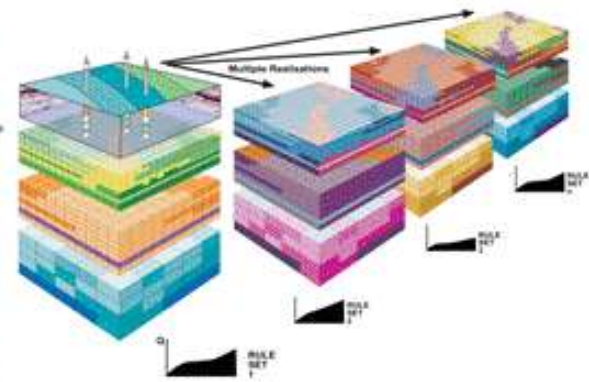
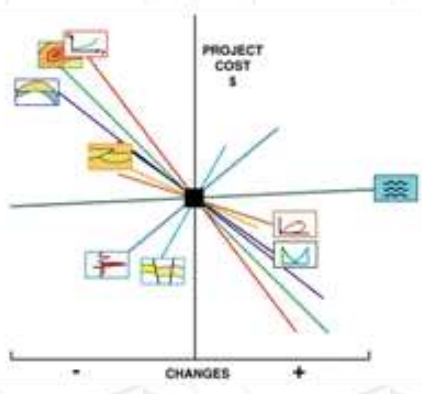
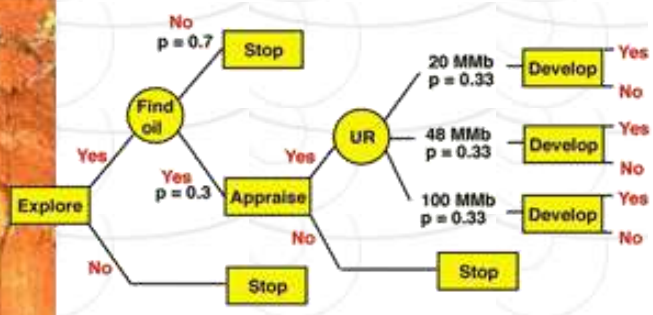
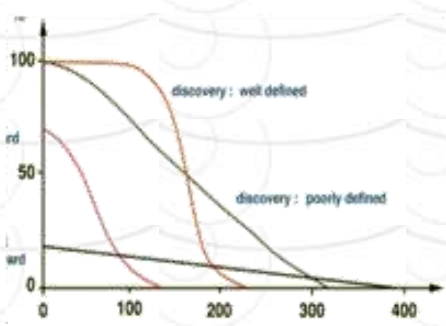


# PETROLEUM RISK ANALYSIS & PORTFOLIO MANAGEMENT

2 – 4 July 2012, Kuala Lumpur, Malaysia



**David Palmer**  
Former BP Exploration and Britoil plc Commercial Manager.

**E&P Commercial Professional, over 40 years' experience of assessing major challenges and evaluating critical risks for optimal management decisions.**



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## Course Introduction

Risk and uncertainty are fundamentally embedded in the exploration and production business – arguably there is no business development without risk – yet the distinction between risk and uncertainty is often confused, and attempts to effectively manage risk and uncertainty are often poor in the industry.

This 3-day workshop offers participants the opportunity to explore these challenges, including hands-on application of industry-standard tools and techniques to assess realistic scenarios and associated data. The essential commercial drivers are held in perspective at all times.

The course commences with a brief overview of the critical Business Environment factors within which all Energy industries operate, with pointers to major sources of market uncertainty impacting potentially massive investment decisions. Focus then shifts from the macro-economic, towards the realm of individual project commitments typical of the upstream petroleum sector, outlining key areas of uncertainty within the principal cashflow components. This leads on to various aspects of cashflow analysis and a brief review of the range of key economic and financial indicators at both project and corporate level, including the broad impact of various forms of taxation.

