Renewable Energy Financial Modeling Training Course

Professional Development Training Course Outline

Category	Renewable Energy	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Renewable Energy Financial Modeling Training Course is designed to build advanced capabilities in renewable project finance, financial modeling, investment analysis, project valuation, and bankability assessment. Participants learn how to translate technical, commercial, contractual, and financing assumptions into robust financial models for solar PV, wind, battery energy storage, hybrid renewable projects, and other clean-energy assets. The course reflects current market priorities such as energy storage, flexible PPAs, merchant revenue, grid integration, supply-chain risk, tax-credit structures, portfolio financing, and data-center-driven clean-power demand. Recent industry analysis highlights increasing lender scrutiny of technology performance, construction risk, merchant exposure, revenue stability, and tax-equity eligibility, making sophisticated financial modeling an increasingly important project-development skill.

Through hands-on case studies, scenario analysis, sensitivity testing, debt sizing, cash-flow forecasting, and investment decision-making, participants develop the ability to build models that support developers, investors, lenders, sponsors, infrastructure funds, utilities, and corporate energy buyers. The program emphasizes bankable financial models, risk-adjusted returns, DSCR, IRR, NPV, LCOE, project cash flows, debt sculpting, PPA economics, CAPEX/OPEX optimization, refinancing, and exit analysis. It also examines emerging themes including renewables-plus-storage, hybrid PPAs, merchant revenue, AI/data-center electricity demand, supply-chain resilience, and evolving clean-energy policy. Current market research indicates that storage and hybrid assets are becoming increasingly important investment and financing themes, while flexible contractual structures are gaining attention as renewable penetration and power-price volatility increase.

Programme Curriculum

Renewable Energy Financial Modeling Training Course

Introduction

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Course Duration

5 days

Course Objectives

By the end of the course, participants will be able to:

1. Build bankable renewable-energy financial models using structured modeling principles.
2. Develop integrated CAPEX, OPEX, revenue, tax, debt, and equity cash-flow models.
3. Evaluate solar, wind, battery storage, and hybrid renewable projects.
4. Model PPA pricing, contracted revenues, merchant exposure, and flexible offtake structures.
5. Calculate and interpret IRR, NPV, DSCR, LLCR, LCOE, payback period, and equity returns.
6. Perform debt sizing, debt sculpting, repayment profiling, and financing optimization.
7. Analyze project finance structures, leverage, equity contributions, and refinancing scenarios.
8. Conduct scenario planning, sensitivity analysis, downside modeling, and risk-adjusted investment analysis.
9. Assess construction, operational, technology, degradation, curtailment, and supply-chain risks.
10. Integrate tax incentives, tax-equity considerations, and credit-transfer assumptions into project models.
11. Model battery-storage revenue stacking, degradation, augmentation, and merchant-price exposure.
12. Prepare investment committee, lender, sponsor, and financial-close outputs from complex models.
13. Apply AI-enabled analytics, digital modeling tools, and data-driven decision-making to renewable-energy investments.

Target Audience

1. Renewable Energy Project Developers
2. Project Finance Professionals
3. Investment & Infrastructure Analysts

4. Commercial and Investment Bankers
5. Energy Finance & Treasury Teams
6. Renewable Energy Consultants
7. Utilities and Corporate Energy Professionals
8. Entrepreneurs, Engineers, and Analysts entering Clean Energy Finance

Course Modules

Module 1: Renewable Energy Finance & Project Finance Fundamentals

- Renewable-energy business models and **project-finance architecture**
- Project lifecycle-development, construction, operations, refinancing, and exit
- Key financial statements and **integrated project cash-flow structures**
- Bankability, creditworthiness, and lender requirements
- **Case Study:** Financial feasibility assessment of a utility-scale solar PV project

Module 2: Building the Renewable Energy Financial Model

- Model architecture, assumptions, timelines, and best-practice conventions
- **CAPEX, OPEX, depreciation, working capital, and operating assumptions**
- Generation forecasting and production-based revenue modeling
- Integrated income statement, cash flow, and balance-sheet logic
- **Case Study:** Build a 25-year solar project financial model from development through operations

Module 3: Revenue, PPA & Merchant Market Modeling

- **Power Purchase Agreements (PPAs)** and contracted revenue structures
- PPA pricing, escalation, availability, curtailment, and performance assumptions
- Merchant power-price forecasting and capture-rate analysis
- **Hybrid PPA and flexibility-backed revenue structures**
- **Case Study:** Compare fixed-price PPA, indexed PPA, and partially merchant solar revenues

Module 4: Debt Financing & Financial Structuring

- Project debt, construction debt, term loans, and refinancing
- **Debt sizing, DSCR, LLCR, debt sculpting, and repayment schedules**
- Interest-rate assumptions and financing-cost analysis
- Debt-service reserve and financing covenant modeling
- **Case Study:** Optimize debt sizing for a wind project while maintaining lender-required DSCR

Module 5: Investment Returns, Valuation & Sensitivity Analysis

- **NPV, IRR, equity multiple, payback, and investment-return analysis**
- Project-level versus equity-level return calculations
- Sensitivity tables for price, CAPEX, generation, OPEX, and financing costs
- **Scenario analysis and downside-case modeling**
- **Case Study:** Investment committee analysis of a solar portfolio under base, upside, and downside scenarios

Module 6: Battery Energy Storage & Hybrid Project Modeling

- Battery-storage economics, capacity, duration, degradation, and augmentation

- **Revenue stacking:** energy, capacity, ancillary services, and contracted revenues
- Merchant exposure, dispatch assumptions, and storage operating constraints
- Solar-plus-storage and wind-plus-storage financial structures
- **Case Study:** Model a solar-plus-BESS project with contracted and merchant revenue streams

Module 7: Risk, Tax, Policy & Bankability Analysis

- **Tax incentives, tax-equity structures, and credit-transfer considerations**
- Construction, permitting, supply-chain, tariff, and technology risks
- Sensitivity analysis for policy and regulatory changes
- Lender due diligence and **bankability assessment**
- **Case Study:** Stress-test a renewable project against CAPEX inflation, delayed COD, lower generation, and reduced revenue

Module 8: Advanced Financial Modeling, Portfolio Strategy & Investment Decisions

- Portfolio-level modeling and diversification benefits
- **M&A, refinancing, asset valuation, and exit modeling**
- AI-assisted analytics and automated model-quality checks
- Investment dashboards and lender/investor reporting
- **Case Study:** Build and present an investment model for a renewable-energy portfolio combining solar, wind, and battery storage

Training Methodology

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

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