



**GLOBAL  
BUSINESS  
TRAVEL**

# SAF FAQs

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## HAVE QUESTIONS ON SUSTAINABLE AVIATION FUEL? WE BROKE IT DOWN FOR YOU, PLAIN AND SIMPLE.

**Now you can finally get more clarity on sustainable aviation fuel (SAF) so you can stand behind decarbonization efforts and help yield a cleaner future.**

### Q1. What exactly is SAF?

SAF is a cleaner alternative to fossil fuels that are used in airplanes. We all need to be less dependent on fossil fuels because when they burn, they release large amounts of new carbon dioxide (CO<sub>2</sub>), a greenhouse gas and one of the leading causes of climate change.<sup>1</sup>

### Q2. How is SAF produced?

That depends on the sources being used. For example:

- **Biofuels** are made from plant or animal material. Today, most SAF comes from waste fats such as used cooking oil or from oil trees grown on degraded land. In the future, more SAF will be produced from agricultural or municipal waste.
- **Synthetic fuels** are made today from chemical reactions in small quantities, although research and development is underway to increase future production. Synthetic fuels have the potential to be carbon neutral on a lifecycle basis, using hydrogen that's extracted from low-emissions sources such as water and CO<sub>2</sub> captured from the air or industrial processes.

### Q3. Why is SAF so vital?

Travel is the engine of the global economy, helping businesses grow and communities thrive worldwide. Clearly, we need to sustain travel but to do so, we also need to decrease our dependence on fossil-fueled air travel.

- The airline industry contributes to nearly 3% of total global CO<sub>2</sub> emissions with a greater percentage possible if travel demand increases.<sup>2</sup>
- The airline industry pledged to hit net zero by 2050, in line with the Paris Agreement on climate change. For that to happen, the amount of emissions we add to the atmosphere must be no more than the amount removed.
- To reach the goal of net zero by 2050, SAF would need to account for roughly 50% to 75% of total emission reductions – an ambitious plan.<sup>3</sup>

<sup>1</sup> [epa.gov/climatechange-science/causes-climate-change](https://www.epa.gov/climatechange-science/causes-climate-change)

<sup>2</sup> [weforum.org/agenda/2021/11/airlines-industry-climate-neutral-travel/](https://www.weforum.org/agenda/2021/11/airlines-industry-climate-neutral-travel/) November 17, 2021

<sup>3</sup> [cnn.com/travel/article/saf-jet-fuel-green/index.html](https://www.cnn.com/travel/article/saf-jet-fuel-green/index.html) April 26, 2022



#### Q4. What are the benefits of using SAF?

- SAF has the potential of reducing carbon emissions by 80% or more on a lifecycle basis compared to fossil fuel, which is why it's become the airline industry's primary pathway to reach the net-zero target by 2050.<sup>4</sup>
- No modification of aircraft or engine is needed in order to use SAF, which means there's no need to invest in new infrastructure.
  - It's a drop-in solution. The chemical and physical characteristics of SAF are nearly the same as those of conventional jet fuel. It can be mixed with jet fuel and used in existing airport fueling systems.
- SAF contains fewer impurities like sulfur that are in fossil fuel. When sulfur burns in the air, it produces sulfur dioxide – a pollutant that contributes to acid rain.
- SAF production can be spread worldwide across different feedstocks, contributing to energy diversification and a degree of energy security. Some developing nations have marginal land that's unsuitable for food crops but suitable for growing SAF crops. SAF production has the potential to stimulate job growth and improve waste management in those areas.

#### Q5. How does SAF contribute to carbon emission reductions?

The CO<sub>2</sub> that's absorbed by plants during the growth of biomass – the renewable material used to produce SAF – is almost equivalent to the amount of CO<sub>2</sub> produced when the fuel is burned in a combustion engine. As a result, considerably fewer new emissions are released into the atmosphere as compared to conventional jet fuel.

#### Q6. If SAF is so effective, why isn't it widely used today?

- Limits to production: SAF makes up less than 0.1% of available aviation fuel and costs about two to eight times as much as conventional jet fuel.<sup>5</sup>
- To tackle CO<sub>2</sub> emissions, we need to increase production of SAF by collaborating across the entire travel ecosystem.

