

Pressure mounts on aviation industry over climate change

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Cutting CO₂ emissions is a major challenge given that the number of passengers is expected to double over the next two decades

Under pressure from frequent flyers alarmed over climate change, the airline industry says it is "hellbent" on reducing emissions—but the technology needed to drastically reduce its carbon footprint is still out of

reach.

In recent months climate activists have stepped up efforts to convince travellers to boycott [air travel](#), with Swedish schoolgirl and campaigner Greta Thunberg spearheading the trains-over-planes movement and making "flygskam", or flight shame, a buzzword in the Scandinavian country.

"The sector is under considerable pressure," admitted Alexandre de Juniac, chief executive of the International Air Transport Association (IATA), whose members met this week in Seoul.

The industry has been under fire over its [carbon emissions](#), which at 285 grams of CO₂ emitted per kilometre travelled by a passenger far exceed all other modes of transport. Road transportation follows at 158 and rail travel is at 14, according to European Environment Agency figures.

De Juniac said the industry was "hellbent" on lowering emissions but the sector is also accused of underestimating its [environmental impact](#), with the IATA chief lobbying heavily against a "green tax" on aviation backed by several countries including the Netherlands.

"Often these taxes are absorbed in the budgets of states and are spent on whatever they want, except the environment," he said.



Some climate activists have been campaigning to convince travellers to boycott planes in favour of trains, which produce just five percent of the CO₂ emissions per passenger kilometre compared with air travel

The International Civil Aviation Organization (ICAO) estimates that air transport is responsible for two percent of global CO₂ emissions—roughly equivalent to the overall emissions of Germany, according to consulting firm Sia Partners.

But [aircraft](#) also emit particles such as nitrogen oxides, which can trap heat at [high altitude](#), meaning the industry is actually responsible for five percent of global warming, according to the Climate Action Network, an umbrella group of environmental NGOs.

The industry has committed to improving [fuel efficiency](#) by 1.5 percent per year from 2009 to 2020 and stabilising its CO2 emissions in preparation for a 50 percent reduction by 2050 compared to 2005.

It is a major challenge given that the number of passengers is expected to double over the next two decades to reach 8.2 billion in 2037.

Biofuels, electric engines

Companies are banking on a new generation of less polluting planes with updated engines, aerodynamic modifications and fittings that weigh less—among them tablets to replace heavy pilot manuals.



The aviation industry is under pressure to reduce emissions

However Shukor Yusof, analyst with Malaysia-based Endau Analytics, told AFP the industry had made progress but "that all these technological advances to cut emissions are tough to implement quickly due to the nature of the industry hemmed by high costs and the fact that planes typically take decades before they are replaced".

Philippe Plouvier, associate director of consulting firm Boston Consulting Group in Paris, said "the constant renewal of the fleet is a major part of it (cutting emissions)", explaining that the latest models of large aircraft reduce CO₂ by 20 to 25 percent.

"But that only solves around 30 percent of the problem," he said. The rest, he added, can only be resolved by developing sustainable biofuels or turning to [electric power](#)—technology which is currently impractical.

Several airlines have begun testing biofuels but production costs remain high and industry experts do not believe electric engines will be rolled out commercially for another two decades.

"Batteries today are still too big and heavy to be used as the main source of power for aircraft," said Leithen Francis, managing director of Singapore-based aviation public relations agency Francis & Low.

"Aircraft today take off heavy—because the aircraft is carrying a full load of fuel—but then then the aircraft uses up its fuel during the flight and lands light.



Switching from conventional jet engines to electric or biofuel is currently impractical for the aviation industry

"Aircraft powered by batteries will take off heavy and then have to land heavy, so developing aircraft that can do that—without having a hard landings or causing structural damage to the airframe—will be a challenge," Francis told AFP.

The ICAO says better management of air traffic can help and a new generation of more fuel-efficient plane designs is predicted within five or ten years.

But time is not on the aviation industry's side.

A landmark UN report last year concluded that CO₂ emissions must drop 45 percent by 2030—and reach "net zero" by 2050—if the rise in

Earth's temperature is to be checked at the safer limit of 1.5C.

Plouvier of the Boston Consulting Group said to meet the 2050 goal, the aviation industry "must start today and very quickly".

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