Training Course on Decarbonization Pathways for Oil and Gas Operations

Professional Development Training Course Outline

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

Course Introduction

The global energy landscape is rapidly transforming as the oil and gas (O&G) industry faces rising pressure to reduce its carbon footprint. With tightening regulatory frameworks, ESG compliance requirements, and investor demands for sustainable operations, decarbonization has become a strategic priority. Training Course on Decarbonization Pathways for Oil & Gas Operations empowers professionals in the energy sector with actionable strategies, tools, and technologies to implement effective decarbonization pathways, helping organizations transition toward net-zero emissions while maintaining operational efficiency and profitability.

Designed with industry-aligned learning outcomes and the latest carbon reduction trends, this course offers a deep dive into scalable solutions for upstream, midstream, and downstream operations. Participants will gain insights into carbon capture technologies, energy efficiency innovations, renewable integration, methane emissions control, and digital transformation strategies. Through hands-on case studies, practical simulations, and expert-led sessions, this program equips O&G professionals with the knowledge to lead the sustainability shift within their organizations.

Programme Curriculum

Training Course on Decarbonization Pathways for Oil & Gas Operations

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Course Objectives

1. Understand the fundamentals of decarbonization in O&G operations.
2. Identify key sources of GHG emissions across the value chain.
3. Analyze regulatory and policy trends shaping carbon management.
4. Evaluate low-carbon technologies and innovations in energy systems.
5. Apply carbon accounting and GHG reporting best practices.
6. Design site-specific decarbonization roadmaps and action plans.
7. Integrate carbon capture, utilization, and storage (CCUS) solutions.
8. Assess the feasibility of renewable energy in upstream assets.
9. Optimize energy efficiency in production and processing units.
10. Explore digital tools like AI and IoT for emission monitoring.
11. Leverage ESG frameworks for sustainable performance reporting.
12. Implement methane reduction and flare minimization strategies.
13. Develop cross-functional leadership for climate-resilient operations.

Target Audience

1. Environmental Managers
2. Sustainability Officers
3. Energy Transition Leads
4. Process Engineers
5. Health, Safety & Environment (HSE) Specialists
6. Corporate Strategy Executives
7. Operations Managers
8. Project Development Teams

Course Duration: 5 days

Course Modules

Module 1: Introduction to Decarbonization in O&G

- Understanding climate change and sectoral impact
- Scope 1, 2, and 3 emissions overview
- Importance of ESG and sustainability reporting
- Introduction to decarbonization pathways
- Key international frameworks: Paris Agreement, IEA Roadmap
- **Case Study:** Shell's Net-Zero Ambition and Strategic Shifts

Module 2: Regulatory Landscape and Compliance

- Global and regional climate policies
- Carbon pricing and trading mechanisms
- Emission targets and voluntary commitments
- Navigating ESG disclosure platforms (e.g., CDP, TCFD)
- Risk management and legal exposure
- **Case Study:** ExxonMobil's SEC Carbon Reporting Response

Module 3: Carbon Accounting and Emissions Auditing

- GHG Protocol and ISO 14064 standards
- Emission inventory creation and baseline setting
- Tools for monitoring and verification
- Lifecycle assessment (LCA) in O&G operations
- Data collection, management, and accuracy
- **Case Study:** BP's Digital Carbon Accounting Platform

Module 4: Technology Innovations for Carbon Reduction

- Carbon capture, utilization & storage (CCUS)
- Electrification of oilfield operations
- Hydrogen integration in refining
- Low-carbon fuel deployment (e.g., ammonia, e-fuels)
- Retrofitting vs. greenfield technology integration
- **Case Study:** Equinor's Sleipner CO? Injection Project

Module 5: Energy Efficiency & Operational Optimization

- Energy audits and benchmarking techniques
- Heat integration and process intensification
- Advanced process control systems
- Lean operations and cost savings
- Predictive maintenance for emission control
- **Case Study:** Chevron's Energy Optimization Framework

Module 6: Renewable Energy Integration

- Solar and wind hybridization models
- Battery storage and microgrid applications
- Renewable PPA structuring for O&G
- Grid interconnectivity and challenges
- ROI and feasibility assessments
- **Case Study:** TotalEnergies' Solar Deployment in O&G Fields

Module 7: Digital Transformation & Data-Driven Decarbonization

- Role of AI and ML in carbon footprint tracking
- IoT and real-time monitoring systems
- Blockchain for carbon credit traceability
- Simulation and digital twin technologies
- Cybersecurity in decarbonization digital tools
- **Case Study:** Saudi Aramco's Digital Twin for Carbon Insight

Module 8: Strategic Planning & Workforce Transformation

- Developing corporate decarbonization strategies
- Aligning sustainability with core business goals
- Upskilling and reskilling for a green workforce
- Internal stakeholder alignment and change management
- Financing and capital allocation for low-carbon projects
- **Case Study:** Petronas' Strategic Decarbonization Roadmap

Training Methodology

- Interactive lectures by industry experts
- Real-world case studies and scenario simulations
- Group workshops and design-thinking sessions
- Hands-on exercises with carbon tools and frameworks
- Live Q&A, panel discussions, and project-based learning

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