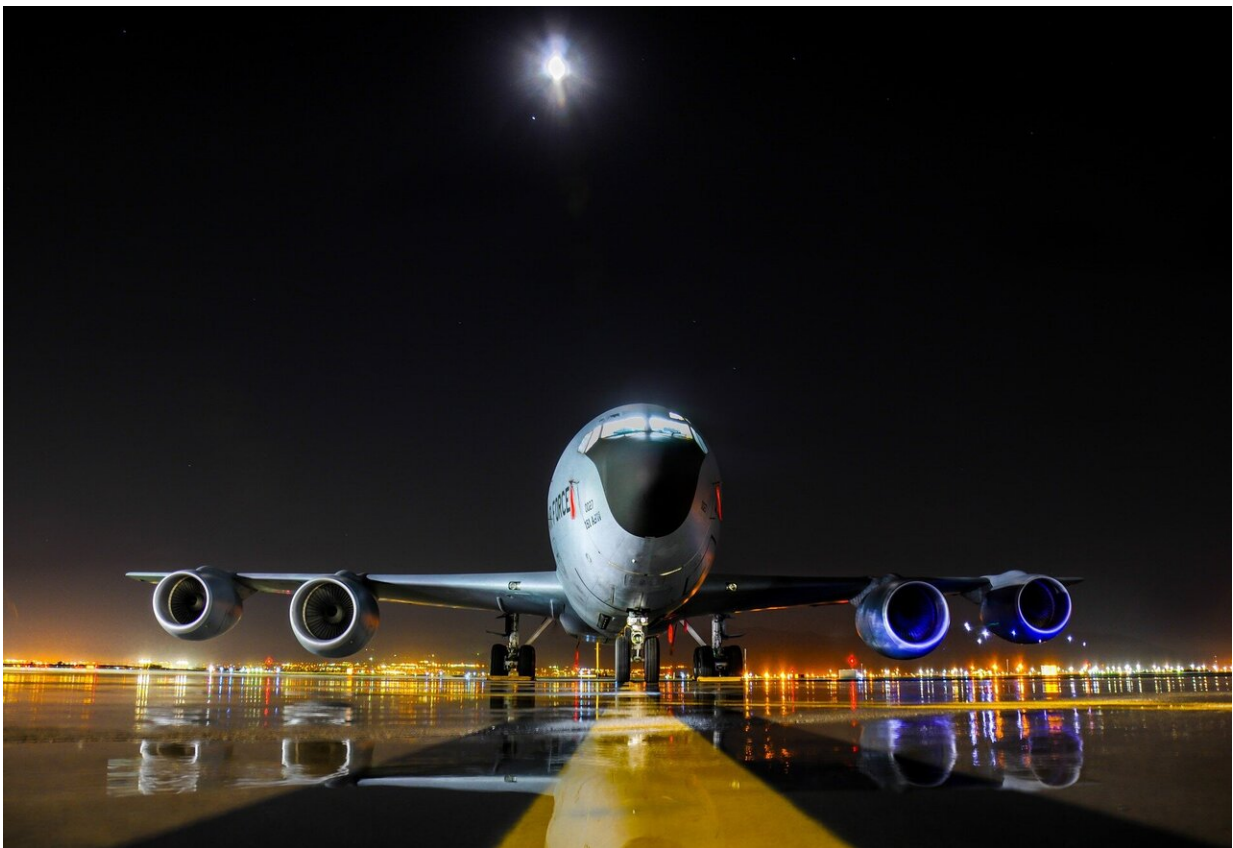


United wants passengers to donate money to sustainable jet fuel. Is it better than carbon offsets for saving the planet?

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United Airlines is giving customers who want to reduce the

environmental impact of their travel a way to buy sustainable jet fuel that releases fewer emissions than traditional jet fuel.

The Chicago-based airline has already secured commitments from about a dozen companies using the program to help offset emissions from employee travel or their supply chain, including Deloitte, HP, Boston Consulting Group, Nike, Siemens and Takeda Pharmaceuticals. The companies will collectively purchase a total of 3.4 million gallons of sustainable [fuel](#) this year, Chicago-based United said Tuesday.

Individual passengers will be able to contribute money to a pool of cash United will use either to subsidize the airline's purchase of sustainable jet fuel, which can be more than twice as expensive as traditional jet fuel, or invest in companies developing sustainable jet fuel and other technologies to reduce the industry's emissions, the airline said.

