
Power Project Finance Modelling: PPAs, Tariffs and Lender Cases Training Course

5 – 9 September 2027
Cairo





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Programme Summary

Power project finance modelling for PPAs, tariffs and lender cases is a five-day training course for finance, investment and commercial leaders at managerial level, culminating in a lender-ready investment case for a power or energy asset of their choice. Generation plants and energy infrastructure are financed over decades on the strength of a spreadsheet model, so errors in tariff logic or debt sizing can misprice a project for life. The approach moves from model design to cash flows, contracts, debt and decision. Mars Training Centre UK delivers this programme in power project finance modelling.

The Business Case

Utilities, independent power producers and public buyers negotiate tariffs and raise debt on financial models that few senior decision makers can challenge. A model that is hard to audit, or hides how revenue and debt react to delay or outage, exposes the organisation to poor bids and weak lender terms.

- Cost of Capital: Falls as debt is sized and structured to the coverage ratios lenders accept.
- Bid and Tariff Accuracy: Improves as power purchase agreement terms and the levelised cost of electricity are modelled transparently.
- Decision Cycle Time: Shortens as models follow a common design standard that reviewers and lenders can audit quickly.

Principles and Evidence Base

- The FAST Standard for Model Design: Sets the flexible, appropriate, structured and transparent layout applied to every model from Session 1.
- Discounted Cash Flow, NPV and Equity IRR: Provide the valuation logic for project and shareholder returns in Session 2 and Session 4.
- Levelised Cost of Electricity LCOE: Frames tariff benchmarking across thermal and renewable technologies in Session 3.
- Debt Service Coverage Ratio DSCR and Loan Life Coverage Ratio LLCR: Govern debt sizing, sculpting and lender cases in Session 4.

Intended Participants

- Leaders who approve investment cases for generation, transmission or energy infrastructure assets.
- Managers who negotiate power purchase agreements, tariffs and offtake terms.
- Finance heads responsible for raising project debt and managing lender relationships.
- Public sector and regulatory managers who evaluate bids and tariff proposals.



The programme serves utilities, independent power producers, energy ministries and agencies, refining and petroleum companies investing in power and steam, and project finance lenders.

Learning Outcomes

1. Participants will be able to evaluate a power project model against a recognised design standard and audit checklist.
2. Participants will be able to construct construction-period and operating cash flows for a generation asset.
3. Participants will be able to compare tariff structures and calculate the levelised cost of electricity for competing technologies.
4. Participants will be able to size and sculpt project debt against target coverage ratios.
5. Participants will be able to diagnose project risk through sensitivities, scenarios and lender downside cases.
6. Participants will be able to justify an investment or tariff decision to boards and lenders.

Programme Structure

Day 1: Power Project Finance Modelling Foundations

How should a power project model be designed so that others can trust it?

- Project Finance Structures and Special Purpose Vehicles
- The FAST Standard and Model Layout
- Timelines, Flags and Construction Phasing
- Inputs, Assumptions Books and Version Control
- Model Audit Checklists and Error Types

Day 2: Cash Flows for Generation Assets

How are capital costs, operations and taxes turned into project cash flows?

- Capital Expenditure, Contingency and Interest During Construction
- Capacity, Availability and Degradation Profiles
- Fuel, Operations and Maintenance Cost Modelling
- Depreciation, Tax and Working Capital
- Cash Flow Waterfall and Reserve Accounts

Day 3: PPAs, Tariffs and Levelised Cost

How do contract terms and tariff design shape project revenue and risk?



- Power Purchase Agreement Structures and Risk Allocation
- Capacity and Energy Payment Mechanisms
- Indexation, Currency and Merchant Exposure
- Levelised Cost of Electricity Calculation
- Tariff Benchmarking Across Thermal and Renewable Plants

Day 4: Debt Sizing, Returns and Lender Cases

How much debt can the project carry, and what happens when things go wrong?

- Debt Sizing with DSCR and Gearing Limits
- Debt Sculpting and Repayment Profiles
- LLCR, Equity IRR and NPV
- Sensitivities, Scenarios and Breakeven Analysis
- Lender Base Case and Downside Cases

Day 5: Applying the Lender-Ready Investment Case

How is the model turned into a decision that boards and lenders will accept?

- Model Review of a Participant Project
- Tariff and Structure Option Comparison
- Risk Mitigation and Covenant Strategy
- Peer Challenge of Investment Cases
- Lender-Ready Investment Case Presentation

Methodology

The programme relies on structured spreadsheet exercises supported by case analysis. Participants build and test a model for a thermal or renewable plant, compare tariff options, size debt and run downside cases from utility and refinery power projects.

- Suggested activity: Auditing a flawed project model against the FAST Standard.
- Suggested activity: Calculating and comparing the levelised cost of electricity for two technologies.
- Suggested activity: Sculpting debt to a target DSCR and testing a delay scenario.

Capstone Output

Each participant completes a lender-ready investment case for a power or energy asset. It contains the model structure, key assumptions, tariff position, debt sizing results, downside cases and a recommendation.



Frequently Asked Questions

Is power project finance modelling suitable for managers who do not build spreadsheets daily?

Yes. It suits finance, commercial and investment leaders who review and approve models. It assumes basic finance knowledge and focuses on structure and challenge rather than keystrokes.

Which standards underpin power project finance modelling?

It draws on the FAST Standard for model design, discounted cash flow valuation, the levelised cost of electricity and lender coverage ratios such as DSCR and LLCR.

How is the power project lender-ready investment case used at work?

You take back a structured case for an investment committee or lender, setting out tariffs, debt capacity, downside results and a recommendation you can defend.

How does power project finance modelling differ from general financial modelling?

It concentrates on contracted energy revenue, construction risk and lender debt sizing, rather than corporate budgeting or company valuation.