

EMISSIONS



Greener aviation ready for take-off

The aviation industry has embarked on an unprecedented global carbon reduction scheme in a bid to improve its environmental footprint, reports Michelle Meineke. However, calls for greater ambition persist.

In October 2016, the 191 member states of the United Nations International Civil Aviation Organisation (ICAO) adopted a global carbon dioxide (CO₂) offsetting scheme – known as the Carbon Offset and Reduction Scheme for International Aviation, or CORSIA. As of 31 May 2017, 69 governments had signed up.

CORSIA aims to reduce any annual increase in total CO₂ emissions above 2020 levels, with a voluntary period between 2021–2026 becoming mandatory in 2027. Every tonne of carbon emitted by airlines above the 2020 baseline means they invest in UN-approved

carbon offsets through a market-based mechanism (MBM). The bullish sentiment deepened in March this year, when ICAO also adopted the first ever CO₂ emissions global certification standard for new aircraft in relation to their size and weight from 2020. Combined, both schemes are key steps to halving CO₂ emissions in global aviation by 2050, relative to 2005 levels.

The volume of those voicing environmental concerns regarding aviation gained traction in the late 20th century as the industry rapidly evolved into a linchpin of global economic growth – and fuel demand rose. The integral role aviation plays far exceeds the wonderings of Leonardo da Vinci's first drawings of aircraft in the 1400s and Orville Wright, as he sat for 12 airborne seconds in 1903 to mark the world's first sustained flight.

'Airlines will carry 4bn passengers this year. That is 11mn passengers every day. To put that into perspective, the population of

Singapore is about 5.5mn people. So, the work that airlines do every day is equivalent to moving the entire population of Singapore somewhere and then bringing them all safely home,' said Alexandre de Juniac, Director General and CEO of the International Air Transport Association (IATA), in early June.

Creating a framework with a single point of accountability for airlines, some of which serve more than half the world's countries in a single day, has taken decades. But the prevailing opinion of industry, policymakers and environmentalists was to avoid a patchwork of efforts. Fragmentation risks triggering an avalanche of regulatory confusion, double counting of carbon offset credits and blunting airlines' cross-border competitiveness.

Speed is important to putting the final details to CORSIA, but accuracy is paramount. Angela Gittens, Director General of Airports Council International (ACI) World, said: 'The priority now is collaboration to provide capacity building, and coordination, so that we can work together to deliver the right assistance in the right place and at the right time.'

The full impact of non-CO₂ emissions still needs to be addressed. A benchmark report by the Intergovernmental Panel on Climate Change (IPCC) on aviation in 1999 shed some much-needed light on the historical impact of non-CO₂ aircraft emissions at high altitudes. But the results were not positive; the impact can be two to four times higher than that of CO₂ emissions, it noted.

'This is a politically toxic conversation – people don't want more expensive flights. In that sense, ICAO's ongoing talks and the progress last year are good starting points,' Bill Hemmings, Director of Aviation and Shipping at *Petroleum Review*. The NGO represents 50 organisations from 26 countries across Europe. 'There is a real need for an acknowledgement that there is a regulatory black hole within which the need to counter the more damaging non-CO₂ emissions from aviation, such as nitrogen oxides (NO_x), has been glossed over. This is a big issue and needs addressing immediately.'

Fuels of the future?

CORSIA is not the silver bullet to a sustainable future for aviation and needs to be complemented by

More sustainable feedstock for biofuels and R&D will be needed to accelerate the uptake of cleaner aviation fuels

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