

Green Hydrogen and Renewable Power-to-X Professional

COURSE OVERVIEW

This comprehensive course is designed to equip professionals with the knowledge and skills needed to navigate the rapidly evolving landscape of green hydrogen and renewable Power-to-X (P2X) technologies. Participants will gain a deep understanding of the technical, economic, and policy aspects of producing, storing, and utilizing green hydrogen, as well as its integration into broader energy systems through Power-to-X applications. The course combines theoretical foundations with practical case studies, industry insights, and hands-on exercises to prepare participants for roles in energy transition, renewable energy project development, and sustainable innovation.

WHO SHOULD ATTEND?

This course is tailored for engineers, technicians, and energy professionals looking to develop expertise in hydrogen production and integration. Entrepreneurs and business leaders can explore opportunities in the growing hydrogen sector, while policymakers gain deeper insights into regulations and sustainability strategies. Researchers, academics, and students can expand their knowledge of emerging hydrogen technologies, while project developers and consultants focus on feasibility assessments and investment strategies.

COURSE OUTCOMES

Delegates will gain knowledge and skills to:

- Understand the fundamentals of green hydrogen production, storage, and distribution.
- Explore the role of renewable energy sources (solar, wind, etc.) in Power-to-X systems.
- Analyze the economic and environmental benefits of green hydrogen and P2X technologies.
- Evaluate the policy and regulatory frameworks driving green hydrogen adoption globally.
- Gain practical insights into designing and implementing green hydrogen and P2X projects.
- Identify key challenges and opportunities in scaling up green hydrogen and P2X solutions.

KEY COURSE HIGHLIGHTS

At the end of the course, you will understand:

- How green hydrogen is produced via electrolysis using solar and wind power
- Core components of Power-to-X systems: hydrogen-to-ammonia, synthetic fuels, and methanol
- How to design and scale hydrogen projects, including storage, transport, and use cases
- Key cost drivers, CAPEX/OPEX breakdowns, and market trends in the hydrogen economy
- Tools for project feasibility, lifecycle analysis, and carbon intensity metrics
- Policy frameworks, subsidies, and global strategies shaping the hydrogen sector
- Real-world case studies on integrated hydrogen hubs, mobility, and industrial applications
- Challenges in electrolyzer efficiency, infrastructure gaps, and investment risks

All our courses are dual-certificate courses. At the end of the training, the delegates will receive two certificates.

1. A GTC end-of-course certificate
2. Continuing Professional Development (CPD) Certificate of completion with earned credits awarded