#### Q7. Is SAF used today?

- According to the International Air Transport Association, over 370,000 flights have taken flight using SAF since 2016 and more than 45 airlines have experience with SAF.<sup>6</sup>
- In December 2021, United Airlines' Boeing 737 MAX 8 jet made history as the world's first passenger flight using 100% SAF.<sup>7</sup>
- As companies look to reduce their environmental impact, SAF is becoming a viable corporate solution.

#### Q8. Are there other lower carbon technologies out there?

Lower carbon technologies like hydrogen and electricity could eventually play a key role in helping to limit CO<sub>2</sub> emissions. But that may not happen until 2040 or later and even the most ambitious plans to produce these technologies won't enable long-haul travel, the main source of CO<sub>2</sub> emissions. Unfortunately, we can't afford to wait.

<sup>4,5,6</sup> [iata.org/en/programs/environment/sustainable-aviation-fuels/](https://www.iata.org/en/programs/environment/sustainable-aviation-fuels/)

<sup>7</sup> [ge.com/news/reports/united-flies-worlds-first-passenger-flight-on-100-sustainable-aviation-fuel-supplying-one](https://www.ge.com/news/reports/united-flies-worlds-first-passenger-flight-on-100-sustainable-aviation-fuel-supplying-one)



## Q9. What is American Express Global Business Travel (Amex GBT) doing about SAF?

We're working together with Shell Aviation to help scale the supply of SAF by generating demand within the corporate and airline sectors. We're piloting this solution with industry-leading partners.

Here's a breakdown of some of our other key initiatives supporting the development and deployment of SAF:

- Through our lobbying efforts, we're advocating for comprehensive government policy to accelerate the demand for SAF.
  - Amex GBT advocates for a US blender's tax credit and participates in the UK Department of Transport consult on SAF and parliamentary inquiry on fueling the future.
- Amex GBT worked with the Massachusetts Institute of Technology Center for Transportation & Logistics and Smart Freight Center in developing Sustainable Aviation Fuel Greenhouse Gas Emission Accounting and Insetting Guidelines.
  - Guidelines enable clear and transparent tracking and disclosure of the emission reduction benefits from making the switch to SAF.
- Amex GBT signed the World Economic Forum Clean Skies for Tomorrow ambition statement to achieve 10% SAF by 2030.
  - The Clean Skies for Tomorrow Coalition provides a platform for aviation's top executives and public leaders to align on a transition to SAF as part of a pathway to achieve net zero.
- We're raising global awareness of the benefits of SAF by presenting at worldwide conferences.
  - One example: At the UN Climate Change conference in Glasgow, Amex GBT took part in a panel discussion with senior leaders from Accenture, Shell Aviation, Alaska Airlines, and the World Economic Forum.

## Q10. What can you do to help scale production?

Join our industry-leading initiative to support your company's sustainability targets and invest in a solution to help increase the supply of SAF. You'll take part in a book and claim system that aggregates demand and coordinates suppliers to boost the SAF supply chain.

## Q11. What is a book and claim system? And how does it work?

Since SAF is blended with conventional jet fuel, it enters the fuel network of an airport so that all airlines lifting fuel from that airport benefit from using SAF. With a book and claim system, SAF is delivered to an airport fuel network and – with your investment – you'll gain access to environmental attribute data no matter which airplanes use SAF.

## Q12. What is environmental attributes data and how will I receive it?

You'll have a digital platform through Avelia where you'll see the emissions saved from the production and use of SAF as compared to conventional jet fuel. This lower carbon intensity refers to environmental attributes data. Because of the platform's blockchain technology, you can be confident the data has been tracked, verified, and there's no double counting.



Q13. How do I know if my company will benefit from the book and claim system you've described?

If you check off at least one of the boxes below then you're likely to benefit from this initiative.

- My company is committed to helping the global airline industry achieve net-zero emissions by 2050 or sooner.
- My company recognizes that SAF represents the most promising pathway to significantly reduce carbon emission from flights.
- My company has sustainability goals and is looking for ways to meet them.
- My company has identified our scope 3 business travel emissions.
- My company is already in talks with airlines about purchasing SAF.