

ECONOMIC MODELLING AND ANALYSIS IN THE PETROLEUM INDUSTRY

OBJECTIVES

To provide a better understanding of the concepts behind the theory of capital budgeting and thus improve the analysis in investment profitability studies.

A number of computer case studies will be treated all along the course to apply the principles that are presented succinctly, which makes this course a very practical one.

At the conclusion of the course, participants will be able to:

- understand and practise the use of all the tools of investment global profitability analysis;
- incorporate terms of financing plans in equity profitability analysis;
- build complex computer models for cash flow analysis;
- carry out and present risk analysis of investment projects.

COURSE CONTENT

FINANCIAL ENVIRONMENT

0.5 day

Corporate, strategic and financial environment.

Value creation and management, Corporate finance and return on capital, ROCE and ROE. Financial indicators, Accounting depreciation, Financial leverage.

Cost of debt capital, Cost of equity capital, Corporate finance and average cost of capital.

ECONOMIC EVALUATION CRITERIA

0.5 day

Various dimensions of investment decisions, Investment and profit maximization.

Alternative projects, independent projects and dependent projects.

Concept of discounting, discounted cash flows, corporate finance and discount rate of a company.

Net Present Value, Internal Rate of Return, Pay-Out Time, Profitability Index.

GLOBAL PROFITABILITY ANALYSIS

2 days

Analysis of operating cash flows, Return on capital employed.

Value creation, Income taxes associated with a project.

Impact of taxation and inflation in profitability investment studies.

Choosing an investment program with a limited budget, Scarcity cost of capital.

ECONOMIC COST ANALYSIS

1 day

Accounting cost vs economic cost, After-tax cash outflows.

Total discounted cost, Annual economic cost.

Economic depreciation, Unit economic cost, Optimal economic lifetime.

EQUITY PROFITABILITY ANALYSIS

0.5 day

Financing oil and gas projects, Project Finance and B.O.T. structures.

Various financing plans and debt repayment.

Analysis of equity cash flows, Return on equity capital, Financial leverage.

RISK ANALYSIS

0.5 day

What is risk analysis? Methodology of risk analysis.

Sensitivity analysis in investment decision, Spider and Tornado charts.

Limitations of sensitivity analysis, Probabilistic approach, Scenarios approach.

CASE STUDIES (treated all along the course)

Petrochemicals plant project, Assembly shop project, Choosing an equipment, Choosing a supply option.

Natural gas break-even price, Economics of natural gas transport by pipeline.

Natural gas liquefaction cost, Liquefied natural gas transport cost, Economic terms of a transport contract.

Investment profitability study for a gas pipeline (global and equity analysis, risk analysis).

Modernisation of a service station (global and equity analysis, risk analysis).

Refinery project (global and equity analysis, risk analysis).

Hydrocracker project, Polypropylene project.

▲ Who should attend?

Managers and staff concerned with decisions affecting medium and long term cash flows, such as investment, disinvestment, acquisitions or leasing, who need to improve their understanding of the theory and practice of investment analysis.

▲ Duration

5 days

▲ Dates & Location

March 17 to 21, 2008
Rueil-Malmaison

▲ Tuition Fee

€ 2020

▲ Course Coordinator

Karim Faïd

Ref. **EG/EMA**

Participants need to be comfortable with the use of Microsoft Excel.