"There's a long way to go to make sustainable aviation fuel viable, economically possible and scalable to the point where it can make a real difference," United CEO Scott Kirby said. "That's going to require a lot of R&D support, a lot of work to build the economies of scale and drive down the cost curve."

Several airlines, including United, already give customers one option to reduce the environmental impact of their travel: carbon offsets, which let buyers cancel out emissions from a flight by funding programs that reduce emissions elsewhere over time, like forest conservation.

United doesn't know how many passengers are interested in funding greener fuel, but some have expressed skepticism about the impact of carbon offsets, said Lauren Riley, United's managing director of global environmental affairs and sustainability.

Both German carrier Lufthansa and Scandinavian Airlines, also known

as SAS, have programs that let individual travelers purchase sustainable aviation fuel to offset emissions from their flight. In the U.S., a couple of carriers have similar partnerships with companies, including Delta Air Lines, which recently announced Deloitte would purchase sustainable aviation fuel to cover a portion of its employee travel.

United's partner companies see the program as a way to help hit their own emissions reduction targets, including Siemens, which has more than 2,400 employees in the Chicago area. The company committed to being [carbon neutral](#) by 2030, and joining United's sustainable fuel program is part of its strategy for reducing emissions from its [supply chain](#) and business travel, Siemens said.

Passengers won't get to choose whether their cash will fund fuel purchases or investments, but United plans to provide information at the end of each year on how funds were used.

United will still let passengers purchase carbon offsets, though Kirby, who has expressed skepticism about offsets' impact, said that option likely "won't last forever."

So which option should a traveler trying to assuage their 'flygskam'—a Swedish term meaning "flight shame"—pick?

While the best way a traveler can reduce their emissions is to limit how often they fly, that's not an option for everyone, said Brandon Graver, senior aviation researcher at the International Council on Clean Transportation.

The sustainable fuel program may be tougher to navigate if a traveler wants to negate emissions from an individual flight. United doesn't currently give passengers guidance on how much to pay, unlike the carbon offset program, which comes with a calculator that makes

recommendations based on the length of a flight.

According to Lufthansa's program, Compensaid, which does have a calculator based on flight length, offsetting a flight with sustainable fuel is more expensive than contributing to programs that reduce emissions elsewhere, but has a more immediate impact.

For example, a passenger would pay more than \$80 to cover the added cost of sustainable jet fuel on a Lufthansa flight from Chicago to New York's John F. Kennedy Airport, compared with paying less than \$3 to offset the impact of emissions from the flight using traditional carbon offsets over a 10-year period.

Don Wuebbles, professor of atmospheric science at the University of Illinois at Champaign-Urbana, said he's "a little concerned about whether this is just a way for airlines to save money" by offsetting fuel costs.

United's plan to invest in technologies that could make sustainable aviation fuel more affordable and widely available sounds more promising, he said.

Graver said he liked the idea of encouraging customers to purchase sustainable aviation fuel because it promotes a solution that will be key to the airline industry's efforts to cut emissions, unlike [carbon offsets](#), which "outsource" that work.

Just how green sustainable aviation fuels are varies depending on how the fuel is produced. United said the fuel it will buy with the funds its partner companies contributed is made from waste oils and fats, and will reduce emissions by nearly 80% compared with traditional jet fuel.

The 3.4 million gallons United plans to purchase in 2021 will be the airline's largest purchase of sustainable aviation fuel in a single year, but

still accounts for less than 1% of the total fuel the airline used in 2019, Riley said.

While sustainable aviation fuels don't eliminate all emissions and the supply is limited, there aren't many alternatives to traditional jet fuel, particularly when it comes to large passenger aircraft.

Companies are working on developing electric aircraft, but they will likely be limited to shorter flights, Graver said. Hydrogen-powered aircraft, meanwhile, could take nearly a decade to develop and may face more traveler skepticism.

"You talk about hydrogen and everyone thinks Hindenburg," he said.

That means sustainable aviation fuel will play a big part in efforts to hit industry pledges to reduce emissions. Industry trade group Airlines for America said last month its members pledged to work to be carbon neutral by 2050, a pledge United made in December.

While there are only a couple of companies making sustainable aviation fuels, additional producers will open plants that will add capacity over the next three years, Riley said.

One company United invested in, Fulcrum BioEnergy, plans to build a biofuel plant in Gary. Construction, originally expected to begin in 2020, is now expected to start in early 2022, the company said earlier this year.

United also committed to a multimillion-dollar investment in carbon capture technology late last year and in February announced plans to buy up to 200 small electric air taxis from electric aircraft startup Archer.

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