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COURSE BROCHURE

Advanced Financial Modelling in the Power Industry Training Course

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Registered in the United Kingdom and Saudi Arabia

Advanced Financial Modelling in the Power Industry Training Course

Financial Modelling in the Power Industry is a 2-week training course for finance analysts, project developers and investment managers who evaluate gas, solar, wind and storage generation assets, and who leave with a Generation Project Finance Model built for one real or realistic plant. Competitive auctions, thinner margins and lender scrutiny now reward models that are transparent, flexible and correct. Jupiter Prime Training delivers this course on financial modelling in the power industry.

Why Financial Modelling in the Power Industry Matters Now

Three forces shape financial modelling in the power industry today. Competitive tenders for generation capacity push bid tariffs down, so a small error in yield, availability or financing cost can turn a winning bid into a loss-making asset. Lenders and equity investors demand models they can audit quickly, with clear assumptions books and scenario switches. The shift from fuel-based plants to renewables and storage changes cost structures, revenue risks and contract forms. A developer or utility with disciplined modelling bids with confidence and negotiates better terms; one without it overpays, underprices risk or loses financial close. The course rests on established project finance practice, levelised cost methods and recognised spreadsheet modelling standards.

Who Gains Most from Financial Modelling in the Power Industry

- Finance analysts who build and maintain cash flow models for generation projects and portfolios
- Project developers who prepare bids, tariff offers and investment cases
- Investment managers who screen acquisitions and equity participation in power assets
- Commercial managers who negotiate power purchase agreements and fuel contracts
- Lender-side analysts who review sponsor models and debt sizing

A business development or corporate finance department in an independent power producer or utility gains most when its analysts and commercial managers attend together.

Financial Modelling in the Power Industry Capabilities

Participants turn technical, contractual and financing inputs into a model that answers the questions bid committees and lenders actually ask.

- Build a structured model with inputs, calculations and outputs separated — auditors and model reviewers
- Calculate levelised cost of energy across technologies and financing structures — technology selection decisions
- Design power purchase agreement revenue logic with capacity, energy and indexation terms — commercial negotiators
- Apply debt sizing by debt service cover ratio and gearing limits — lenders and treasury teams
- Test sensitivities, scenarios and break-even tariffs — bid committees and investment boards
- Communicate valuation results and key risks clearly — executives and equity partners

Key Financial Modelling in the Power Industry Terms

- Levelised cost of energy — the constant tariff per unit of electricity that recovers all lifetime costs and the required return.
- Power purchase agreement — a long-term contract under which an offtaker buys electricity or capacity from a generator at agreed terms.
- Debt service cover ratio — cash flow available for debt service divided by scheduled principal and interest in a period.
- Capacity payment — a fixed tariff element paid for available generating capacity regardless of energy dispatched.
- Equity internal rate of return — the discount rate that sets the present value of shareholder cash flows to zero.
- P50 and P90 yield — energy output estimates exceeded with fifty and ninety per cent probability, used for equity and debt cases.

Financial Modelling in the Power Industry Day by Day

Day 1: Power Market Economics and Value Drivers

- Generation Business Models — Merchant, Contracted and Regulated Revenues
- Technology Cost Structures — Fuel-Based Versus Renewable Plants
- Competitive Tender Mechanics — Bid Tariff and Evaluation Criteria
- Risk Allocation Matrix — Construction, Operation and Market Risks
- Stakeholder Map of a Power Project — Sponsor, Lender and Offtaker Views

Day 2: Model Design and Best-Practice Structure

- Spreadsheet Modelling Standards — Consistency, Transparency and Flexibility
- Timeline and Flag Logic — Construction, Operation and Tail Periods
- Assumptions Book Layout — Single Source for Every Input
- Error Checks and Balance Tests — Model Integrity Signals
- Version Control and Change Log — Audit Trail for Reviewers

Day 3: Technical Inputs and Energy Yield

- Capacity, Availability and Degradation — Annual Energy Output Profile
- P50 and P90 Yield Cases — Equity Versus Debt Sizing Basis
- Heat Rate and Fuel Consumption — Thermal Plant Cost Engine
- Capital Expenditure Phasing — Contractor Payment Milestones
- Operating Cost Build-Up — Fixed, Variable and Major Maintenance

