

INTERNATIONAL POWER-TO-X HUB

Catalysing defossilisation globally



PtX.Aviation Training

Defossilising aviation with eSAF

The global aviation industry would rank among the top 10 global emitters if measured as a country and emissions are likely to increase over the next years. The industry, now receiving clear policy signals to defossilise, focuses on sustainable aviation fuels (SAF) as the most viable means to climate neutrality. But SAF production needs to increase worldwide. Both large scale projects and decentralised local approaches will be necessary.

*Investing in local Sustainable Aviation
Fuel (e-SAF) production drives
development anywhere.*



The International Power-to-X Hub supports interested actors with trainings, stakeholder dialogues and support for a pilot plant in Morocco in which PTL SAF will be produced.

Discover the potential of e-SAF in transforming the aviation sector! Join us for a journey towards a greener future in aviation.

The PtX.Aviation Training focuses on the potential of e-SAF for the transformation of the aviation sector, but also for the development of countries entering these emerging markets.

It outlines the challenges of the sector and the responses in international policies, e.g. by the International Civil Aviation Organization (ICAO). It focuses particularly on e-SAF production via the Power-to-Liquid (PtL) Fischer-Tropsch Route as a key technology. In its interdisciplinary approach, the training covers feedstocks, chemical processes, certification and plant construction. A final transfer workshop supports participants in defining country specific approaches to foster local e-SAF production as a driver for development.

PtX.Aviation Training outline

Training content

1. Introduction and global context
2. Policy instruments
3. Low carbon aviation fuels
4. PTL SAF feedstocks
5. Production processes
6. Synthesis processes
7. Fuels post processing
8. Regulatory concerns and certification
9. Sustainability concerns
10. Engineering, procurement and construction
11. Operation & Maintenance (O&M), End of Life
12. Transfer workshop

Duration and format:

2 hours – 4 days | on site, hybrid or virtual

Training sessions can be tailored with focus on specific interests of the target groups. The training is adopted from the material developed by [ProQR – Climate-neutral Alternative Fuels](#) and German Aerospace Center (DLR).

Target audience

- Decision-makers in transport, infrastructure, energy, and environment ministries
- Experts from regulatory authorities and other relevant administrations
- Experts in public and private research institutes, energy associations and renewable energy agencies

What does the International Power-to-X Hub offer?

- ✓ Access to cutting-edge research and insights on PtX
- ✓ Training on PtX for key decision makers
- ✓ Exchange platforms for PtX experts & enthusiasts
- ✓ Advisory on regulatory frameworks, partnerships, and financing for PtX projects
- ✓ Access to 120 GIZ cooperation countries

What is Power-to-X?

To reach climate neutrality by 2050, we must transform our economies to operate emission-free fast. While 100 % renewable energy is key for this transformation, some industries and transport sectors cannot yet directly use renewable electricity to become climate neutral. Until they can, Power-to-X (PtX) is the missing link.

PtX enables us to produce anything historically dependent on fossil feedstocks, now using renewable electricity. These sustainable, climate neutral e-fuels and chemicals can defossilise high-emission industries, including the chemical, fertiliser, steel, and cement industry, as well as aviation and maritime transport.

PtX offers a tremendous potential for many countries all over the world. Due to their favorable conditions for renewable energy production, they can leverage new business opportunities with PtX and become frontrunners in emerging global PtX markets.

Why sustainable Power-to-X?

Power-to-X is not inherently sustainable. Agreed upon sustainability standards are necessary to ensure a fully climate neutral, as well as socially and ecologically sound PtX value chain. The International Power-to-X Hub is actively shaping the discussion on the sustainability of producing and applying PtX products and aims to maximise climate protection and sustainable development.

The International PtX Hub identified generally four distinguished sustainability dimensions:

E(nvironmental), E(conomic),
S(ocial) and G(overnance).



Read the Scoping Paper on PtX Sustainability here:
ptx-hub.org/ptx-sustainability

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Learn more about the project activities on the website: www.ptx-hub.org