Risk and uncertainty definitions are clarified and linked to definitions of common financial indicators. Common methods of quantifying uncertainties and risks are then described, from simple parametric methods to probabilistic simulations leading to the use of Decision Tree Analysis to analyse problems. These tools are then applied to technical issues over the field life cycle, from exploration risking to the quantification of value of information during field appraisal and on to production forecasting using both deterministic and probabilistic methodology. Human factors involved in identifying risk and quantifying uncertainties are explored, from the preferences implicit in utility theory to the behavioural heuristics which commonly lead to bias in technical judgement.

Risk diversification principles and associated Portfolio Management theory are described on the final day, with some pointers as to how this might find practical application within E&P decision-making. The course concludes with a multi-faceted case study in which 'management teams' will have the opportunity to assess a range of asset-related risks, and propose mainly qualitative resource allocation solutions – including several political issues.

## Course Description

The Petroleum Risk Analysis and Portfolio Management course offers tools and practical techniques to identify, analyse and manage uncertainties and risk in exploration and production projects.

Learning is reinforced by working on case material to explore uncertainties and risks in the context of production forecasting, cash-flow management, incremental projects and asset portfolio manipulation.

Monte Carlo modelling and Decision Tree analysis software are employed during the course to develop practical skills in risk and portfolio management.

### On completion, course participants will be able to:

- ❖ Define risk & uncertainty in technical and business opportunities
- ❖ Summarise petroleum economics techniques and indicators
- ❖ Utilise a range of tools to combine uncertainties and quantify risk
- ❖ Evaluate technical risks in exploration and appraisal.
- ❖ Evaluate technical risks in development planning and production
- ❖ Understand how utility theory drives our risk-reward judgements
- ❖ Compare probabilistic vs. multiple deterministic methods
- ❖ Understand reserves addition techniques
- ❖ Understand the impact of portfolio management in risk and uncertainty

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2 – 4 July 2012, Kuala Lumpur, Malaysia

## 3 Day Course Outline

### Introduction & defining risk and uncertainty

- ❖ Brief review of economic and financial indicators with an emphasis on risk management
- ❖ Identifying risks and uncertainties in E&P businesses and accounting for data limitations

### Handling statistics

- ❖ Dependant and independent variables
- ❖ Methods: Monte Carlo, Parametric and Three point distributions

### Tools for quantifying risk and uncertainty

- ❖ Sensitivity analysis
- ❖ Simulation (Monte Carlo)
- ❖ Decision three analysis

### Managing technical uncertainty and risk

- ❖ Exploration – volume, portfolio and timing
- ❖ Appraisal and feasibility studies – value of information and value of flexibility
- ❖ Development planning – uncertainty reduction vs. mitigation

- ❖ Production forecasting – deterministic vs. probabilistic methods

### Managing non-technical uncertainties and risks

- ❖ Market factors – price, cost, exchange rate, inflation,
- ❖ Other external factors – political, fiscal, competitor, partner
- ❖ Utility theory – influence on corporate behaviour
- ❖ Heuristics – factoring in human behaviour and natural bias

### Portfolio Management

- ❖ Portfolio theory overview
- ❖ Asset selection – ‘right sized’ and core vs non core
- ❖ The portfolio ‘efficient frontier’ with respect to risk and value – is it valid for E&P?
- ❖ Impact of diversification on total portfolio risk
- ❖ Company behaviour as a function of portfolio size and spread

## Course Schedule

	Day 1	Day 2	Day 3
09:00	Commercial Background to Risk and Uncertainty E&P Cashflow Essentials	Application to exploration - play and prospect risking Monte Carlo Simulation	Non-technical issues: external factors; utility; heuristics
	Data Component Risks and Principal Indicators	Application to appraisal - the value of information	Introduction to portfolio Analysis
12:00	<i>lunch</i>	<i>lunch</i>	<i>lunch</i>
	Describing uncertainty and risk quantitatively - statistical issues	Further MC Applications Application to development	Practical case - managing an E&P portfolio
	Tools for quantifying risk and uncertainty	- probabilistic forecasting - deterministic forecasting - scenario handling	
	Decision Tree Analysis		Debrief case material
17:00			

# PETROLEUM RISK ANALYSIS & PORTFOLIO MANAGEMENT

2 – 4 July 2012, Kuala Lumpur, Malaysia

## Who Should Attend

Production Managers, Exploration Managers, Reservoir Valuation Analyst, Asset Managers, Commercial Analyst, Planning Analyst, Finance Analyst, Economic Planning, Investment Analyst and related finance, engineering and geosciences disciplines.