Day 4: Levelised Cost of Energy

- LCOE Formula and Discounting — Real Versus Nominal Bases
- Technology Comparison by LCOE — Solar, Wind, Gas and Storage
- Capacity Factor Effects — Utilisation and Unit Cost Sensitivity
- Storage Levelised Cost — Cycling, Round-Trip Efficiency and Augmentation
- LCOE Versus System Value — Limits of Single-Number Comparisons

Day 5: Revenue Modelling and PPA Structures

- Capacity and Energy Payment Calculation — Two-Part Tariff Logic
- Indexation and Escalation Clauses — Inflation Pass-Through Effects
- Take-or-Pay and Deemed Energy — Curtailment Compensation Modelling
- Merchant Tail and Market Price Curves — Post-Contract Revenue Risk
- Penalties, Bonuses and Availability Guarantees — Performance Revenue Adjustments

Day 6: Project Finance Debt Structuring

- Senior Debt Sizing by DSCR — Sculpted Repayment Profiles
- Gearing and Tenor Constraints — Lender Term Sheet Limits
- Interest During Construction and Fees — Funding Requirement Loop
- Debt Service Reserve and Maintenance Reserve Accounts — Liquidity Buffers
- Cash Flow Waterfall and Lock-Up Tests — Distribution to Equity

Day 7: Tax, Accounting and Returns

- Depreciation and Tax Shields — Effect on Cash Taxes
- Financial Statements Integration — Income, Balance Sheet and Cash Flow
- Equity IRR and Project IRR — Return Measures for Each Investor
- Net Present Value and Hurdle Rates — Discount Rate Selection
- Working Capital and Payment Terms — Offtaker Credit Effects

Day 8: Sensitivity, Scenario and Risk Analysis

- Sensitivity Tables and Tornado Charts — Ranking Value Drivers
- Scenario Manager Design — Base, Downside and Lender Cases
- Break-Even Tariff and Goal Seek — Bid Floor Determination
- Monte Carlo Simulation Basics — Probability of Covenant Breach
- Construction Delay and Cost Overrun Cases — Contingency Sizing

Day 9: Valuation, Bidding and Model Review

- Acquisition Valuation of Operating Plants — Remaining Life Cash Flows
- Bid Tariff Optimisation — Return Target Versus Win Probability
- Model Audit Checklist — Common Errors and Red Flags
- Refinancing Analysis — Post-Completion Debt Improvement
- Investment Committee Memo — Results, Risks and Recommendation

Day 10: Practising the Generation Project Finance Model

- Applying Technical and Cost Inputs — Selected Plant Assumptions Book
- Applying PPA Revenue Logic — Tariff Structure for the Case
- Applying DSCR Debt Sizing — Financing Plan for the Case
- Applying Scenario and Sensitivity Tests — Lender and Downside Cases
- Generation Project Finance Model — Completed Model and Memo for Peer Review

Applying Financial Modelling in the Power Industry After the Course

- Run the model audit checklist on one live project model and log each error, hard-coded input and missing check found.
- Rebuild the levelised cost comparison for the next technology choice in your pipeline using consistent discounting and yield cases.

Financial Modelling in the Power Industry Questions FAQ

What is financial modelling in the power industry, and why does it matter now?

Financial modelling in the power industry is the construction of cash flow models that value generation assets, size debt and set tariffs. It matters now because competitive tenders and lender scrutiny leave little room for modelling errors or hidden assumptions.

Which roles gain most from financial modelling in the power industry training?

Finance analysts, project developers, investment managers and commercial managers gain most. You benefit if you prepare bids, negotiate power purchase agreements, screen acquisitions or review sponsor models on behalf of lenders.

How does financial modelling in the power industry differ from a general corporate finance modelling course?

A general corporate finance course models companies with ongoing operations and broad revenue lines. This course models single generation assets with finite lives, covering energy yield, PPA tariffs, sculpted debt, reserve accounts and technology-specific risks.

What do you bring back from financial modelling in the power industry training?

You bring back a working project finance model for a generation asset, with an assumptions book, revenue logic, debt sizing, scenarios and an investment memo. It gives your department a reviewed template for the next bid or acquisition.

Financial Modelling in the Power Industry: The Way Forward

The Generation Project Finance Model first informs the tariff a developer is prepared to bid or the price an investor will pay. Finance analysts and investment managers use it to agree debt terms and equity returns. After its first use, revisit the yield cases and merchant tail assumptions, since technology costs and market prices shift between bidding rounds.