# Energy Auditing and Management 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 Auditing and Management Training Course equips professionals with advanced knowledge and practical skills to identify energy efficiency opportunities, reduce energy consumption, optimize operational performance, and improve organizational sustainability. The course provides a comprehensive understanding of energy audits, energy performance indicators (EnPIs), energy management systems, energy conservation measures (ECMs), energy benchmarking, utility analysis, energy monitoring, and carbon reduction strategies. Participants learn how to systematically assess electrical, mechanical, thermal, HVAC, lighting, compressed-air, steam, and industrial energy systems while developing actionable strategies for cost savings, decarbonization, net-zero transformation, and sustainable energy management.

Designed around current industry practices, the training integrates ISO 50001 Energy Management Systems, energy efficiency technologies, digital energy monitoring, smart metering, renewable energy integration, ESG, carbon management, and climate-resilient operations. Through practical exercises and real-world case studies, participants learn to transform audit findings into measurable business results, including reduced energy costs, improved energy performance, lower greenhouse-gas emissions, optimized equipment efficiency, and enhanced return on investment (ROI).

## Programme Curriculum

**Energy Auditing and Management Training Course**

**Introduction**

Energy Auditing and Management Training Course equips professionals with advanced knowledge and practical skills to identify energy efficiency opportunities, reduce energy consumption, optimize operational performance, and improve organizational sustainability. The course provides a comprehensive understanding of energy audits, energy performance indicators (EnPIs), energy management systems, energy conservation measures (ECMs), energy benchmarking, utility analysis, energy monitoring, and carbon reduction strategies.

Participants learn how to systematically assess electrical, mechanical, thermal, HVAC, lighting, compressed-air, steam, and industrial energy systems while developing actionable strategies for cost savings, decarbonization, net-zero transformation, and sustainable energy management.

Designed around current industry practices, the training integrates ISO 50001 Energy Management Systems, energy efficiency technologies, digital energy monitoring, smart metering, renewable energy integration, ESG, carbon management, and climate-resilient operations. Through practical exercises and real-world case studies, participants learn to transform audit findings into measurable business results, including reduced energy costs, improved energy performance, lower greenhouse-gas emissions, optimized equipment efficiency, and enhanced return on investment (ROI).

**Course Duration**

5 days

**Course Objectives**

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

1. Understand energy auditing principles, standards, and best practices.
2. Conduct systematic walk-through, preliminary, and detailed energy audits.
3. Analyze energy consumption patterns, utility bills, and load profiles.
4. Establish energy baselines and Energy Performance Indicators (EnPIs).
5. Identify and prioritize energy conservation measures (ECMs).
6. Perform energy benchmarking and performance gap analysis.
7. Evaluate HVAC, lighting, motors, boilers, compressors, and process systems.
8. Apply energy monitoring, metering, and digital energy management technologies.
9. Develop energy efficiency and operational optimization strategies.
10. Calculate energy savings, payback period, ROI, NPV, and lifecycle costs.
11. Integrate renewable energy, electrification, and decarbonization solutions.
12. Apply ISO 50001-aligned energy management practices and continuous improvement.
13. Develop actionable energy management plans, audit reports, and net-zero roadmaps.

**Target Audience**

1. Energy Managers and Energy Auditors
2. Facility and Building Managers
3. Electrical and Mechanical Engineers
4. Maintenance and Operations Professionals
5. Sustainability and ESG Professionals
6. HSE and Environmental Managers
7. Industrial and Manufacturing Professionals
8. Consultants, Project Managers, and Energy Service Professionals

**Training Modules**

**Module 1: Fundamentals of Energy Auditing and Management**

- Energy management principles and **energy efficiency fundamentals**
- Types and levels of **energy audits**
- Energy consumption mapping and energy-use profiling
- Energy costs, tariffs, demand charges, and utility analysis

- Energy audit planning, scope definition, and data collection
- **Case Study:** Energy audit of a commercial facility identifies high base-load consumption and opportunities for operational optimization.

**Module 2: Energy Data Collection, Benchmarking and Analysis**

- Energy data acquisition and **digital energy monitoring**
- Utility bill and interval-data analysis
- Energy baselines and **Energy Performance Indicators (EnPIs)**
- Energy benchmarking and performance comparison
- Load profiling, trend analysis, and anomaly detection
- **Case Study:** Manufacturing plant uses historical energy data to identify production-related energy intensity and establish an improved energy baseline.

**Module 3: Electrical Energy Efficiency**

- Electrical distribution and power-quality assessment
- Motors, drives, transformers, and power-factor optimization
- **Variable Frequency Drives (VFDs)** and motor efficiency
- Lighting efficiency, controls, and smart lighting systems
- Demand management and peak-load reduction
- **Case Study:** Industrial facility reduces motor-system electricity consumption through VFD optimization and equipment scheduling.

**Module 4: HVAC, Thermal and Building Energy Efficiency**

- HVAC system performance assessment
- Chillers, cooling towers, pumps, and fans
- Building envelope and thermal-load analysis
- Smart HVAC controls and **Building Energy Management Systems (BEMS)**
- Heating, ventilation, and air-conditioning optimization
- **Case Study:** Office building improves HVAC efficiency through temperature-setpoint optimization, controls, preventive maintenance, and equipment scheduling.

**Module 5: Industrial Energy Systems**

- Boiler, steam, furnace, and thermal-system auditing
- Compressed-air system efficiency
- Process-heat optimization and waste-heat recovery
- Pumps, fans, and industrial process optimization
- Industrial energy-loss identification and reduction
- **Case Study:** Process plant identifies compressed-air leaks and pressure losses, achieving measurable energy and operating-cost savings.

**Module 6: Energy Conservation Measures and Financial Analysis**

- Identification and prioritization of **Energy Conservation Measures (ECMs)**
- Energy-saving calculations and measurement techniques
- Simple payback, ROI, NPV, and lifecycle-cost analysis
- Cost-benefit analysis and investment prioritization
- Development of bankable energy-efficiency projects

- **Case Study:** Facility management team evaluates LED retrofit, HVAC optimization, and solar PV projects using ROI and lifecycle-cost analysis.

**Module 7: ISO 50001, Renewable Energy and Decarbonization**

- **ISO 50001 Energy Management Systems** framework
- Energy policy, objectives, targets, and action plans
- Renewable energy integration and solar PV opportunities
- Carbon accounting, emissions reduction, and **decarbonization**
- Net-zero energy and **ESG sustainability strategies**
- **Case Study:** Organization develops an ISO 50001-aligned energy management program combined with renewable-energy deployment and carbon-reduction targets.

**Module 8: Energy Audit Reporting and Energy Management Strategy**

- Energy audit report structure and professional documentation
- Energy management action plans and implementation roadmaps
- **Measurement and Verification (M&V)** of energy savings
- Continuous improvement and performance monitoring
- Executive-level presentation of energy-saving business cases
- **Case Study:** Energy audit team converts technical findings into a management roadmap containing prioritized projects, investment requirements, projected savings, and carbon-reduction outcomes.

## 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