KOENIG
step forward

KOENIG SOLUTIONS · COURSE OUTLINE

Energy Economics: NPV, WACC & Derivatives

Learn to evaluate energy projects and manage financial risk using NPV, WACC, CAPM and derivatives.

5 Days	5	30
DURATION	MODULES	TOPICS

COURSE OVERVIEW

This course examines the economic environment of the energy industry, including uncertainty, expected monetary value and decision trees, before covering economic modelling of revenue, costs, joint ventures and cashflow forecasting. It then addresses the economic evaluation of energy projects through accounting profit, economic value added, and key parameters such as NPV, IRR and payback. The course also covers financing energy projects, including cost of capital, CAPM, hurdle rates and budgetary control, and concludes with economic and financial risk management, covering risk modelling and derivatives such as forwards, options, futures and swaps.

WHO THIS COURSE IS FOR

- **Energy Economists**
- **Finance Analysts**
- **Project Evaluators**
- **Risk Managers**
- **Investment Analysts**
- **Budget Controllers**

LEARNING OBJECTIVES

- Explain the economic environment and challenges facing the energy sector
- Apply expected monetary value and decision trees to uncertain decisions
- Analyse revenue, costs and cashflow forecasting in energy projects
- Evaluate energy projects using NPV, IRR, payback and adjusted measures
- Compare cost-benefit analysis with economic value added approaches
- Calculate the cost of capital using WACC and CAPM
- Assess economic and financial risks facing energy projects
- Describe derivatives such as forwards, options, futures and swaps

COURSE SYLLABUS

5 Modules, 30 Topics

DAY 1

01

The Economic Environment and The Energy Industry

TOPICS

- The Economic Environment
- Economic Challenges facing Governments and the Energy Sector
- Economic Evaluation of Reserves
- Making Economic Decisions in an Uncertain World
- EMV Expected Monetary Value & Decision Trees
- **The Probability & Impact of Changes in Economic Variables:** Interest Rates, Exchange Rates & Energy Prices

DAY 2

02

Economic Modelling in the Energy Industry

TOPICS

- Revenue & Revenue Recognition
- The Impact of Energy Price Volatility
- Cost Estimation
- The Impact of Joint Venture & Production Sharing Agreements
- Working Interest, Royalties & Taxation
- Forecasting the Cashflow

DAY 3

03

Economic Evaluation of Energy Projects

TOPICS

- Evaluating Accounting Profit and Return on Equity (ROE)
- **Cost-Benefit Analysis:** Finance V Economic Value Added
- **Economic Analysis:** Economic Value Added & Sustainability
- Key Economic Parameters - NPV, NPVI, IRR, Payback, Adjusted NPV & Adjusted Payback
- Cost Recovery Method
- Government Evaluation and Value for Money (VfM)

DAY 4

04

Economic Finance & the Energy Industry

TOPICS

- Types of Finance
- Calculating the Cost of Capital (WACC) and the Capital Assets Pricing Model (CAPM)
- Determining the Economic Hurdle Rate
- Economic Management of Energy Projects
- Earned Value Analysis
- Budgetary Control & Cost Management

DAY 5

05

Economic & Financial Risk Management in the Energy Industry

TOPICS

- Economic & Financial Risks
- Managing Economic Risk & Uncertainty
- Developing and Using a Risk Model Analysis
- What are Derivatives? - Forwards, Options, Futures & Swaps
- International Derivative Markets & Middle East Derivative Markets
- **Derivatives:** Risk Management Tool or Economic Risk?

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

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Learn the Way That Suits You

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