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COURSE BROCHURE

Advanced Energy Finance Analytics Training Course

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Registered in the United Kingdom and Saudi Arabia

Advanced Energy Finance Analytics Training Course

Advanced Energy Finance Analytics is a 2-week training course for energy finance analysts, project finance specialists and investment teams who build an energy investment analytics model with cash-flow, levelised cost, sensitivity and scenario outputs for oil, gas, power and renewables assets. Volatile commodity prices and the shift towards low-carbon portfolios now make every capital decision harder to defend. The course is delivered by Jupiter Prime Training.

Why Energy Finance Analytics Matters Now

Three forces shape energy investment analysis today. Commodity and power prices swing more sharply, so single-point forecasts rarely survive an investment committee; capital is being reallocated between upstream hydrocarbons, grid assets and renewables, demanding comparable metrics across very different technologies; and lenders and boards ask for transparent models that show how carbon costs, tariffs and construction delays change returns. Organisations that model these drivers rigorously allocate capital with confidence, while those relying on static spreadsheets misprice risk. The course rests on discounted cash flow DCF valuation, levelised cost of energy LCOE analysis and Monte Carlo simulation.

Who Gains Most from Energy Finance Analytics

- Analysts who build valuation and cash-flow models for upstream, midstream and power projects
- Project finance specialists who size debt and test cover ratios for lenders
- Investment appraisal leads who rank opportunities for capital allocation committees
- Commercial analysts who model offtake, tariff and price exposure
- Portfolio and strategy specialists who compare hydrocarbon and renewables assets

A corporate finance or investment appraisal unit in an energy company or utility gains most when several members attend together and agree common model conventions and risk metrics.

Energy Finance Analytics Capabilities

Participants move from building deterministic spreadsheets to producing probabilistic, auditable valuations that compare assets on a like-for-like basis.

- Build project cash-flow models with capital, operating, tax and decommissioning lines — investment committees approving projects
- Calculate levelised cost of energy across technologies — strategy teams comparing generation options
- Design commodity price and carbon cost scenarios — boards stress-testing long-term plans
- Apply Monte Carlo simulation to reserves, output and price uncertainty — risk committees setting tolerances

- Test debt sizing against cover ratio covenants — lenders and treasury teams
- Communicate portfolio value and risk with clear dashboards — executives reallocating capital

Key Energy Finance Analytics Terms

- Levelised cost of energy — the discounted lifetime cost of building and operating an asset divided by its discounted energy output.
- Net present value — the sum of a project's future cash flows discounted at the cost of capital, minus the initial investment.
- Debt service cover ratio — cash available for debt service divided by scheduled interest and principal in the same period.
- Monte Carlo simulation — repeated random sampling of uncertain inputs to produce a probability distribution of outcomes such as value or cost.
- Breakeven price — the commodity or power price at which a project's net present value equals zero.
- Real option — the value of management flexibility to delay, expand, abandon or switch an investment as conditions change.

Energy Finance Analytics Day by Day

Day 1: Energy Capital Markets and Investment Context

- Energy Value Chain Economics — Comparing Upstream, Midstream, Power and Renewables Returns
- Capital Allocation Frameworks — Ranking Projects Against Hurdle Rates
- Energy Transition Scenarios — Framing Demand and Technology Uncertainty
- Investment Committee Expectations — Defining Evidence Required for Approval
- Model Specification Document — Agreeing Scope, Granularity and Outputs

Day 2: Financial Modelling Standards and Structure

- Model Architecture and Flow — Separating Inputs, Calculations and Outputs
- Timeline and Escalation Mechanics — Handling Real and Nominal Values
- Error Checks and Audit Trails — Keeping Large Models Reviewable
- Version Control and Change Logs — Tracking Assumption Updates
- Python and Spreadsheet Integration — Automating Repetitive Calculations

Day 3: Project Cash-Flow Modelling

- Capital Expenditure Phasing — Modelling Construction Profiles and Overruns
- Operating Cost Drivers — Linking Fixed, Variable and Maintenance Costs
- Production and Generation Profiles — Applying Decline Curves and Capacity Factors
- Fiscal Regimes and Tax Modelling — Treating Royalties, Depreciation and Incentives
- Decommissioning and Abandonment Provisions — Valuing End-of-Life Obligations

Day 4: Valuation and Cost of Capital

- Weighted Average Cost of Capital — Setting Discount Rates by Asset Class
- Net Present Value and Internal Rate of Return — Comparing Project Attractiveness
- Country and Technology Risk Premiums — Adjusting Rates for Exposure
- Payback and Profitability Index — Supporting Capital Rationing Choices
- Terminal Value Approaches — Treating Long-Life Infrastructure Assets

