XCELERATE TRAINING INSTITUTE

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ELECTRICAL ENGINEERING

# Green Hydrogen: Technology, Safety and Economics Training Course

From Electrolysis to Ammonia Export: Understanding the Hydrogen Value Chain

| DURATION | LANGUAGE | FORMAT | COURSE CODE |
|---|---|---|---|
| **5 days** | **English or Arabic** | **Classroom / Online** | **ME-102** |

## Upcoming dates

| Dates | Venue | Format | Fee |
|---|---|---|---|
| 22 – 26 Feb 2027 | Barcelona | Classroom | **€4,800** |
| 5 – 9 Apr 2027 | Berlin | Classroom | **€4,800** |
| 14 – 18 Jun 2027 | Boston | Classroom | **€5,500** |
| 16 – 20 Aug 2027 | Cairo | Classroom | **€3,600** |
| 25 – 29 Oct 2027 | Casablanca | Classroom | **€3,600** |
| 6 – 10 Dec 2027 | Dubai | Classroom | **€3,800** |

### Register or ask a question

Online: x8ti.com/course/green-hydrogen-technology-safety-and-economics-train…

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# Green Hydrogen: Technology, Safety and Economics Training Course

## Introduction

Green hydrogen and ammonia projects in Saudi Arabia, Oman, the UAE and Egypt are among the largest in the world. They require engineers, project managers and commercial teams who understand production, storage, transport, safety and economics.

This course provides a complete overview of the hydrogen value chain, with practical focus on electrolysis technologies, renewable power integration, hydrogen derivatives, safety requirements and project economics.

## Learning Objectives

By the end of this course, participants will be able to:

- Explain the role of hydrogen in the energy transition
- Compare hydrogen production routes and electrolysis technologies
- Understand storage, transport and conversion to ammonia and other derivatives
- Apply hydrogen safety principles and standards
- Evaluate project economics and the levelised cost of hydrogen
- Assess market, policy and certification requirements

## Training Methodology

This course combines short expert presentations with practical exercises, case studies from the Gulf and international organisations, group discussions and work with real templates and tools. Participants are encouraged to bring examples from their own work so that the learning can be applied immediately.

Participants review major regional hydrogen projects and complete a simple cost-of-hydrogen calculation.

## Benefits for Your Organisation

- Teams ready to work on hydrogen projects
- Better evaluation of hydrogen opportunities
- Improved safety awareness for new energy carriers
- Informed investment and partnership decisions
- Alignment with national energy transition strategies

## Benefits for You

- Comprehensive understanding of the hydrogen value chain
- Knowledge of regional mega-projects
- Safety and technical fundamentals
- Ability to assess project economics
- Positioning for a high-growth sector

## Who Should Attend

This course is designed for:

- Engineers in energy, oil and gas and utilities
- Project managers and developers
- Business development and investment professionals
- HSE professionals
- Government energy officials

## Course Outline

### Day 1: Hydrogen in the Energy Transition

- Hydrogen colours and production routes
- Global and Gulf hydrogen strategies
- End uses: industry, mobility, power and export
- Hydrogen derivatives: ammonia, methanol and e-fuels
- Overview of regional projects

### Day 2: Production Technologies

- Alkaline, PEM and solid oxide electrolysis
- Water supply and treatment
- Renewable power integration and variability
- Balance of plant
- Blue hydrogen with carbon capture

### Day 3: Storage, Transport and Conversion

- Compression and liquefaction
- Pipelines and blending
- Ammonia synthesis and cracking
- Storage options
- Export terminals and shipping

### Day 4: Safety and Standards

- Properties and hazards of hydrogen
- Leak detection and ventilation
- Hazardous area classification
- Materials and embrittlement
- Applicable codes and standards

### Day 5: Economics and Markets

- Levelised cost of hydrogen
- Cost drivers and sensitivity analysis
- Offtake agreements and financing
- Certification and guarantees of origin

- Market outlook and action planning

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# Registration Form

## Green Hydrogen: Technology, Safety and Economics Training Course

Preferred dates: ..... Venue or online: .....

Duration: 5 days Language: .....

Please complete and email this form to us, or register online. We confirm your place and send the invoice within one working day.

### Delegate information

Full name (Mr / Ms / Dr / Eng): .....

Position: ..... Telephone / mobile: .....

Official email: ..... Personal email: .....

### Company information

Company name: .....

Address: .....

City / country: ..... VAT / tax number: .....

### Person responsible for training & development

Full name (Mr / Ms / Dr / Eng): .....

Position: ..... Telephone / mobile: .....

Email: .....

### Payment

☐ Please invoice me ☐ Please invoice my company

Signature: ..... Date: .....

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