## Your Expert Trainer: David Palmer



David Palmer has been a career commercial specialist and frontline E&P Commercial Manager, with nearly 40 years' continuous involvement in economics and business management, mostly within upstream oil. Following a degree in quantitative economics and finance, an early career in regional economic planning gave way to business analysis roles in the UK State Oil Company BNO, and mainstream commercial management in the privatised 'Britoil'. Following merger with BP in 1988 he was commercial manager Northern North Sea Projects and Ventures, moving into central commercial roles over viewing major investment process and commercial staff training and development. He devised and led implementation of various State Oil & Gas Company skills programmes, has widely varied global experience across many different cultures, and is a master-accredited team working practitioner. He now works on varied international assignments within AGR Petroleum Services.

2000-2012 AGR-Tracs Petroleum Services, Associate Commercial Advisor

1988-2000 BP Exploration, Commercial Manager / Global Network Consultant

1983-1988 Britoil plc, Commercial Evaluation Team Leader / Business Analyst

1980-1982 British National Oil Corporation, Investment Planner / Business Analyst

1973-1980 Hampshire County Planning Dept, Research Officer – Economic Planning

## About **petroEDGE**

We are a specialist Oil & Gas training provider with our key training hub based in Kuala Lumpur. Since our inception, we have trained over 2000 engineers in various technical and management disciplines in the Oil & Gas sector. Our core focus is in developing the competency of petroleum engineers, geoscientists and related business professionals in leading national & international oil companies and contractors based in Asia.

In our commitment to create sustainable skills, we facilitate cost-effective knowledge transfer opportunities for local operators and contractors through world-class training courses and leading experts. Through our unique client engagement model, and local presence, we are better positioned to fulfill your critical learning requirements.

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# REGISTRATION FORM

<b>Kuala Lumpur, Malaysia 2 – 4 July 2012</b>	<b>Early Bird Price</b>	✓	<b>Normal Price</b>	✓	<b>TEAM DISCOUNTS</b>
3 day – Petroleum Risk Analysis & Portfolio Management	<b>S\$ 4499</b>		<b>S\$ 4699</b>		PetroEdge recognises the value of learning in teams. Group bookings at the same time from the same company receive the following:  3 or more at 5% off 5 or more at 7% off 8 or more at 10%
<b>PetroEdge In-house Training</b>  <b>{ } Yes, I would like to organise this training on-site and save over 20% of total course fees! For further information about in-house training, please call +65 67419927 or email info@asiaedge.net</b>					All other promotions including early bird are exclusive of the group discount.

## DELEGATE DETAILS

Mr  Mrs  Ms  Dr  Other   
 Delegate 1:  
 -----  
 Telephone: -----  
 Job Title: -----  
 Department: -----  
 Email: -----

Mr  Mrs  Ms  Dr  Other   
 Delegate 2:  
 -----  
 Telephone: -----  
 Email: -----  
 Job Title: -----  
 Department: -----  
 Head of Department: -----  
 Company: -----  
 Address: -----  
 -----  
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### Please note:

- indicate if you have already registered by Phone  Fax  Email  Web
- if you have not received an acknowledgement before the training course, please call us to confirm your booking.
- photocopy this form to register multiple delegates.

### Payment Methods :

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 By Direct Transfer: Please quote AE1 with the remittance advise  
 Account Name: Asia Edge Pte. Ltd.  
 Bank Number: 508 Account Number: 762903-001Swift Code: OCBCSGSG  
 All bank charges to be borne by payer. Please ensure that Asia Edge Pte Ltd receive the full invoiced amount.

**PAYMENT POLICY:** Payment is due in full at the time of registration. Full payment is mandatory for event attendance. I agree to Asia Edge Pte Ltd. payment terms

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