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# Investing in sustainable aviation fuel - a race to go greener



United Airlines, with its partners, has launched a large investment fund worth 100 million USD, which aims to encourage research, production and technology related to sustainable aviation fuel (SAF).

The money would go to start-ups, chosen by United, that seek solutions for greater participation of environmentally sustainable fuel in aviation.

United and its partners - Boeing, GE Aerospace, JP Morgan, Honeywell and Air Canada have no apparent commercial motive to invest such large sums of money in alternative fuel development.

The SAF's share in today's commercial airline operations is still very small. Companies rely on traditional jet fuel, and SAF's share is only 0.1% globally, according to the World Economic Forum.

## An unprofitable alternative in the short term

Since 2011, when the Dutch airline KLM carried out the first commercial flight that partially used biofuel, a whole decade has passed, but SAF has not taken a more significant role.

The reason is production costs, where SAF is still more expensive than jet fuel: up to as much as 50%.

Given this situation, companies have no particular motive to increase the share of biofuels in their operations, even when the price of oil is high, as it is currently.

This is a factor that in the long term would discourage carriers to turn more decisively to SAF.

Another factor is the limited resources from which today's technologies make SAF suitable for use on commercial flights.

It is made from used fats: for example edible oil, or from biological products and, in the

future, municipal waste. Its "secret" is that it does not leave a carbon footprint, because its carbon dioxide has already been emitted.

The new technologies being developed to obtain SAF do not guarantee lowering production costs, or expanding the raw material base.

An exception is the power of liquid technology, which is based on the use of renewable energy to extract hydrogen from water and mix it with carbon dioxide from the air.

The result is a synthetic, liquid, and carbon neutral fuel. The raw materials for its production are available all around us, so it could satisfy the demands of the entire aviation industry.

Last November, Airbus announced that it had invested in the Canadian company Carbon Engineering, which has been working on this process. They see this investment as a key part of a global climate strategy.

## Victory in the race towards zero CO2 emissions

In the case of the new investment vehicle launched by United Airlines and partners, the motives are long-term, even when developing already existing technologies to obtain SAF.

Bio fuel, as currently used, has the advantage of not requiring technological changes in aircraft engines, or in the infrastructure at airports.

It is simply mixed in a certain percentage with traditional jet fuel, as an additive, which does not require any additional equipment or technology to the existing one.

The motive of new investors is certainly victory in the race towards achieving the goal of zero carbon dioxide emissions, regardless of the fact that it has been ongoing for a long time and the finish line is still not in sight.

The commercial aviation industry has not been a major contributor to global carbon dioxide emissions. Its share is only about 2.5%.

The aviation industry is not viewed as a major polluter and contributor to climate change, and was not mentioned in the 2015 Paris Climate Agreement. This has also been one of the reasons why the industry has not been moving faster to introduce alternative fuels.

## Passengers do not want to leave a carbon footprint

However, the aviation industry has been widely perceived as a major polluter and therefore faces pressure from its customers to increase efforts to use as much environmentally sustainable fuel as possible.

On the other hand, air carriers have also been under pressure from the obligations assumed by their governments drastically to reduce CO2 emissions by a certain deadline, which further motivates them to invest in research and production of SAF.

“Airlines are starting to take it more seriously because they see a shift in consumer preferences, especially among younger travellers, and they know they will have to meet these goals in order to be a viable industry in 2050”, Glenn McDonald, an aviation analyst at Aerodynamic Advisory, told CNN.

Therefore, customer expectations regarding the reduction of global warming have been one of the most important drivers of the energy transition in aviation, where there is now a serious race towards a positive image.

The large investment of United Airlines and partners in the research and production of SAF places customers at its centre, so they will offer all their passengers an opportunity to invest in this project. In return, they would receive 500 miles in the Mileage Plus programme as a reward.