

## World's first production plant for solar fuels

# FLYING WITH SUNLIGHT

With the opening of the “DAWN” solar fuel plant, sun-to-liquid technology is ready to be scaled up. A milestone for the energy transition and the strategic partnership between the Lufthansa Group, SWISS and Synhelion.

The Swiss start-up Synhelion is demonstrating its sun-to-liquid technology on an industrial scale for the first time at the “DAWN” plant near the small Rhineland town of Jülich, which opened in June. CO<sub>2</sub> is extracted from the atmosphere and converted into a synthesis gas using concentrated sunlight and water. This can then be used to produce fuel. Such a sun-to-liquid fuel only releases as much CO<sub>2</sub> as was previously extracted from the atmosphere.

The next step is the construction of a commercial plant in Spain from 2025, with more in the pipeline. The goal is an annual production volume of around one million tons of solar fuel.

The Lufthansa Group, SWISS and Synhelion have been working together on the market launch of solar fuels since 2020. SWISS has held a financial stake in Synhelion since 2022 and will be the world's first airline to fly with solar kerosene.



The DAWN system consists of a 20 meter high solar tower and around 150 mirrors. The solar tower contains a solar radiation receiver, a thermochemical reactor and a thermal energy storage system that enables the cost-efficient production of solar fuels around the clock.

## Climate protection costs

# NEW ENVIRONMENTAL COST SURCHARGE

Flying to and from Europe is becoming increasingly expensive due to climate policy requirements. The Lufthansa Group is unable to fully compensate for these successively rising costs. The Group is therefore introducing an environmental cost surcharge.

The surcharge is intended to cover part of the steadily rising additional costs due to environmental regulations. These include the statutory blending mandate for sustainable aviation fuel (SAF) for flights departing from European Union (EU) countries from 2025 and adjustments to the EU Emissions Trading System (ETS). The environmental cost surcharge will apply from 1 January 2025 to all flights marketed and operated by the Lufthansa Group, departing from EU member states as well as the UK, Norway and

Switzerland. The amount of the surcharge varies depending on the route and fare and is between 1 and 72 euros.

The environmental regulations in force in the EU place a one-sided burden on European airlines. We therefore urgently call on politicians to find regulations that ensure equal treatment of EU airlines with their non-European competitors and thus create fair competition.