



Aviation



Aviation sustainability objectives

The focus on decarbonising the aviation industry can be traced back to the Stern Report¹ published in 2006, which found that the costs associated with tackling climate change would be far exceeded by the economic damage associated with not taking any action. The Stern Report estimated that global aviation was responsible for 1.6% of greenhouse gases worldwide, which had the potential to rise to 5% by 2050 if the industry took no mitigating action. The European Commission introduced the Emissions Trading Scheme (ETS) in 2005, covering approximately 45% of EU emissions, however the EU ETS was not applied to aviation until 2012. Since then, all aircraft operators flying to and from EU airports have been required to monitor, report and verify their carbon emissions and to surrender allowances allocated to them in an amount equivalent to the amount of carbon emissions they emitted in the preceding year.

The long-term goal for the aviation industry, which builds on [the Paris Agreement](#), is for international aviation to achieve net zero carbon emissions by 2050. Such sustainability initiatives have been led by the International Civil Aviation Organization (ICAO). In 2016, ICAO committed to improving aviation fuel efficiency by 2% and adopted multiple measures, including improved air traffic management, more fuel-efficient aircraft technology and the Carbon Offsetting and Reduction Scheme for International Aviation ("**CORSIA**"), a global market-based mechanism to address carbon emissions produced from international aviation. Originally, the CORSIA baseline for an airline's offsetting requirements was to be an average of 2019 and 2020 emissions. However, due to the COVID-19 pandemic, which caused a significant drop in air traffic in 2020, the ICAO Council decided to use 2019 emissions only as CORSIA's baseline for the period of 2021-2023. More recently, at the 41st Session of the ICAO Assembly held in September 2022, ICAO pledged that it would support the "aspirational" net zero aviation goal by 2050 and set the baseline for airlines' carbon emissions under CORSIA as 85% of 2019 carbon emissions, from 2024 until the end of the scheme in 2035, a significantly more ambitious target than originally planned.

UK initiatives and progress made so far

The UK launched the International Aviation Climate Ambition Coalition ("**IACAC**") initiative at COP26 in Glasgow in November 2021. Since the launch of the initiative, 60 nations have signed the IACAC declaration setting out eight commitments with the objective of reducing aviation CO₂ emissions to meet global targets. In March 2022, the UK Emissions Trading Scheme ("**ETS**") Authority consulted on proposals to develop the UK ETS. The decisions made by the UK ETS Authority included setting the UK ETS cap for 2024 to be consistent with the net zero objective and ensuring that the cap is at the top of the net zero consistent range. The UK ETS Authority recognised that businesses need time and support to decarbonise, and therefore decided to set the industry cap at 40% of the overall cap.

¹ Sir Nicholas Stern's report for the UK government Stern Review: The Economics of Climate Change published in 2006



In February this year, the UK government launched the UK Aviation Council with the goal of developing a sustainability policy and improving airport capacity. The Aviation Council has received criticism from some airlines due to lack of progress, with the Irish low fares airline Ryanair condemning the inaction and departing from the group earlier this month. Also this year, a partnership between the International Air Transport Association (IATA) and the Aviation Impact Accelerator based at the University of Cambridge, announced a collaboration to accelerate the net zero objective by assessing the financial implications of reaching the goal by 2050. The partnership supports the development of scenario-based tools to help airlines analyse and evaluate different realistic pathways towards sustainable flight and decarbonisation.

Sustainable Aviation Fuel ("SAF")

The aviation industry has been focussed on SAF - an alternative to fossil-derived fuel that is produced from sustainable sources such as cooking oil and solid waste - as a realistic solution to decarbonise the airline industry. In June this year, SAF was certified under CORSIA for the first time, marking a significant milestone for SAF production. The first nine batches of SAF, totalling 1,542 tonnes, were produced in China, the Netherlands, and the United States.

The European Commission set targets for the use of SAF in Europe through its ReFuelEU Aviation initiative, which aims to boost the supply and demand of SAF by requiring suppliers to meet targets of at least 2% SAF of overall fuel by 2025, rising to 70% by 2050. The scale of production of SAF however, remains in issue. Three million litres of SAF were produced in 2022 (being triple the quantity produced in 2021) and airlines bought and used 'every drop.' In July 2022, the UK government announced its aviation Jet Zero Strategy, to support its vision to be a global leader in the development, production and use of SAF. The UK government is aiming to have five SAF plants under production by 2025. The first round of funding distributed £82.3 million (out of £165 million earmarked for SAF production) to five SAF projects², and the second round of applications has recently opened.

An alternative solution to SAF is the use of electric aircraft on shorter trips, which Scandinavian Airlines (SAS) describe as an 'important part' of achieving the goal of net zero emissions by 2050. The airline began selling tickets for their electric aircraft on 5 June 2023 for flights due to depart in 2028. Another compelling alternative is the use of hydrogen, which could reduce the climate impact of aircraft by up to 75%. Another potential alternative, which is admittedly still at a very early stage, follows the recent discovery of vast reserves of 'white hydrogen' in the earth's subsurface. Scientists including Ukrainian geologist Viacheslav Zgonnik have suggested that the reserves of 'white hydrogen' are likely to be vast, and so cheap to extract that this discovery could completely transform the energy market. As promising as such discoveries and developments may be, the aviation industry still faces significant practical problems that pose a major potential stumbling block to progress.

² *Alfanar Energy (Lighthouse Green Fuels), LanzaTech UK (DRAGON), Fulcrum BioEnergy (NorthPoint) and Velocys (Altalto and e-Alto) were the five projects to receive the first round of funding.*



The most pressing of these issues include the development of appropriate aircraft technology and airport infrastructure to enable the cost-effective supply and utilisation of green hydrogen on a commercially viable scale.

Greenwashing

A number of airlines have been accused of making misleading claims about the sustainability of flying, known as greenwashing. The European Commission received a formal complaint this year from consumer groups from 19 countries, accusing 17 airlines³ of breaching EU rules on unfair consumer practices, in particular in relation to carbon offsetting and additional charges to passengers for the use of SAF. The consumer groups complain that those airlines have offered consumers a false peace of mind with regard to how 'green' the airlines in question actually are. In the UK, the Advertising Standards Authority put an end to campaigns by Lufthansa and Etihad earlier this month, after finding that their respective advertisements gave a misleading impression of the extent of the airlines' environmental impact.

Flight path to Net Zero

Although some areas seem to be making significant progress in the development of new technologies, in particular with the growth of SAF production plants and environmental policy changes in the UK and further afield, it seems the aviation industry still has some way to go in order to reach its goal of net zero by 2050. It is clear that sustainability remains under the spotlight in aviation and will be there for the foreseeable future, but with all key players in the industry and government placing greater importance on their efforts to reduce carbon emissions from aviation, there are now more reasons to be hopeful than ever before.

³ *Air Baltic, Air Dolomiti, Air France, Austrian, Brussels Airlines, Eurowings, Finnair, KLM, Lufthansa, Norwegian, Ryanair, SAS, SWISS, TAP, Volotea, Vueling and Wizz Air.*

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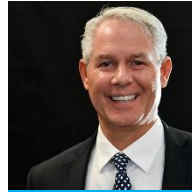
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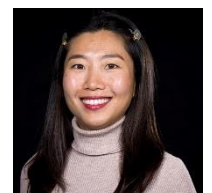
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