An Intensive 5 Day Training Course

Advanced Oil & Gas Project Economics, Risk & Decision Analysis

24 - 28 Jul 2017, London

This course is Designed, Developed, and will be Delivered under ISO Quality Standards
WHY CHOOSE THIS TRAINING COURSE?

The petroleum industry is one of the most important, highly capital intensive and risky business. Global exploration and production spending in 2013 was $644 billion, up 7% from $604 billion the year before. In 2014, the exploration budgets 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 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, for acreage/concessions, aging of existing reservoirs, the unconventional oil and gas revolution all contribute 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.

This training course will highlight:

- Identification of the stages required in the risk analysis process, i.e., preparing, modeling, and running risk analysis
- Development of the risk model, assessing probabilities to various variables, risk analysis, and explore the impact of uncertain variables
- Enable the participants to create reports such as, tornados diagrams, scatter plots and cumulative probability functions, using excel
- Application of decision trees and Monte Carlo-based simulations to generate profitability indicators.
- Enable the participants to develop probabilistic cash flow reports along with probabilistic profitability indicators for decision-making

WHAT ARE THE GOALS?

By the end of this training course, participants will:

- Learn how to handle uncertainty in petroleum projects
- Understand different economic terms used in the oil & gas industry
- Understand the expected value concept and learn its impact on decision tree analysis
- Learn expected theory concepts and attitudes towards risk, risk aversion and risk premium
- Acquire spreadsheet skills including simulation software @RISK
- Carry out cash flow analysis, for petroleum related project and use common economic indicators to evaluate between competing alternatives
- Carry out a comprehensive economic study evaluating petroleum related projects using risk and sensitivity analysis by means of spreadsheets

WHO IS THIS TRAINING COURSE FOR?

This training course is designed to provide technical and practical approaches to executing a petroleum related project in the upstream sector. This PetroKnowledge course is suitable to a wide range of professionals but will greatly benefit:

- Planning managers
- Oil & gas engineers
- Project managers
- Analysts
- Commercial managers
- Economists
- Government officials
- Geologists
- Business advisors
- Asset managers
- E&P managers
- Product managers
Day One: Development Economics

- A Brief History of Energy Usage
- Principles of Development Economics
- Understanding of Economic terms
- Inflation and its impact on Nominal & Real Cash Flows
- Project Financing

Day Two: 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)

Day Three: Risks and Uncertainties

- Risk & Uncertainty
- Risk eversion and risk premium
- Exploration project threats and opportunities
- Economic decision criteria
- Decision Tree Analysis
- Probability Distribution
- Case study: Monte Carlo Simulation

Day Four: Setting up Spreadsheet Calculations Using Excel

- Spreadsheet Calculations
  - Cash Flow Analysis
  - Sensitivity analysis calculations
  - Tornado Diagrams
- Introduction to Monte Carlo Simulations using @Risk
- Class exercises: Setting up an oil field Project

Day Five: 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 @Risk model
- Course final review and close

HOW WILL THIS TRAINING COURSE BE PRESENTED?

This PetroKnowledge training course will incorporate a mix of learning methods, including but not limited to, high quality power point slides, short videos and active class participation. An in-depth knowledge of quantitative risk analysis techniques and hands-on problem solving skills will be developed during the course. Participants will use PC’s to solve a variety of problems better enabling them to utilize the taught material. Furthermore, the course will enable the course delegates to reach an optimum decision in capital spending. The training approach will be facilitated using Microsoft Excel add on @Risk module and will further assist in promoting discussions among the participants.
# Advanced Oil & Gas Project Economics, Risk & Decision Analysis

**COURSE DATES, VENUES AND FEES**

<table>
<thead>
<tr>
<th>Date</th>
<th>Venue</th>
<th>Fee</th>
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<tbody>
<tr>
<td>24 - 28 Jul 2017</td>
<td>London</td>
<td>$5,500</td>
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This fee is inclusive of Documentation, Lunch and Refreshments.

Please use BLOCK CAPITALS to fill in this form. It is important that you read carefully through all information before starting to complete the form.

**REGISTRATION DETAILS**

Family Name: ___________________________________________
First Name (Mr./Ms.): ____________________________________
Position: ________________________________________________
Company: _______________________________________________
Mailing Address: ________________________________________

Telephone:____________________ Mobile:__________________
Fax:_________________________ Email:___________________

**AUTHORISATION**

Authorised By: _________________________________________
Position: ______________________________________________
Company: ______________________________________________
Mailing Address: ________________________________________

Telephone:____________________ Mobile:__________________
Fax:_________________________ Email:___________________

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**BOOKING TERMS & CONDITIONS**

**Booking**
- Bookings for courses can be made via our website (petroknowledge.com) or by contacting our Registration Desk on +971 2 5577389 or at reg@petroknowledge.com
- For on-line bookings, please select the course that you require and click on the “Register Now” button, following the instructions step by step
- Upon receipt of booking in order, enrolment on the respective training course will be confirmed by Registration Team with all necessary documentation

**Invoicing and Payment**
- Our fees include course presentation, relevant materials, physical & digital documentation, lunch and refreshments served during entire training. Accommodation charges are not included in the course fees
- Course fees are payable upon booking unless a valid, authorized Purchase Order is provided and accepted
- Invoices will be sent via email/courier to the ID/name and address provided
- We prefer to have the fees payment in our account before the start of training course. However, if your company has a different payment policy, the same should inform us in advance
- The currency of fees is in US Dollars (USD). Payments can be made in USD or UAE local currency AED (Arab Emirates Dirhams) either by Bank Transfer or by Credit Card. Our Bank Account details will be provided on the Invoice
- Please note that we do accept payment by cash, in USD or AED, only for the last minute bookings

**Cancellation of Courses**
- It may be necessary for PetroKnowledge to amend or cancel any course, course times, instructors, dates or published fees due to unforeseen circumstances and we reserve the right for such changes
- Any amendments will be advised before the course start date and any bookings already paid in full will not be subject to increased fees

**Cancellation by Client**
- Once you have completed your booking, received your confirmation of enrolment and a dated payment Invoice, you are deemed to have a contract with PetroKnowledge. You reserve the right to cancel this contract given the below terms
- All cancellations must be received in writing at reg@petroknowledge.com and info@petroknowledge.com at least 14 days prior to the training
- After the cancellation period has expired, consideration may be given, on a case to case basis, if a registered delegate nominates a substitute on the same course, shifts to next session of the course or moves to a new course
- For a cancellation request made on or before the statutory 14 day cancellation period, a refund may be given or a credit note issued which can be used against future course fees
- A 25% administration fee (of the total course fee at the time of booking) will be charged for any cancellations made outside of the statutory cancellation period

**Attendance Certificate**
- The daily course schedule should be accurately followed to ensure undeterred implementation of our training
- All delegates, who participated in their course throughout, will receive the Certificate of Completion on the last day
- Please report any foreseeable absences to a PetroKnowledge representative or to your sponsors directly
- An absence of three (3) or more sessions of the course will invalidate your eligibility for the Certificate of Completion

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