- Understand various economic terms used in the oil & gas industry
- Understand how to develop economic models of various petroleum fiscal regimes
- Carry out cash flow analysis and determine economic indicators
- Carry out different economic analyses for petroleum related projects
- Evaluate and quantify risks and uncertainties
- Make the right investment decision in the presence of risk
- Carry out a comprehensive economic evaluation study for any petroleum related project including risk analysis and sensitivity study using spreadsheet.

Programme Outline

DAY 1 – Cash Flow Analysis

- Familiarization with Economic terms.
- Feasibility Studies
- Setting up Cash Flow Calculation

- Depreciation
- Depreciation Methods
- Loss Carry Forwards
- Inflation
- Nominal & Real Cash Flow
- Sunk Costs
- Project Financing

DAY 2 – Economic Indicators

- Economic Indicators Definitions
- Present Value Concept
- Discount Factor
- Net Present Value
- Internal Rate of Return
- Effect of Project Delay
- Payback Period
- Profit/Investment Ratio
- Incremental Projects
- Comparing Economic Indicators

DAY 3 - Risks and Uncertainties

- Risk & Uncertainty
- Expected Value Concept
- Decision Tree Analysis
- Farm-out Decision
- Probability Analysis
- Sensitivity Analysis
- Spider and Tornado Diagrams
- Probability Distribution
- Monte Carlo Simulation

DAY 4 – Setting up Spreadsheet Calculation

- Introduction to Spreadsheet Calculation
- Simple Cash Flow Using Excel

DAY 5 - Setting up Oil Field Development Model

- Setting up an Integrated Economic Model of a Typical Oil Field Development Project including Sensitivity Analysis