Energy Efficiency Investment Analysis 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 Efficiency Investment Analysis Training Course is designed to equip energy professionals, financial managers, sustainability leaders, engineers, investors, and decision-makers with the advanced skills required to evaluate, finance, and implement energy efficiency investments that deliver measurable financial and environmental returns. As organizations accelerate net-zero transitions, decarbonization, climate action, ESG performance, energy resilience, and operational cost optimization, the ability to identify financially attractive energy-saving opportunities has become a critical business capability. This course provides a practical framework for assessing energy efficiency projects, capital expenditure requirements, energy savings, lifecycle costs, investment risks, cash flows, payback periods, Net Present Value (NPV), Internal Rate of Return (IRR), Return on Investment (ROI), discounted cash flow, energy price scenarios, and carbon-reduction benefits.

Participants will learn how to transform technical energy-saving opportunities into bankable investment propositions that can withstand financial, technical, operational, and sustainability scrutiny. Through practical exercises and industry-based case studies, the course explores investment appraisal for HVAC optimization, industrial energy management, building energy retrofits, renewable-energy integration, energy management systems, smart buildings, energy storage, process optimization, electrification, and low-carbon technologies. The training connects engineering analysis with corporate finance, enabling participants to develop robust business cases, prioritize energy efficiency portfolios, assess investment risk, identify financing mechanisms, and communicate project value to senior management, investors, lenders, and other stakeholders.

Programme Curriculum

Energy Efficiency Investment Analysis Training Course

Introduction

Energy Efficiency Investment Analysis Training Course is designed to equip energy professionals, financial managers, sustainability leaders, engineers, investors, and decision-makers with the advanced skills required to evaluate, finance, and implement energy efficiency investments that deliver measurable financial and environmental returns. As organizations accelerate net-zero transitions, decarbonization, climate action, ESG performance, energy resilience, and operational cost optimization, the ability to identify financially attractive energy-saving opportunities has become a critical business capability. This course provides a practical framework for assessing energy efficiency projects, capital expenditure requirements, energy savings, lifecycle costs, investment risks, cash flows, payback periods, Net Present Value (NPV), Internal Rate of Return (IRR), Return on Investment (ROI), discounted cash flow, energy price scenarios, and carbon-reduction benefits.

Participants will learn how to transform technical energy-saving opportunities into bankable investment propositions that can withstand financial, technical, operational, and sustainability scrutiny. Through practical exercises and industry-based case studies, the course explores investment appraisal for HVAC optimization, industrial energy management, building energy retrofits, renewable-energy integration, energy management systems, smart buildings, energy storage, process optimization, electrification, and low-carbon technologies. The training connects engineering analysis with corporate finance, enabling participants to develop robust business cases, prioritize energy efficiency portfolios, assess investment risk, identify financing mechanisms, and communicate project value to senior management, investors, lenders, and other stakeholders.

Course Duration

5 days

Course Objectives

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

1. Evaluate energy efficiency investment opportunities using structured technical and financial assessment frameworks.
2. Calculate energy savings, cost savings, cash flows, ROI, payback period, NPV, IRR, and lifecycle costs.
3. Develop compelling business cases and investment proposals for energy efficiency projects.
4. Apply discounted cash flow analysis to long-term energy and sustainability investments.
5. Assess energy price volatility, inflation, technology risk, and investment uncertainty through scenario and sensitivity analysis.
6. Quantify the financial value of carbon reduction and decarbonization initiatives.
7. Compare alternative technologies using total cost of ownership (TCO) and lifecycle economic analysis.
8. Prioritize projects within an energy efficiency investment portfolio based on financial and strategic value.
9. Integrate ESG, climate risk, sustainability, and net-zero considerations into investment decisions.
10. Evaluate financing options including green finance, energy performance contracting, sustainability-linked financing, grants, and third-party financing.
11. Develop measurement and verification (M&V) approaches for validating energy and financial savings.
12. Identify and manage technical, financial, regulatory, operational, and market risks associated with energy investments.
13. Present investment recommendations using data-driven financial insights, executive dashboards, and investment-grade business cases.

Target Audience

1. Energy Managers and Energy Engineers

2. Sustainability and ESG Professionals
3. Financial Managers, Controllers, and CFO Teams
4. Investment and Portfolio Managers
5. Facilities and Building Managers
6. Engineering and Operations Managers
7. Project Developers and Energy Consultants
8. Government, Utility, and Policy Professionals

Course Modules

Module 1: Energy Efficiency Investment Fundamentals

- Energy efficiency as a strategic investment and business-performance driver
- Energy cost reduction, productivity, resilience, and decarbonization economics
- Energy efficiency investment lifecycle and decision-making framework
- Identifying high-value energy-saving opportunities
- Case Study: Building an investment case for a commercial-building energy retrofit

Module 2: Energy Audits and Investment Opportunity Identification

- Converting energy audit findings into investment opportunities
- Establishing energy baselines and identifying consumption drivers
- Estimating technical and economic energy-saving potential
- Ranking opportunities using energy savings, CAPEX, risk, and ROI
- Case Study: Prioritizing energy efficiency measures in a manufacturing facility

Module 3: Financial Analysis of Energy Efficiency Projects

- Understanding CAPEX, OPEX, cash flows, and project economics
- Simple payback and discounted payback analysis
- Net Present Value (NPV) and Internal Rate of Return (IRR)
- Return on Investment and profitability analysis
- Case Study: Financial appraisal of an industrial HVAC optimization project

Module 4: Lifecycle Cost and Total Cost of Ownership Analysis

- Life Cycle Cost Analysis (LCCA) principles and applications
- Total Cost of Ownership for energy-efficient technologies
- Maintenance, replacement, operating, and residual-value considerations
- Comparing conventional and high-efficiency technologies
- Case Study: Lifecycle comparison of conventional versus high-efficiency cooling systems

Module 5: Risk, Sensitivity, and Scenario Analysis

- Identifying financial, technical, market, regulatory, and operational risks
- Energy price escalation and volatility modeling
- Sensitivity analysis for CAPEX, savings, operating costs, and project life
- Scenario planning and investment uncertainty assessment
- Case Study: Stress-testing an energy efficiency investment under changing energy prices

Module 6: Carbon Economics, ESG, and Net-Zero Investment

- Linking energy efficiency with carbon reduction and net-zero strategies
- Quantifying avoided emissions and carbon benefits
- Integrating ESG metrics and climate-risk considerations into investment analysis
- Evaluating energy efficiency as a decarbonization investment
- Case Study: Financial and carbon analysis of an industrial electrification project

Module 7: Financing Energy Efficiency Investments

- Green finance and sustainable investment fundamentals
- Energy performance contracts and performance-based financing
- Third-party financing, grants, incentives, and concessional finance
- Developing bankable energy efficiency project proposals
- Case Study: Financing a multi-site energy efficiency program through an energy performance contract

Module 8: Investment Portfolio Optimization and Decision-Making

- Building and ranking an energy efficiency investment portfolio
- Multi-criteria investment prioritization and capital allocation
- Creating executive-level investment dashboards
- Communicating financial, operational, and sustainability value to decision-makers
- Case Study: Selecting a portfolio of energy projects under a constrained CAPEX budget

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:

Register Online Now

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com