

AVIATION INDUSTRY POSITION ON THE DEVELOPMENT OF A **LONG-TERM CLIMATE GOAL** AT ICAO

The air transport sector has taken a proactive, collaborative and ambitious approach to dealing with its climate change impact. The collective air transport industry would like to see the ICAO Assembly adopt a long-term aspirational goal for international civil aviation at its 41st Session in September / October 2022.

Aviation's commitment to address its climate impact

After significant analysis, in October 2021 the collective air transport industry raised its climate ambition with a new long-term commitment: **global civil aviation operations will achieve net-zero carbon emissions by 2050**, supported by accelerated deployment of a comprehensive programme of effective emission reduction, energy transition and innovation across the aviation sector and in partnership with governments around the world.

This follows the Paris Agreement and IPCC 1.5°C special report and an earlier commitment: In 2009, the civil aviation industry set three global goals to address its climate impact: a short-term efficiency improvement goal of 1.5% per annum; a mid-term goal to cap net CO₂ emissions through carbon-neutral growth; and a long-term goal to halve net aviation CO₂ emissions by 2050 compared with 2005 levels.

Through the introduction of new aircraft technologies, more efficient operations and infrastructure improvements, the industry has exceeded its short-term climate action goal with analysis showing a 2.1% improvement on a rolling average – an efficiency improvement of 22.8% between 2009 and 2019. Fuel use and CO₂ emissions per RPK have reduced by 54% since 1990.

The industry is determined to continue and accelerate the efficiency improvements and CO₂ emissions reductions that it has achieved so far. But it also understands the climate challenge requires an even greater commitment, including critical partnership with governments and the energy sector.

The industry is now starting to progress an energy transition away from fossil fuels. This includes accelerating deployment of sustainable aviation fuels (SAF) produced from a range of sources, including waste, sustainable biomass and power-to-liquid options such as renewable electricity and carbon capture. In addition, significant innovation and research is underway into potential use of hydrogen and electric propulsion solutions for some aviation operations.

Implementing measures to unlock emissions reduction opportunities throughout the aviation sector

Industry's *Waypoint 2050* analysis identified several illustrative pathways that will allow global aviation to reach net zero carbon emissions by 2050, confirming a significant reliance on sustainable aviation fuels to meet the decarbonisation needs of the sector. The scenarios provide for different adoption rates

Presented by:

- Airports Council International (ACI)
- Civil Air Navigation Services Organisation (CANSO)
- International Air Transport Association (IATA)
- International Business Aviation Council (IBAC)
- International Coordinating Council of Aerospace Industries Associations (ICCAIA)

Coordinated by the Air Transport Action Group (ATAG)

Reports mentioned in this position paper:

Industry net-zero commitment
www.aviationbenefits.org/FlyNetZero

Waypoint 2050
www.aviationbenefits.org/W2050

Fueling Net Zero
www.aviationbenefits.org/W2050



and deployment of a range of ambitious new technology aircraft (including a push towards hydrogen and electric propulsion from around 2035). Depending on the scenario:

- Between 53% and 71% of aviation decarbonisation will need to be delivered through a shift to sustainable aviation fuels – including an evolution from today's SAF sources to opportunities such as power-to-liquid as the production processes mature and costs reduce.
- Between 12% and 34% of the emissions reductions will need to come from the development and deployment of new technologies, including both evolutions in conventional airframe efficiency and radical new technology options such as hydrogen in the more ambitious scenarios.
- Between 7% and 10% of the emissions reductions will come from continued improvements in operational and infrastructure efficiency. Although this is a small part of the 2050 decarbonisation profile, it is vital for both early climate action in aviation, as well as maintaining overall air transport system efficiency. Projects such as air traffic management modernisation are key.
- Finally, 6% to 8% of the net-zero goal may need to be achieved through out-of-sector opportunities, dealing with any residual emissions that have not been reduced through mitigation options within the sector.

The ICAO CAEP 'LTAG' analysis follows a very similar trajectory, although adopts a bottom-up approach as opposed to the target-driven approach seen in industry analysis such as Waypoint 2050, regional roadmaps and a range of national industry roadmaps. The LTAG report confirms that sustainable aviation fuels will provide the most significant opportunity for carbon reduction before 2050.

A shift to options such as hydrogen or electric propulsion would still require significant quantities of sustainable aviation fuel to meet the net-zero target. However, analysis in the *Fueling Net Zero* report shows that the ramp-up in SAF production is achievable, with the right policy support and market signals. Investment in this new energy ecosystem could more fairly distribute energy production across the world and generate or sustain up to 14 million jobs. Importantly, any SAF being used by the sector must meet globally-agreed sustainability criteria to provide the necessary assurance that there is no harm to biodiversity, land-use, food or water systems, or local populations.

Successfully delivering long-term climate action will require partnership, cooperation and mutually-reinforcing commitments

The aviation industry strongly believes the adoption of a long-term aspirational goal at ICAO 41st Assembly will: help the sector unlock resources to achieve emissions reductions by de-risking long-term investments and providing certainty to the capital markets; avoid a market imbalance between competing operators on international routes; ensure a common global framework and ambition on climate action; and deliver a strong foundation for concerted international action by maintaining ICAO's leading role in this area.

The industry is committed to reaching net-zero carbon emissions by 2050 across global civil operations (domestic and international). In order to achieve this and continue to provide the benefits of connectivity to the world in a sustainable way, it will require assistance from a range of stakeholders:

- **Governments at a global level** are encouraged to support action by ICAO to deliver a long-term aspirational goal for aviation climate action at the 41st Session of the ICAO Assembly, and any subsequent work on means of implementation, including capacity building, technology transfer (particularly for SAF deployment) and financing of the decarbonisation of the air transport sector.
- **Governments at a regional and national level** should implement supportive policy environments for: technology deployment; infrastructure efficiency improvements (including the full scope of the ICAO GANP); and particularly the energy transition to low-carbon options, sustainable aviation fuels and consideration of aviation needs as part of government hydrogen strategies. Smart regulation and policymaking can provide long-term sustainable and stable investment environments as opposed to short-term punitive measures. The coming decade will be vital in making the investment in infrastructure to meet the needs of the sector out to 2050 and beyond.
- **The energy sector** will need to support the energy transition, with significant scale up in sustainable aviation fuel and alternative energy production around the world.
- **Financial institutions** – including the multilateral development banks – must understand the strategic importance of air transport connectivity and provide needed investment for the industry in deploying carbon reduction technology, infrastructure and energy systems.
- **Customers** – including corporate purchasers of airline tickets and individual passengers – can support voluntary offsetting of CO₂ emissions and purchase of sustainable aviation fuel, particularly in the short- and medium-term as ways to help mitigate emissions and support the shift to SAF.

Key asks of Governments at ICAO in 2022

- Recognition of the progress the sector has made on climate action and acknowledgment of the more ambitious industry long-term goal to reach net-zero carbon emissions from global commercial aviation by 2050;
- Adopt a sector-wide ICAO long-term aspirational goal for aviation climate action, in line with the Paris Agreement stretch goal of 1.5°C and backed by the latest scientific advice on limiting the worst impacts of climate change; and
- Work to develop, through the ICAO Council (and with the full support and collaboration of industry), a work-programme to determine the means of implementation for such a long-term goal for aviation climate action including, for example: the need for global policy action on sustainable aviation fuel deployment; assistance with State Action Plans in line with the new goal; and capacity building for States in need of support.
- Take action to support progress towards the long-term aspirational goal within their own capabilities and with assistance from ICAO and other States in capacity building, technology transfer and financing.