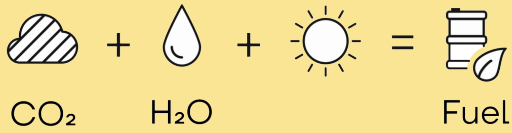
Synhelion
solar fuels

Solar Fuels: The sustainable alternative to fossil fuels.



Synhelion turns CO_2, water, and solar energy into sustainable fuel. Our so-called solar fuels can directly replace fossil fuels and are compatible with existing vehicles and global fuel infrastructure.

With its cutting-edge technology, Synhelion wants to contribute to a net-zero transportation sector.

The Market Opportunity

More than 70 countries have set net-zero targets, covering about 76% of global emissions. The transportation sector currently emits 8 billion tons of CO_2 per year. Especially long-distance transportation that are difficult to electrify will continue to rely on energy-rich liquid fuels. For these particularly hard-to-decarbonize sectors, solar fuels offer an important solution to reach net zero.

Solar **kerosene** for airplanes.

Solar **marine fuel** and **methanol** for ships.

Solar **diesel** for trucks.

Solar **gasoline** for cars as a **complementary solution** to electrification.

The Essentials

Market-ready: We provide a market-ready solution to support the achievement of net-zero emissions targets. Our fuels will be available in 2024.

Scalable: Technology is scalable to cover global demand.

Strong network: We have joined forces with leading industrial and academic partners and have received governmental support from Switzerland, Germany, and the United States.

Cutting-edge: Our technology and innovations are unique and the result of years of research.

Affordable: Low production costs (1 USD per liter) at higher volumes.

Carbon-neutral: Our solar fuels are carbon-neutral.

Compatible: Solar fuels are with existing infrastructure and can directly replace fossil fuels.

Independent: Plants work independently from power grid and don't compete for arable land with agricultural demand.

Storable: Our solar fuels can be transported and stored without compromising quality.

The Figures 2023

3
Countries

40
Employees

12
Patent families

CHF 60 M
Funding

1'500°C
High-temperature process heat

The Success Story

2014

We produced the world's first solar jet fuel from H_2O and CO_2 in the lab of ETH Zurich.

2019

The mini-refinery on the roof of ETH Zurich produces the world's first carbon-neutral fuels from air and sunlight.

2019

The EU Horizon 2020 Sun-to-Liquid project produced solar fuel at the solar concentrating plant in Madrid.

2020

Our full-scale solar receiver generates high-temperature process heat and breaks all world records.

2022

We reached the last decisive technical milestone by producing solar syngas on an industria scale.

The Roadmap

2023-2024

First industrial plant

Full-scale industrial demonstration plant and first fuel batches to key customers.

2025-2026

First commercial plant

Scalable plant in commercial operation in Spain.

2027-2030

Capacity ramp-up

Global rollout and ramp-up of production capacity through licensing approach.

2031-2040

Toward net zero

Further expansion of production capacity and thus making a significant contribution to a net-zero transportation sector.

The Partners, Customers, and Labels

We pursue a collaborative approach with leading global industrial partners and top-tier research labs to implement our technology on a global scale and bring solar fuels to market. End customers show great interest in our solution and products. We have received governmental support from Switzerland, Germany, and the United States.

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
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Office fédéral de l'énergie OFEN

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