ADVANCED ENERGY FINANCE MODELLING



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Introduction

Advanced Energy Finance Modelling Training Course builds the model construction skill that energy investment work depends on. Energy projects live or die on the quality of their financial models. A single mis-linked cell, an unrealistic price assumption, or a missing working capital line can move a valuation by millions and mislead a funding decision. This course focuses on building models properly. It covers model architecture, driver-based forecasting, and integrated statements. Furthermore, it applies valuation modelling, sensitivity and scenario design, project finance structures, and debt scheduling. In addition, it covers model auditing, error checking, and documentation standards. As a result, participants build models that lenders and investment committees can trust.

Advanced Energy Finance Modelling Course Objectives

- Design clean, transparent financial model architecture and layout.
- Apply consistent formula structures and best-practice modelling rules.
- Build driver-based revenue, cost, and capital expenditure forecasts.
- Integrate income statement, balance sheet, and cash flow in one model.
- Model working capital, tax, and dividend mechanics correctly.
- Build discounted cash flow valuation and terminal value calculations.
- Design sensitivity tables, scenario switches, and data tables.
- Structure project finance debt with DSCR and LLCR calculations.
- Model cash waterfalls, covenants, and distribution tests.
- Audit models for errors and document assumptions and logic.

Course Methodology

- Interactive lectures with real energy model review sessions.
- Step-by-step model building workshops on live spreadsheets.

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- Formula structure and error-checking exercises.
- Valuation, sensitivity, and scenario modelling practice.
- Structured peer review with facilitator feedback on model quality.

Who Should Take This Course

- Energy analysts and financial modellers.
- Project finance and investment banking analysts.
- Corporate finance and planning staff in energy firms.
- Treasury and funding professionals.
- Investment analysts and transaction advisers.
- Consultants building models for energy transactions.

Advanced Energy Finance Modelling Course Outlines

Day 1: Model Architecture and Best Practice

- Financial model purpose, scope, and design principles.
- Workbook structure: inputs, calculations, and outputs.
- Formula consistency and avoiding hard-coded values.
- Named ranges, flags, and switch mechanisms.
- Timeline construction and date functions.
- Colour coding, formatting, and navigation design.
- Case study: critiquing a poorly structured energy model.

Day 2: Forecasting and Integrated Statements

- Driver-based revenue modelling for energy assets.

- Operating assumptions: capacity, load factor, and availability.
- Operating cost, maintenance, and lifecycle cost forecasting.
- Capital expenditure, phasing, and asset register modelling.
- Income statement, balance sheet, and cash flow integration.
- Working capital, receivables, payables, and inventory modelling.
- Workshop: building an integrated three-statement energy model.

Day 3: Valuation and Tax Modelling

- Free cash flow derivation and modelling approach.
- Discounted cash flow valuation and mid-year convention.
- Terminal value using growth and exit multiple methods.
- Weighted average cost of capital calculation in model form.
- Tax loss carry-forward and deferred tax modelling.
- Dividend policy and distribution modelling.
- Workshop: completing a valuation and tax module.

Day 4: Sensitivity, Scenario, and Project Finance

- Sensitivity tables, data tables, and tornado charts.
- Scenario switches and case management design.
- Monte Carlo integration basics and output analysis.
- Debt sizing using DSCR and LLCR coverage ratios.
- Amortisation schedules, interest, and refinancing modelling.
- Cash waterfall, covenant tests, and distribution locks.
- Workshop: sizing debt and building a cash waterfall module.

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Day 5: Model Audit, Governance, and Delivery

- Error checking techniques and common modelling mistakes.
- Formula auditing, consistency checks, and balance proofing.
- Model review, peer challenge, and quality assurance.
- Documentation, assumption registers, and audit trails.
- Version control and model handover standards.
- Model governance and approval frameworks.
- Course review, assessment, and action planning.

Conclusion

By successfully completing Advanced Energy Finance Modelling, participants will gain a thorough understanding of model architecture, driver-based forecasting, integrated statement construction, valuation and tax modelling, sensitivity and scenario design, project finance structuring, and model audit and governance. They will also acquire practical skills in financial model architecture and construction, integrated forecasting and statement linkage, valuation, sensitivity and scenario modelling, and project finance debt and waterfall modelling. In addition, the course prepares them to produce models that withstand lender and investment committee review. Gentex Training Center delivers this programme with a strong focus on hands-on model building and quality assurance discipline.

FAQs for Advanced Energy Finance Modelling course

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Q1 What is the "Advanced Energy Finance Modelling" course about?

It is a five-day programme on building financial models for energy assets and projects. It covers model architecture and best practice, driver-based forecasting, integrated three-statement modelling, valuation and tax modules, sensitivity and scenario design, project finance debt sizing with DSCR and LLCR, cash waterfall modelling, and model audit.

Q2 What are the key benefits of the "Advanced Energy Finance Modelling" course?

Participants build models that lenders and investment committees can rely on. The course reduces structural and formula errors, improves forecast realism through driver-based design, ensures statements balance and reconcile, strengthens valuation and debt sizing accuracy, speeds up scenario testing, and improves documentation so models can be reviewed, transferred, and audited.

Q3 What skills will I gain from the "Advanced Energy Finance Modelling" course?

Participants gain financial model architecture and construction, integrated forecasting and statement linkage, valuation, sensitivity and scenario modelling, and project finance debt and cash waterfall modelling. These four skills cover the practical core of energy finance model building.

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Q4 What tools, methods, or standards are covered in the "Advanced Energy Finance Modelling" course?

The course covers model design principles and workbook structure, formula consistency and hard-code avoidance, named ranges, flags and switch mechanisms, timeline and date function construction, colour coding and navigation design, driver-based revenue modelling, capacity, load factor and availability assumptions, operating and lifecycle cost forecasting, capital expenditure phasing and asset register modelling, income statement, balance sheet and cash flow integration, working capital and inventory modelling, free cash flow derivation, discounted cash flow valuation, mid-year convention, terminal value using growth and exit multiple methods, weighted average cost of capital calculation, tax loss carry-forward and deferred tax modelling, dividend and distribution modelling, sensitivity and data tables, tornado charts, scenario switches and case management, Monte Carlo integration, debt sizing with DSCR and LLCR, amortisation and refinancing schedules, cash waterfall and covenant testing, distribution lock mechanisms, error checking and formula auditing, balance proofing, model review and peer challenge, assumption registers and documentation, version control, and model governance frameworks.

Q5 How is the "Advanced Energy Finance Modelling" course applied in real-world practice?

Participants apply the methods by building complete models during the course. They structure workbooks, build driver-based forecasts, link the three statements, handle working capital and tax, produce DCF valuations, run sensitivity and scenario tables, size project debt against coverage ratios, model cash waterfalls and covenants, audit their own models for errors, and document assumptions for handover. Many leave with a reusable model template, an audit checklist, and a sensitivity module ready to adapt.