



Power-to-X Training

Catalysing defossilisation globally



The Training at a Glance

The Power-to-X Training provides a comprehensive overview of the entire value chain of PtX. It looks at the potentialities of renewable PtX in future energy systems and economies. PtX enables the transformation of renewable energy into synthetic fuels and other chemicals to obtain end products like fertilisers and cosmetics.

Following completion of this course, participants will be qualified to discuss and assess the potential production, application, and export of renewable PtX products.

Target Audience

Professionals working in renewable energy (RE) and /or PtX topics, such as:

- Decision makers in ministries or experts of national RE or PtX commissions
- Experts of public and private partner research institutes, energy federations and RE agencies
- Experts of regulatory authorities and other relevant administrations
- Journalists and actors of civil society



The Training Content

- The main drivers behind PtX technologies
- The concept of sustainable carbon
- The requirements and conditions for sustainable production pathways of PtX
- An overview of important PtX technologies (such as Electrolysis, Fischer-Tropsch, Haber-Bosch, Direct Air Capture)
- The economics of renewable PtX products
 - Cost development of green H₂, RE and electrolyzers
 - Outlook for renewable PtX
- The techno-economic criteria on transportation, storage and trade of renewable PtX products
- The sector specific PtX demand markets and value chains, PtX pathways and business cases
- The sustainability dimensions:
 - The EESG Framework
 - Economic
 - Environmental
 - Social
 - Governance
- Political and institutional framework: strategies, instruments, and regulations

The Transfer Workshop

- Expert input presentations about current and country specific PtX topics
- Break-out groups to prompt strategic discussions among participants

Learning Objectives

- To understand key terminology, context and developments related to renewable PtX
- To identify and differentiate production pathways
- To develop a technical understanding
- To identify and forecast market opportunities for renewable PtX
- To understand policy instruments to foster and regulate renewable PtX products
- To acknowledge and evaluate the importance of various sustainability criteria (EESG)
- To facilitate knowledge transfer to the national context

Training Approach

Live sessions

- Inputs and presentations by professors and other experts
- Strategic discussions
- Case studies
- Application of interactive methods
- Peer-learning opportunities

Home assignments

- Extensive manual for self-study
- Real-world application of knowledge
- Strategic follow-up discussions with the local GIZ office, local projects and/or the PtX Hub

Learning Period

Six hours of training over **three days**, including:

- A two-day lecture from the basics through to advanced content
- A one-day country-specific and interactive transfer workshop

Training Scheduling and Fees

- Trainings can be requested by GIZ projects (or other institutions) and arranged through trainings@ptx-hub.org
- The training concept, lecture and relevant materials are provided by the International PtX Hub Berlin
- For participants the training is free of charge. Relevant costs need to be covered by the respective GIZ project
- The transfer workshop on the third day is organised by the GIZ projects in collaboration with the PtX Hub
- Depending on the pandemic situation, trainings are offered **online**, hybrid or in person.

Number of Participants

- At least 1/3 of the seats in a training are reserved for female participants
- Max. 15 people in a virtual setting

Key Activities of the International PtX Hub

- Integrating renewable PtX into comprehensive climate strategies
- Tapping into renewable PtX potentials in our partner countries
- Fostering international exchange and cooperation
- Building capacities in our partner countries via knowledge exchange

The International PtX Hub aims at creating a critical mass of people who are enthusiastic about renewable PtX and convinced that humankind can maintain and expand its prosperity without fossil fuels.



Implemented by:



Find out more on our website

<https://ptx-hub.org/>