Day 5: Levelised Cost and Technology Comparison

- LCOE Calculation Method — Comparing Gas, Solar, Wind and Storage
- Levelised Cost of Hydrogen — Assessing Electrolysis and Reforming Options
- Capacity Factor and Degradation Sensitivity — Testing Output Assumptions
- Learning Curves for Technology Costs — Projecting Future Capital Costs
- System Value Adjustments — Accounting for Intermittency and Grid Costs

Day 6: Commodity Price and Carbon Scenarios

- Forward Curves and Price Decks — Building Oil, Gas and Power Assumptions
- Scenario Narratives and Price Paths — Linking Macro Drivers to Inputs
- Carbon Price and Emissions Cost Modelling — Testing Policy Exposure
- Hedging and Offtake Structures — Valuing Contracted Versus Merchant Revenue
- Breakeven and Tornado Analysis — Identifying Value-Critical Assumptions

Day 7: Risk Simulation and Real Options

- Probability Distribution Fitting — Choosing Shapes for Price and Output
- Monte Carlo Simulation Set-Up — Producing P10, P50 and P90 Values
- Correlation Between Risk Drivers — Avoiding Understated Portfolio Risk
- Real Options Valuation — Pricing Delay, Expansion and Abandonment Flexibility
- Value-at-Risk for Energy Portfolios — Setting Exposure Limits

Day 8: Project Finance Structuring

- Debt Sizing by Cover Ratio — Matching Loan Capacity to Cash Flow
- Cash Flow Waterfall Design — Prioritising Senior Debt, Reserves and Equity
- Debt Service Reserve and Covenants — Protecting Lenders Against Shortfalls
- Equity Returns and Sponsor Metrics — Testing Investor Attractiveness
- Refinancing and Tail Analysis — Evaluating Long-Term Debt Options

Day 9: Portfolio Analytics and Decision Dashboards

- Portfolio Optimisation Techniques — Balancing Return, Risk and Carbon Intensity
- Efficient Frontier for Energy Assets — Comparing Mixes of Hydrocarbons and Renewables
- Interactive Valuation Dashboards — Presenting Scenarios to Committees
- Model Review and Challenge Checklist — Spotting Hidden Optimism
- Investment Memorandum Structure — Turning Outputs Into a Recommendation

Day 10: Practising the Energy Investment Analytics Model

- Gas Field Development Case — Applying Decline Curves, Fiscal Terms and Price Decks
- Solar and Storage Case — Applying LCOE and Debt Sizing to a Utility Project
- Portfolio Reallocation Case — Applying Simulation and Optimisation to Mixed Assets
- Committee Challenge Session — Defending Assumptions and Risk Ranges
- Energy Investment Analytics Model — Completing Cash Flows, Scenarios and Sensitivity Outputs

Applying Energy Finance Analytics After the Course

- Rebuild one live project valuation with a Monte Carlo layer and present P10, P50 and P90 net present values to the investment committee.
- Run a levelised cost comparison of two competing generation or supply options using shared assumptions and a tornado chart.

Energy Finance Analytics Questions FAQ

What is advanced energy finance analytics, and why does it matter now?

It is the use of cash-flow, levelised cost, scenario and simulation models to value and compare energy investments. It matters now because volatile prices and the energy transition require capital decisions that remain defensible across many possible futures.

Which roles gain most from energy finance analytics training?

Energy finance analysts, project finance specialists and investment appraisal teams gain most. You benefit if you prepare valuations, size debt or rank projects across oil and gas, power utilities or renewables developers.

How does an energy finance analytics course differ from a general financial modelling course?

It applies modelling to energy-specific drivers such as decline curves, capacity factors, fiscal regimes, commodity price decks, carbon costs and levelised cost. A general modelling course covers spreadsheet structure and corporate valuation without these sector mechanics.

What do you bring back from energy finance analytics training?

You bring back a working model template with cash flows, valuation, levelised cost, scenarios and simulation outputs, plus gas field, solar and portfolio cases your colleagues can adapt.

Energy Finance Analytics: The Way Forward

The energy investment analytics model first informs which project in the current pipeline deserves approval or redesign under realistic price and carbon scenarios. Analysts, treasury teams and investment committees use it to discuss ranges rather than single numbers. After its first use, revisit the correlation assumptions and price decks, because actual market movements reveal which drivers dominate portfolio risk.