Financial Modeling and PPA for Renewable Energy Training Course



19 - 23 Oct 2026

Cairo

3700 € (Per Person)

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Course Introduction / Overview:

The success of renewable energy projects hinges not only on technical feasibility but also on a robust financial and contractual framework. This training course, offered by BIG BEN Training Center, is designed to provide professionals with the critical skills needed to navigate the financial complexities of the renewable energy sector. The curriculum provides an in-depth look at project finance, with specific emphasis on building comprehensive financial models and understanding the intricacies of Power Purchase Agreements (PPAs). Drawing from the expertise of industry authors like Paul P. G. M. A. van der Heijden, whose work is central to understanding energy finance, and the insights from seminal books like "Project Finance for the International Power Sector" by P. D. V. P. A. Van der Heijden, this program bridges the gap between technical and financial knowledge. Participants will learn how to structure a project, evaluate its profitability, and assess risks from a financial perspective. The course also dissects the key clauses, pricing mechanisms, and negotiation strategies associated with PPAs, which are the backbone of long-term revenue for renewable projects. BIG BEN Training Center is committed to delivering a practical, hands-on experience that equips participants to make sound financial decisions and structure successful renewable energy ventures.

Target Audience / This training course is suitable for:

- Project developers and managers.
- Financial analysts and investors.
- Corporate finance professionals.
- Energy traders and market analysts.
- Lawyers and legal advisors specialize in energy.
- Utility executives and business development managers.
- Government regulators and policy makers.

Target Sectors and Industries:

- Renewable energy and clean tech.
- Power and utility companies.
- Financial services and investment banking.
- Law firms specialize in energy projects.
- Engineering and consulting firms.
- Government agencies and public-private partnerships.

Target Organizations Departments:

- Project finance.
- Business development.
- Financial planning and analysis.
- Legal and contracts.
- Strategic planning.
- Mergers and acquisitions.

Course Offerings:

By the end of this course, the participants will have able to:

- Construct detailed financial models for renewable energy projects.
- Understand and evaluate the key components of a Power Purchase Agreement.
- Calculate and interpret project finance metrics like IRR, NPV, and DSCR.
- Analyze the financial risks associated with renewable energy investments.
- Develop strategies for project structuring and fundraising.
- Negotiate favorable terms in Power Purchase Agreements.
- Model the impact of different revenue streams and tax incentives.
- Assess the bankability and profitability of a renewable energy project.
- Conduct sensitivity analysis and scenario planning.

Course Methodology:

This training course is built on a highly practical and case-study-driven methodology that emphasizes hands-on application. Participants will spend a significant portion of their time working on real-world case studies of renewable energy projects, building financial models from scratch. Each module includes a guided, step-by-step exercise in financial modeling, covering everything from revenue forecasting to debt structuring. The program features interactive workshops focused on dissecting and negotiating key clauses within Power Purchase Agreements, providing participants with a deep understanding of their commercial and legal implications. Instructors will facilitate group discussions where participants can share insights and debate strategies for mitigating financial risks. This approach ensures that participants not only grasp the theoretical concepts but also gain practical expertise in applying them to complex financial scenarios. BIG BEN Training Center's commitment to this hands-on learning environment guarantees that participants leave with the skills needed to make informed financial decisions and structure viable renewable energy projects.

Course Agenda (Course Units):

Unit One: Foundations of Renewable Energy Project Finance

- Introduction to project finance principles.
- Key stakeholders in a renewable energy project.
- Overview of the project development life cycle.
- Revenue streams and operating costs of renewable projects.
- Sources of capital: debt, equity, and grants.
- Understanding key financial metrics: IRR, NPV, and payback period.
- Introduction to financial modeling in Excel.

Unit Two: Building a Financial Model for a Project

- Setting up the structure of a financial model.
- Modeling project revenues and energy production.
- Forecasting operating and maintenance expenses.
- Incorporating depreciation and tax considerations.
- Structuring debt and equity financing.
- Calculating debt service coverage ratios (DSCR).
- Conducting sensitivity and scenario analysis.

Unit Three: Power Purchase Agreements (PPAs)

- Fundamentals of Power Purchase Agreements.
- Key terms and clauses in a PPA.
- Different types of PPA structures: fixed price, indexed, and as-available.
- Pricing mechanisms and tariffs.
- Understanding curtailment and force majeure clauses.
- PPA negotiation strategies and risk allocation.
- Case study: analyzing a utility-scale PPA.

Unit Four: Project Risk Assessment and Mitigation

- Identifying and assessing project risks.
- Technical and operational risks.
- Financial and market risks.
- Political and regulatory risks.
- Legal and contractual risks.
- Strategies for risk mitigation.
- The role of insurance and guarantees.

Unit Five: Advanced Project Structuring and Valuation

- Advanced valuation techniques.
- Modeling merchant risk and PPA expiry.
- Structuring and financing a portfolio of projects.
- The role of tax equity and other incentives.
- Mergers, acquisitions, and project divestitures.
- Current and future trends in renewable energy finance.
- Final project: a comprehensive financial model and PPA analysis.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

Given the increasing complexity of energy markets and the variability of renewable resources, how will financial models and Power Purchase Agreements adapt to effectively price and manage risk in a grid with a high penetration of distributed energy?

What unique qualities does this course offer compared to other courses?

This course stands out by providing an integrated view of the financial and legal aspects of renewable energy projects. While some programs focus solely on financial modeling and others on legal contracts, our curriculum effectively combines both, teaching participants how they work together in the real world. The hands-on financial modeling component is a key differentiator, as participants do not just learn about concepts but actually build functional models they can use in their careers. Our detailed analysis of Power Purchase Agreements, including pricing mechanisms and negotiation strategies, gives attendees a critical edge in a competitive market. The program's academic rigor and practical focus ensure that participants gain a comprehensive understanding of project finance from start to finish. This makes the course a complete package for anyone involved in developing, financing, or investing in renewable energy project