Energy Storage Economics and Finance 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

Energy Storage Economics and Finance Training Course provides a practical, commercially focused understanding of how battery energy storage systems (BESS), grid-scale storage, distributed energy storage, and hybrid renewable projects are evaluated, financed, developed, and monetized. As electricity markets accelerate toward decarbonization, renewable integration, grid flexibility, energy resilience, and net-zero targets, energy storage is becoming a strategic infrastructure asset rather than simply a technology component. This course examines the financial and economic drivers behind storage investments, including CAPEX, OPEX, levelized cost of storage (LCOS), revenue stacking, arbitrage, ancillary services, capacity markets, power purchase agreements, merchant revenues, project bankability, and investment returns. Participants gain the ability to connect technical storage characteristics with commercial outcomes and make informed investment decisions in rapidly evolving energy markets.

The programme also explores project finance, financial modelling, risk management, investment appraisal, valuation, debt structuring, tax considerations, degradation economics, warranties, financing structures, and ESG considerations relevant to modern energy storage projects. Through practical exercises and case studies covering utility-scale batteries, renewable-plus-storage projects, behind-the-meter systems, microgrids, and emerging long-duration energy storage (LDES), participants learn how to assess project feasibility and identify sustainable revenue opportunities. The training is designed to help energy professionals, investors, developers, financiers, policymakers, utilities, and corporate decision-makers navigate the rapidly changing energy transition, clean energy investment, smart grids, flexibility markets, and energy storage finance landscape.

Programme Curriculum

Energy Storage Economics and Finance 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. Understand the economics and business models driving modern energy storage deployment.
2. Evaluate BESS project feasibility, investment attractiveness, and commercial viability.
3. Calculate and interpret LCOS, CAPEX, OPEX, NPV, IRR, payback period, and LCOE.
4. Analyse energy arbitrage, ancillary services, capacity revenues, and revenue stacking opportunities.
5. Develop robust energy storage financial models for investment decision-making.
6. Assess project finance structures, debt financing, equity requirements, and capital costs.
7. Evaluate battery degradation, augmentation, replacement, warranty, and lifecycle economics.
8. Identify merchant risk, market risk, technology risk, regulatory risk, and revenue uncertainty.
9. Compare lithium-ion, flow batteries, thermal storage, pumped hydro, hydrogen, and other LDES technologies from an economic perspective.
10. Assess the financial benefits of renewable-plus-storage, solar-plus-storage, and wind-plus-storage projects.
11. Evaluate bankability, due diligence, investment risk, and lender requirements.
12. Understand emerging energy markets, flexibility mechanisms, carbon markets, ESG, and clean-energy policies affecting storage investments.
13. Apply scenario analysis, sensitivity analysis, and investment optimization to real-world energy storage projects.

Target Audience

1. Energy Storage Project Developers

2. Renewable Energy Professionals
3. Investment Managers and Private Equity Professionals.
4. Banks, Lenders and Project Finance Professionals.
5. Utilities and Grid Operators.
6. Energy Consultants and Analysts.
7. Government and Regulatory Professionals
8. Corporate Energy and Sustainability Leaders

Course Modules

Module 1: Energy Storage Markets, Technologies and Economics

- Energy storage market fundamentals
- Technology economics.
- Cost structures.
- Performance economics.
- Case study: Economic comparison of a 100 MW/200 MWh utility-scale BESS against alternative flexibility resources.

Module 2: Energy Storage Revenue Streams and Revenue Stacking

- Energy arbitrage.
- Ancillary services.
- Capacity and flexibility markets.
- Revenue stacking
- Case study: Build a revenue-stack model for a solar-plus-storage project participating in energy and ancillary-service markets.

Module 3: Energy Storage Financial Modelling

- Financial model architecture.
- Investment metrics.
- LCOS analysis.
- Scenario modelling.
- Case study: Create a financial model for a 50 MW/100 MWh BESS and determine its investment return under multiple market scenarios.

Module 4: Project Finance and Investment Structures

- Capital structure.
- Project finance.
- Bankability.
- Financing costs.
- Case study: Structure financing for a grid-scale BESS using a combination of sponsor equity and project debt.

Module 5: Renewable-Plus-Storage Economics

- Hybrid project economics.
- Curtailment reduction.
- Firm power.
- PPA structures.

- Case study: Compare the financial returns of standalone solar versus solar-plus-BESS under different electricity-price scenarios.

Module 6: Risk, Degradation and Lifecycle Economics

- Battery degradation
- Augmentation strategy
- Technology risk
- Market and regulatory risk.
- Case study: Conduct a 25-year lifecycle risk assessment for a BESS incorporating degradation, augmentation, replacement, and changing market revenues.

Module 7: Advanced Valuation, ESG and Investment Decision-Making

- Asset valuation.
- Sensitivity analysis.
- ESG and sustainable finance.
- Carbon economics.
- Case study: Perform an investment committee assessment of a multi-market BESS portfolio using financial, ESG, and risk-adjusted return criteria.

Module 8: Future Energy Storage Business Models and Investment Trends

- Long-duration energy storage.
- Virtual power plants.
- Battery Energy Storage as a Service
- Digitalization and AI.
- Case study: Develop a commercial strategy for an AI-enabled distributed energy storage portfolio participating in multiple flexibility and energy markets.

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

Ready to enroll or request a customized program? Book online or contact us:

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