Training - Hydrogen Chain Outlook

PFH-EN-P | Face-to-face only | 2 days

To give the overall elements allowing to understand and to anticipate the stakes of the development of hydrogen as a solution to the energy transition: decarbonization of the industry, transport as well as the storage of renewable electricity

Level

Knowledge

Public

The training is dedicated to professionals involved in the energy sector : engineers, financial managers, senior executives and senior officials from the public administration

Objectives

Attendees will be able to implement the following skills:

- have an overview of the hydrogen sector
- describe the role of hydrogen in the energy transition

Pedagogical & technical resources

- Quiz
- Sub-groups activities and case studies

Through our LMS, the following are shared or made available:

- introducing content, a few days before the training, to save time and efficiency
- training material, applications and additional content

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

HYDROGEN WITHIN THE ENERGY TRANSITION — 0.5 day

Climate change: state of play, regulatory framework, impact on companies.
Reduction of carbon intensity in the energy mix: constraints, commitment to carbon neutrality, carbon taxation.
Hydrogen: definition, physicochemical properties, orders of magnitude.

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Presentation of the value chain: supply, demand, import-export, stakeholder.
Hydrogen as an energy carrier: focus, challenges and capabilities

HYDROGEN PRODUCTION — 0.5 day

Green, grey, blue, yellow ,low carbon hydrogen: classification, costs, orders of magnitude, advantages and limits.
Outlook of production methods: hydrocarbon reforming process, CCS integration, electrolysis of water, prduction from biomass, photo-emlectrolysis.
Production of decarbonized H2: native H2, combustion in situ, plasma torch.
Limits of each process and technological perspectives.

HYDROGEN STORAGE & TRANSPORTATION — 0.5 day

Compression and liquefaction : fundamentals, constraints and consequences
Solid storage, liquid storage, pressurized gas storage.
Direct-attached storage, surface and subsurface, filling.
Market structure: production hubs, distribution and transport networks.
Environment and safety: accidentology, risks analysis, aggravating factors.

APPLICATIONS - OPPORTUNITIES AND CHALLENGES TO OVERCOME — 0.5 day

Hydrogen and industry: feedstock and fuel for industry: refining, petrochemistry.
Hydrogen and energy networks. Combination with gas, electricity and heating networks.
Electricity storage and injection into networks. PtG, PtL, PtP, PtX concept.
Hydrogen and mobility: fuel cell, combustion engine.

- Hydrogen and thermal engine: light vehicle, heavy vehicle, off-road applications.
- Hydrogen and electric propulsion: light, medium and heavy duty vehicles; rail; marine.
- Hydrogen and aeronautics.

Comparison between actors and stakes for different countries (for example France, Germany, USA, China).
Outlook and forecasts: supply chain structuration, technology strategies and investments, penetration scenarios.

Sessions

Rueil-Malmaison - From 05/19/2026 to 05/20/2026 — **2460 €/HT**

To French entities : IFP Training is referenced to DataDock ; you may contact your OPCO about potential funding.
Please contact our disabled persons referent to check the accessibility of this training program : referent.handicap@ifptraining.com

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