Training Course on Hydrogen Economy and Blue/Green Hydrogen Production

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 shift toward clean energy solutions has spotlighted hydrogen as a game-changing fuel alternative. Hydrogen economy, driven by the growing demand for decarbonization and sustainable energy systems, is reshaping industrial and energy landscapes. Training Course on Hydrogen Economy & Blue/Green Hydrogen Production delves into the strategic role of hydrogen, exploring cutting-edge advancements in green hydrogen production, blue hydrogen technologies, and their critical relevance to the renewable energy transition.

Designed for professionals across sectors, the course emphasizes the economic, technological, and environmental aspects of hydrogen production and distribution. Participants will gain insights into hydrogen policy frameworks, electrolyzer technologies, carbon capture integration in blue hydrogen, and real-world applications shaping global energy resilience. This training bridges the gap between innovation and implementation, empowering learners to drive low-carbon energy systems in their organizations.

Programme Curriculum

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Course Objectives

1. Understand the fundamentals of the hydrogen economy and its global impact.
2. Differentiate between green hydrogen, blue hydrogen, and other production methods.
3. Explore electrolysis and SMR with carbon capture technologies.
4. Analyze hydrogen supply chain management and infrastructure development.
5. Identify regulatory, policy, and financial incentives for hydrogen projects.
6. Assess the role of hydrogen in energy storage and grid integration.
7. Examine hydrogen safety protocols and risk mitigation strategies.
8. Learn about decarbonization pathways through hydrogen adoption.
9. Study international case studies showcasing hydrogen innovation.
10. Evaluate cost reduction trends in hydrogen production.
11. Discover hydrogen’s potential in mobility and transportation sectors.
12. Understand carbon capture and storage (CCS) in blue hydrogen production.
13. Design a roadmap for implementing scalable hydrogen solutions.

Target Audiences

1. Energy Policy Makers
2. Engineers and Technologists
3. Project Developers
4. Environmental Scientists
5. Utility and Grid Operators
6. Corporate Sustainability Managers
7. Transportation and Logistics Experts
8. Academic Researchers and Students

Course Duration: 5 days

Course Modules

Module 1: Introduction to Hydrogen Economy

- History and evolution of hydrogen as a fuel
- Overview of hydrogen production methods
- Key drivers of the hydrogen economy
- Hydrogen in the global energy mix

- Future projections and market growth
- **Case Study**: Japan’s National Hydrogen Strategy

Module 2: Green Hydrogen Production

- Electrolysis process and technologies
- Renewable energy sources for hydrogen
- Key players in the green hydrogen market
- Economic feasibility and scaling challenges
- Green hydrogen applications in industries
- **Case Study**: Spain’s Iberdrola-PV Hydrogen Project

Module 3: Blue Hydrogen and Carbon Capture

- SMR and autothermal reforming processes
- CO? capture technologies and integration
- Environmental comparison: Blue vs. Green hydrogen
- Lifecycle analysis and emissions data
- Infrastructure for blue hydrogen
- **Case Study**: Canada’s Shell Quest CCS Project

Module 4: Hydrogen Infrastructure & Distribution

- Hydrogen storage options (liquid, gas, solid)
- Pipeline and transportation solutions
- Refueling stations and logistics
- Challenges in hydrogen infrastructure deployment
- Safety standards and regulations
- **Case Study**: Hydrogen Refueling Network in Germany (H2Mobility)

Module 5: Hydrogen Applications in Industry and Transport

- Hydrogen in steel and cement industries
- Fuel cell vehicles and hydrogen mobility
- Hydrogen trains and maritime use
- Hybrid energy systems
- Hydrogen in aviation and heavy transport
- **Case Study**: Toyota Mirai and Hydrogen Mobility Expansion

Module 6: Policy, Investment & Regulatory Frameworks

- Global hydrogen policies and roadmaps
- Public-private partnerships in hydrogen projects
- Government subsidies and tax incentives
- Hydrogen project financing mechanisms
- International collaboration for hydrogen trade
- **Case Study**: EU Hydrogen Strategy and IPCEI Program

Module 7: Environmental & Safety Considerations

- Risk assessment and hydrogen hazards
- Leak detection and safety technologies
- Compliance with ISO and national standards
- Public perception and acceptance
- Hydrogen's environmental lifecycle impact
- **Case Study**: Hindenburg vs. Modern Hydrogen Safety Protocols

Module 8: Innovation, R&D, and the Future of Hydrogen

- Breakthroughs in hydrogen research
- Advanced electrolyzers and catalysts
- AI and digital twins in hydrogen systems
- Integrating hydrogen with smart grids
- Building a global hydrogen workforce
- **Case Study**: Australia's Hydrogen Superpower Vision

Training Methodology

- Instructor-led live sessions (online or in-person)
- Interactive simulations and group discussions
- Hands-on case study analysis
- Infographics, videos, and virtual lab demonstrations
- Real-time quizzes and knowledge assessments
- Post-training implementation support

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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