Training - Hydrogen value chain and economics

ECH-EN-P | Face-to-face only | 3 days

This training allows participants to identify the main economic and contractual issues of the new hydrogen chain

Level

Awareness

Public

Executives in the oil and gas, energy or electricity sectors, or in the banking / insurance / consulting sector wishing to understand the Hydrogen industry and its economic challenges

Objectives

Attendees will be able to implement the following skills:

- Analyze the technical and economic aspects of the links in a hydrogen production chain
- Explain the basic structure of the hydrogen chain until it is commercialized,
- Identify the different hydrogen markets and their prospects.

Pedagogical & technical resources

- Quiz.
- Movies.
- Case study.
- Exercises on hydrogen costs and market prices.

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

User Friendly with the Excel spreadsheet tool.
Have a basic knowledge of economics.

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 MARKETS — 1 day

Evolution of the demand for hydrogen and the resources for hydrogen production.
Fundamentals of the current hydrogen market and how it is about to change.
Current and emerging options for hydrogen production, including offshore options.

Development of the use of hydrogen and its impact on energy markets.
New opportunities for hydrogen.
Hydrogen and electricity storage.
Evolution of hydrogen markets and price determination.
Main hydrogen markets in Europe, Africa and Asia (driving countries).
Risks for the different actors: producer, transporter, manager, buyer/importer.

TECHNICAL AND ECONOMIC ASPECTS OF THE HYDROGEN CHAIN — 1 day

Hydrogen: product, reminder of physical properties, qualities of the gas.
Design of the links in the chain: production, transport, storage, distribution, use.
Technical options for hydrogen storage and transportation, including decision factors.
Hydrogen Hazards, Hydrogen Safety Basics.
Overview of new hydrogen production projects around the world.
Order of magnitude of capital costs of investment and operation.
Innovations in the Hydrogen industry: White hydrogen, green hydrogen, ...
Calculation of the LCOH.
Workshops on concepts (Fuel Cells / Turbines / Engines) to compare their efficiency / feasibility
Exercises: Economic calculation of project production costs.

HYDROGEN VALORIZATION — 1 day

Policy and Strategy: Critical Factors in Building the Hydrogen Economy.
Factors for hydrogen to be the decarbonization fuel of choice.
Trade-offs between hydrogen use, electrification and renewable hydrocarbons.
Hydrogen as a means of transporting and storing renewable energy.
Fuel cells and their roles in transportation, the electricity grid and supply.
Hydrogen vehicles – from forklifts, trains and ships to aircraft.

CASE STUDY: ECONOMIC ANALYSIS AND PRICING OF A HYDROGEN PRODUCTION CHAIN

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