Roadmap toward net zero

Synhelion
solar fuels

2014

Proof of concept: After decades of top research at ETH Zurich, we produced the world's first solar jet fuel from H_2O and CO_2 in the lab.

2017

New patent: Synhelion develops the concept for its breakthrough receiver technology.

2019

Small-scale demonstration: We demonstrated our technology under real field conditions in the center of Zurich and produced the world's first carbon-neutral fuels from air and sunlight.

2019

Medium-scale demonstration: Within the framework of the EU Horizon 2020 program, the Sun-to-Liquid project produced solar fuel at the IMDEA Energy solar concentrating plant in Madrid.

2020

Full-scale demonstration of key components: We built a 250 kW prototype of our solar receiver and tested it at DLR Synlight. The receiver generated world record outlet temperatures beyond 1'500°C.

2022

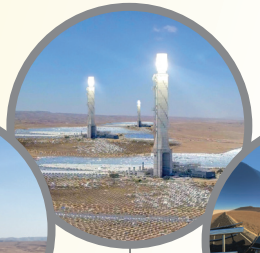
Production of the world's first solar syngas: Synhelion has reached the last decisive technical milestone for the industrial production of carbon-neutral solar fuels.

2023/ 2024

First industrial solar fuel plant: Demonstrating the technology on an industrial scale. Location: Germany. Capacity: a few thousand liters of fuel per year.

2025/ 2026

First commercial solar fuel plant: Location: Spain. Capacity: 1'000 tons of fuel per year.



2033

Global rollout: Ramp-up production capacity to 1 million tons of fuel per year.

For example, this would cover half of the kerosene fueled in Switzerland.

2040

Toward net zero: Ramp-up of production capacity to 40 million tons of fuel per year.

For example, this would cover half of the kerosene fueled in Europe.

2050

Synhelion contributes substantially to a net-zero transportation sector.