Energy Security and Renewable Energy 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 Security and Renewable Energy Training Course provides a strategic and practical understanding of how organizations, governments, utilities, and energy professionals can build resilient, affordable, reliable, and sustainable energy systems. The course examines the rapidly changing global energy landscape, including energy transition, renewable energy integration, decarbonization, climate resilience, energy independence, grid modernization, energy storage, energy efficiency, and clean energy investment. Participants will explore how solar, wind, hydropower, geothermal, bioenergy, battery storage, smart grids, and emerging technologies can strengthen energy security while supporting net-zero targets, sustainable development, climate action, and economic growth.

Through practical exercises, industry examples, and real-world case studies, participants will learn to identify energy-security risks, assess renewable-energy opportunities, develop resilient energy strategies, and evaluate technology and investment options. The training connects energy policy, infrastructure resilience, digitalization, distributed energy resources, power-system flexibility, green finance, and low-carbon development, enabling participants to translate global energy trends into actionable organizational and national strategies. By the end of the program, learners will be better prepared to support secure, reliable, affordable, and clean energy systems in an increasingly volatile energy environment.

Programme Curriculum

Energy Security and Renewable Energy Training Course

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Course Objectives

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

1. Understand the principles of energy security, energy resilience, and energy transition.
2. Analyze global energy-market trends, geopolitical risks, and supply-chain disruptions.
3. Evaluate the role of renewable energy in strengthening energy independence.
4. Assess solar, wind, hydropower, geothermal, and bioenergy opportunities.
5. Develop strategies for renewable-energy integration and grid flexibility.
6. Understand battery energy storage systems (BESS) and emerging storage technologies.
7. Apply energy-efficiency and demand-side management strategies.
8. Examine smart grids, digital energy, AI, and energy-system modernization.
9. Identify opportunities for distributed energy resources and microgrids.
10. Evaluate climate risk, infrastructure resilience, and energy-system vulnerabilities.
11. Understand net-zero, decarbonization, carbon reduction, and climate-policy frameworks.
12. Assess green finance, clean-energy investment, and renewable-energy business models.
13. Develop practical energy-security and renewable-energy action plans.

Target Audience

1. Energy policymakers and government officials
2. Renewable-energy and sustainability professionals
3. Utility and power-sector managers
4. Engineers and technical energy specialists
5. Corporate sustainability and ESG professionals
6. Energy consultants and project developers
7. Investors, financiers, and infrastructure professionals
8. Researchers, academics, NGOs, and development practitioners

Course Modules

Module 1: Energy Security and the Global Energy Landscape

- Energy security fundamentals.

- Geopolitical energy risks
- Global energy transition
- Energy-system resilience
- Case Study – European Energy Security

Module 2: Renewable Energy Technologies and Resource Assessment

- Solar PV and solar thermal
- Wind energy
- Hydropower and geothermal
- Bioenergy
- Case Study – Kenya’s Renewable Energy Mix

Module 3: Renewable Energy Integration and Smart Grids

- Grid integration.
- Smart grids
- Distributed energy resources (DERs)
- Grid flexibility
- Case Study – Denmark’s Wind Integration

Module 4: Energy Storage and Power-System Resilience

- Battery energy storage systems (BESS)
- Long-duration energy storage
- Pumped hydro and thermal storage.
- Storage for energy security
- Case Study – Renewable Microgrids

Module 5: Energy Efficiency and Demand-Side Management

- Energy efficiency strategies
- Industrial energy management
- Buildings and smart facilities
- Demand-side flexibility
- Case Study – Industrial Decarbonization

Module 6: Climate Resilience, Decarbonization and Net Zero

- Climate-energy nexus
- Decarbonization pathways
- Net-zero strategies
- Climate-resilient infrastructure
- Case Study – Corporate Net-Zero Transition

Module 7: Energy Policy, Economics and Clean-Energy Finance

- Energy policy frameworks
- Renewable-energy economics.
- Green finance
- Public-private partnerships.
- Case Study – Utility-Scale Renewable Investment

Module 8: Energy Security Strategy and Future Energy Systems

- Energy-security risk assessment
- Energy transition planning
- Emerging technologies
- Strategic action planning
- Capstone Case Study – Integrated Energy Security Plan

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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