Industrial Decarbonization Strategies Training Course

Professional Development Training Course Outline

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

Course Introduction

The global industrial sector is undergoing a rapid transformation driven by net-zero targets, carbon neutrality commitments, ESG compliance, and climate risk disclosure frameworks. Industries such as manufacturing, cement, steel, oil & gas, chemicals, and power generation are under increasing pressure to adopt industrial decarbonization strategies, reduce Scope 1, Scope 2, and Scope 3 emissions, and transition toward low-carbon and circular economy models. Industrial Decarbonization Strategies Training Course equips professionals with practical knowledge of carbon management systems, energy transition technologies, carbon capture utilization and storage (CCUS), hydrogen economy integration, and renewable electrification pathways.

As governments and corporations align with Paris Agreement goals, Science Based Targets initiative (SBTi), carbon pricing mechanisms, and ESG reporting standards (GRI, TCFD, ISSB), industrial decarbonization has become a strategic priority. This program delivers actionable insights into industrial energy efficiency optimization, process electrification, fuel switching, green hydrogen adoption, lifecycle assessment (LCA), and digital carbon accounting tools, enabling organizations to accelerate their journey toward net-zero emissions industries and sustainable industrial transformation.

Programme Curriculum

Industrial Decarbonization Strategies Training Course

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Course Duration

5 days

Course Objectives

1. Understand global net-zero emissions frameworks and climate policies
2. Analyze Scope 1, 2, and 3 greenhouse gas emissions
3. Design industrial decarbonization roadmaps
4. Implement energy efficiency optimization strategies
5. Evaluate carbon capture, utilization and storage (CCUS) technologies
6. Apply green hydrogen and low-carbon fuel solutions
7. Integrate renewable energy into industrial operations
8. Conduct life cycle assessment (LCA) for industrial processes
9. Develop carbon accounting and ESG reporting systems
10. Assess carbon pricing, taxation, and emissions trading systems
11. Apply digital tools for carbon footprint monitoring
12. Transition toward circular economy and resource efficiency models
13. Build net-zero aligned industrial transformation strategies

Target Audience

1. Sustainability Managers and ESG Analysts
2. Energy and Process Engineers
3. Environmental Compliance Officers
4. Industrial Operations Managers
5. Climate Change Consultants
6. Policy Makers and Regulatory Professionals
7. Supply Chain and Procurement Leaders
8. Corporate Strategy and Innovation Teams

Course Modules

Module 1: Fundamentals of Industrial Decarbonization

- Climate science and industrial emissions overview
- Global net-zero frameworks and Paris Agreement alignment
- Emission sources in heavy industries
- Carbon intensity benchmarking
- **Case Study:** EU steel industry decarbonization roadmap

Module 2: Carbon Accounting and Emissions Measurement

- Scope 1, 2, and 3 emissions classification
- GHG Protocol methodologies
- Digital carbon tracking systems
- Emission factor databases
- **Case Study:** Oil & gas multinational carbon reporting transformation

Module 3: Energy Efficiency and Process Optimization

- Industrial energy audit techniques
- Waste heat recovery systems
- Smart manufacturing and AI optimization
- Energy management systems
- **Case Study:** Cement plant energy efficiency upgrade

Module 4: Renewable Energy Integration in Industry

- Solar, wind, and biomass applications
- Power purchase agreements (PPAs)
- On-site renewable energy systems
- Grid decarbonization strategies
- **Case Study:** Manufacturing facility transitioning to 100% renewable electricity

Module 5: Hydrogen Economy and Fuel Switching

- Green vs blue hydrogen technologies
- Hydrogen storage and transport systems
- Industrial fuel substitution strategies
- Electrolysis and hydrogen infrastructure
- **Case Study:** Steel production using hydrogen-based direct reduction

Module 6: Carbon Capture, Utilization and Storage (CCUS)

- Post-combustion and pre-combustion capture
- CO? utilization in industrial processes
- Geological storage solutions
- CCUS cost and scalability challenges
- **Case Study:** Carbon capture deployment in cement industry

Module 7: Circular Economy and Resource Efficiency

- Industrial symbiosis models
- Waste-to-resource conversion
- Sustainable materials and eco-design
- Supply chain decarbonization strategies
- **Case Study:** Chemical industry circular feedstock transformation

Module 8: Digital Transformation for Net-Zero Industry

- AI and IoT for emissions monitoring
- Digital twins for carbon optimization

- ESG data platforms and reporting tools
- Predictive sustainability analytics
- **Case Study:** Smart factory achieving real-time carbon reduction tracking

Training Methodology

This course employs a participatory and hands-on approach to ensure practical learning, including:

- 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

Start Date	End Date	Location	Price
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