LIQUID SUN LAUNCHES ESAF PRODUCTION PILOT – WITH ABB, FINNAIR, FORTUM, AND FINAVIA

News / Airlines, Manufacturer



Finnish company Liquid Sun is launching a globally unique pilot project to produce renewable eSAF from biogenic CO? emissions. Originating from research at Tampere University, Liquid Sun has developed an innovation based on low-temperature electrolysis technology that converts CO? emissions and renewable hydrogen into eSAF. For this pilot, Liquid Sun has partnered with Finnair, ABB, Fortum, and Finavia. In Finland, biogenic CO? emissions are generated, for example, by the forest industry and biogas plants.?

The pilot electro-fuel production unit, to be located in Espoo, will be fully operational in autumn

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2025. This is the first pre-commercial production pilot of its kind, aiming to establish a functioning ecosystem and value chain for synthetic fuel production in Finland. In this collaborative project, the companies will jointly develop eSAF production, conduct validation, and build capabilities for globally scalable processes to secure the future supply of domestically produced sustainable aviation fuel.?

Pasi Keinänen, CEO of Liquid Sun commented: “Finland has the opportunity to become a leading producer in the rapidly emerging sustainable aviation fuel market. To achieve this goal, it is critical that the project brings together industrial partners across the eSAF value chain with a shared ambition to accelerate the transition to sustainable fuels.There is a technological race underway to deliver cost-efficient and scalable solutions, and Finland’s conditions and capabilities are highly favorable. We believe rapid piloting and validation is the right approach when building an entirely new industry for synthetic fuels. If successful, this project can give Finland a significant competitive advantage."

At the beginning of 2025, the EU aviation blending mandate entered into force, requiring the gradual increase of renewable fuel use in aviation through 2050. From 2030, the mandate will expand to include fully synthetic fuels made from CO?. By 2050, the blending requirement will rise to 70%, of which half must be eSAF. The mandate applies to airports with at least 800,000 passengers or 100,000 tons of cargo annually. In Finland, this includes Helsinki-Vantaa and Rovaniemi airports.?

Henri Hansson, SVP, Airport Infrastructure, Sustainability, Safety, Security & Compliance at Finavia said: “As the owner of Finland’s airports, we at Finavia want to do everything we can across the aviation value chain to support more sustainable air travel. This means bold climate collaboration with our stakeholders, and actively understanding and testing new technologies across our airport operations.”



Due to this regulatory framework, Finland has a unique opportunity to become a leading producer of renewable aviation fuels. The Finnish forest industry alone generates 20 million tons of biogenic

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CO? annually, with additional emissions from biogas plants. These diverse sources enable decentralized eSAF production, which in turn strengthens energy security and balances electricity grid load nationwide.?

Riku Aho, Vice President Energy Transition, at Finnair stated: “Aviation is one of the hardest sectors to decarbonize, and its energy transition will require new innovation and collaboration across the value chain. We want to contribute to developing Finland’s capability in synthetic aviation fuel production while advancing the industry’s carbon neutrality goals.”

“Fortum’s target?is to help societies to reach carbon neutrality and our customers to decarbonise their processes. For aviation fuel production, we are pleased to offer renewable energy and, in the future, hydrogen from the pilot plant we are currently building,” says Satu Sipola,?Vice President, Hydrogen and Project Execution?at Fortum.?

“The goal of ABB Oy’s H2 Springboard program is to promote the development of Finland’s hydrogen economy ecosystem and to accelerate the scaling of hydrogen technology solutions. The Liquid Sun project is an excellent example of broad ecosystem collaboration for developing pioneering solutions,” says?Simo Säynevirta, Head of H2 Springboard ecosystem at ABB.?



25 AUGUST 2025

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