Advanced Energy Economics Training Course

Professional Development Training Course Outline

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

Course Introduction

Advanced Energy Economics Training Course provides an in-depth understanding of the complex interplay between economic principles and the energy sector. This program is designed for professionals who need to make **strategic, data-driven decisions** in a rapidly evolving energy landscape, marked by a global push for **decarbonization**, **energy transition**, and **sustainability**. Participants will gain the analytical skills to forecast market trends, evaluate investment opportunities, and navigate policy and regulatory frameworks. The course goes beyond theoretical concepts, focusing on practical applications to address real-world challenges like **energy price volatility**, **resource allocation**, and **risk management** in both traditional and renewable energy markets.

This course is essential for developing the expertise needed to thrive in the modern energy industry. It equips professionals with the tools to analyze **macroeconomic factors** impacting energy, perform **financial modeling** for projects, and understand the **geopolitical implications** of energy policy. By mastering these skills, participants can contribute directly to their organization's profitability and long-term viability, ensuring they are well-prepared to lead initiatives related to **clean energy investments**, **grid modernization**, and **sustainable development**. The program's comprehensive approach ensures a holistic understanding of the energy value chain from production to consumption, empowering participants to drive innovation and create value in a highly competitive global market.

Programme Curriculum

Advanced Energy Economics Training Course

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Course Duration

5 days

Course Objectives

1. Apply advanced economic models for strategic decision-making in **energy investment** and **resource allocation**.
2. Analyze **energy market dynamics** and the **impact of regulation** on pricing and competition.
3. Master **project finance** and **financial modeling** techniques for energy projects, including renewables and fossil fuels.
4. Develop robust **risk management** strategies to mitigate exposure to **price volatility** and **geopolitical risks**.
5. Evaluate the **economic viability** and policy implications of the **global energy transition**.
6. Assess various **decarbonization pathways** and their economic costs and benefits.
7. Critically analyze and formulate effective **energy policy** and **regulatory frameworks**.
8. Understand the mechanisms and economic impacts of **carbon markets** and **carbon pricing**.
9. Delve into the specific economics of **renewable energy** including subsidies, tariffs, and power purchase agreements (PPAs).
10. Analyze the economic challenges and opportunities associated with **smart grid** and **grid modernization** .
11. Utilize advanced **data analytics** and **econometric models** for **energy demand forecasting** and market trend prediction.
12. Optimize **energy supply chain** management and logistics from a cost-benefit perspective.
13. Incorporate **Environmental, Social, and Governance (ESG)** factors into economic analysis and project evaluation.

Organizational Benefits

- Equip teams with the skills to optimize resource allocation, manage costs, and make profitable investment decisions.
- Improve the organization's ability to predict and respond to market shifts, regulatory changes, and emerging technologies.
- Reduce financial and operational risks by developing effective strategies to handle price volatility, policy changes, and supply chain disruptions.

- Foster a team with advanced analytical skills, providing a significant edge in a highly competitive global energy market.
- Ensure long-term organizational viability by aligning business strategies with global sustainability goals and the **energy transition**.

Target Audience

1. Energy Analysts & Economists
2. Strategic Planners & Business Development Professionals
3. Project Managers & Engineers
4. Financial & Investment Professionals
5. Policy Makers & Regulators
6. Utility & Grid Operators
7. Senior Management & Executives
8. Consultants specializing in the energy sector

Course Outline

Module 1: Foundations of Advanced Energy Economics

- **Economic principles** applied to the energy sector.
- Understanding **energy supply, demand, and price elasticity**.
- The role of **data and analytics** in modern energy decision-making.
- Introduction to **macroeconomic factors** and their impact on energy markets.
- **Case Study:** The economic impact of the 2022 global energy crisis on European gas markets.

Module 2: Energy Market Analysis and Regulation

- In-depth analysis of **electricity, oil, and natural gas markets**.
- **Market liberalization** vs. regulated markets.
- The economics of **grid access** and **transmission pricing**.
- Understanding the economic impacts of **regulatory frameworks** and **subsidies**.
- **Case Study:** Analyzing the **California electricity crisis** and its regulatory failures.

Module 3: Financial Modeling and Project Valuation

- Building advanced **financial models** for energy projects.
- Key metrics: **Net Present Value (NPV), Internal Rate of Return (IRR), and Payback Period**.
- Valuation techniques for **renewable energy** projects and **energy efficiency** investments.
- Assessing **capital budgeting** decisions under uncertainty.
- **Case Study:** Valuation of a **utility-scale solar project** considering tax credits and PPAs.

Module 4: Economics of Energy Transition

- The economic drivers and barriers to the **global energy transition**.
- Analysis of **decarbonization policies** and their economic trade-offs.
- Understanding the economics of **stranded assets** in the fossil fuel industry.
- The role of **carbon capture, utilization, and storage (CCUS)**.
- **Case Study:** The economic implications of Germany's **"Energiewende"** policy shift.

Module 5: Carbon Markets and Environmental Policy

- Introduction to **emissions trading schemes (ETS)** and **carbon taxes**.
- Economics of **environmental regulation** and **policy instruments**.
- Valuing **carbon credits** and understanding **climate finance**.
- Analyzing the economic impact of international agreements like the **Paris Agreement**.
- **Case Study:** A deep dive into the EU Emissions Trading System (EU ETS).

Module 6: Risk Management in Energy Markets

- Identifying and quantifying **market, credit, and operational risks**.
- Hedging strategies using **derivatives** and **financial instruments**.
- Managing **geopolitical risks** and **supply chain vulnerabilities**.
- Assessing **project risk** in an uncertain market environment.
- **Case Study:** How a major oil company navigated the 2020 oil price crash.

Module 7: Economics of Renewable Energy

- Cost-benefit analysis of **solar, wind, and hydropower**.
- The economics of **energy storage** and **battery technology**.
- **Distributed energy resources (DERs)** and their economic impacts.
- Analyzing **feed-in tariffs** vs. **auction mechanisms**.
- **Case Study:** Economic analysis of a large-scale **offshore wind farm project**.

Module 8: The Future of Energy Economics

- The economic potential of **hydrogen** and other emerging technologies.
- The role of **AI and machine learning** in energy market forecasting.
- Understanding the economics of **smart cities** and **grid modernization**.
- **Ethical considerations** in energy economics and **ESG investing**.
- **Case Study:** The economic viability of a **green hydrogen hub** in the Middle East.

Training Methodology

This training is delivered through a blended learning approach. It combines interactive lectures and expert-led discussions with hands-on, data-driven exercises. **Case studies** are a core component, encouraging participants to apply theoretical knowledge to real-world scenarios. The methodology includes:

- Interactive Lectures: Engaging sessions with real-time Q&A.
- Group Workshops: Collaborative problem-solving using case studies.
- Hands-on Exercises: Practical application of financial models and analytical tools.
- Case Study Analysis.
- Capstone Project.

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
21 Sep 2026	25 Sep 2026	Online	$1,000
21 Sep 2026	25 Sep 2026	Physical	$1,500
21 Sep 2026	25 Sep 2026	Physical	$0
21 Sep 2026	25 Sep 2026	Physical	$0
21 Sep 2026	25 Sep 2026	Physical	$0
21 Sep 2026	25 Sep 2026	Physical	$0
21 Sep 2026	25 Sep 2026	Physical	$0
21 Sep 2026	25 Sep 2026	Physical	$0

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