

# P2X Phase III

## Kopernikus Project P2X

### Phase III – Ready for take-off

The Kopernikus project P2X is researching Power-to-X technologies (PtX), which are intended to replace fossil fuels with more sustainable alternatives. Since the start of the project in 2016, P2X has developed processes for various sectors, including plastics, cosmetics, fuels, and glass production. In the final funding phase, the project is focussing on the climate-neutral production of synthetic e-kerosene from CO<sub>2</sub> and water using the PtX process.



**Power2Fuels** – P2X is building a pilot plant at Industriepark Höchst that will process synthetic crude oil into specification conforming aviation kerosene. The synthetic crude oil is produced from CO<sub>2</sub> and water using electricity. The researchers are also considering the by-product e-diesel for use in agricultural machinery, as well as e-naphtha as a raw material for the chemical industry and a blending component for high-octane chainsaw fuels.

**Site-specific analysis and assessment** – Furthermore, the researchers are analysing the availability of critical raw materials needed for the pilot plant as well as its environmental impacts and energy balance. The research also includes identifying sustainability criteria, assessing the suitability of different locations and investigating the social acceptance of PtX.

**Capacity Building** – P2X is developing various educational programmes for a broader public to explain PtX and its role as a key technology of the energy transition. These include publications for schools, a lecture series, summer workshops, a digital learning module and a virtual reality experience.

**Power2ValueChemicals** – P2X researchers have developed and scaled up a CO<sub>2</sub>-to-CO electrolyzer. The satellite project Power2ValueChemicals aims to test and validate it in continuous operation. Additionally, the use of CO in carbonylation will also be demonstrated.

**Power2Polymers** is designed as a satellite project of the Kopernikus project P2X and builds on the results of the second phase of P2X. Its aim is to replace existing petroleum-based raw materials for polymers with more sustainable ones.



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