

# Aide Memoire: aviation climate action

May 2022

## An industry committed to climate action

### The air transport industry has taken a responsible and ambitious approach to dealing with its climate impact

- An initial set of short-, medium- and long-term goals established by the industry in 2009 set out a framework for collaborative action across the sector.
- In October 2021, a more ambitious long-term goal was agreed by airlines, airports, air traffic management providers and manufacturers of aircraft and engines: **aviation will aim to reach net-zero carbon emissions by 2050<sup>1</sup>**.
- This is in line with the recommendations of the scientific community and with the political consensus of the Paris Agreement stretch target to keep the global temperature rise to 1.5°C above pre-industrial levels.
  - 135 States aim for net-zero CO<sub>2</sub> by 2050 (or earlier), through commitments to the UNFCCC. A further 10 have made net-zero commitments before 2070.

## Achieving net-zero emissions by 2050

### Through the thorough *Waypoint 2050* analysis<sup>2</sup>, the industry has identified how net-zero carbon emissions can be achieved by 2050, through a range of significant actions:

- **Technology** has always played an important role in aviation efficiency, delivering an 80%+ improvement in fuel use per passenger kilometre since the first jet aircraft and evolving with each new generation of aircraft.
  - This evolution will continue, with the potential for electric aircraft in the 9-19 seat category deployed before 2030, and possibly hydrogen for short-haul aircraft starting in 2035/40.
- **Operational improvements** (particularly air traffic management) can help by implementing early action and to ensure that efficiency of capacity is maintained in the long-term.
- A **transition away from fossil fuels** is required – this makes up the largest proportion of mitigation actions (between 53 and 71% of CO<sub>2</sub> reductions in 2050) and will require a significant shift in the source of energy used for air transport.
  - Analysis shows there is enough supply potential over the next 30 years, but costs need to come down as production ramps up.
  - All sources identified are sustainable (waste, non-food crops and power-to-liquid) and consideration was given to constraints in feedstock, supply and uses by other industries.
  - Aviation should be a priority user of many feedstocks, as other potential users have other energy sources.
- Operators will also need access to **out-of-sector opportunities** to deal with remaining residual emissions in 2050 (potentially under 10% of emissions reductions) – through some market mechanism.

<sup>1</sup> [www.aviationbenefits.org/FlyNetZero](http://www.aviationbenefits.org/FlyNetZero)

<sup>2</sup> [www.aviationbenefits.org/W2050](http://www.aviationbenefits.org/W2050)

## Early action is a vital building block for long-term decarbonisation

### Carbon offsetting is an important way to deal with aviation emissions in the short-term, but is not a long-term solution

- Through the International Civil Aviation Organization (ICAO), the sector has established the world's first global sectoral market mechanism: CORSIA.
  - Airlines and their passengers are also voluntarily offsetting their travel.
- However, for the medium and long-term, further action is needed and must commence in the next years: a transition away from fossil fuels; research and development of revolutionary new aircraft technologies; and deployment of operational efficiency measures

### The energy transition starts now: up to 445 Mt of SAF to be delivered every year by 2050

- In order to get the quantity of sustainable aviation fuel (SAF) required in 2050, the planning, financing and policy environment needs to be established well in advance of 2030.
- Over 400,000 flights have taken off on SAF to date. More and more airlines are committed to purchasing SAF: with some \$17 billion in offtake agreements already signed. With these commitments and the expected policy support already announced, it is expected SAF may reach ~6.5% of jet fuel in 2030.
- However, a supportive policy environment is needed to boost this even further and get us towards an almost complete replacement by 2050 – particularly in countries around the world.
- A great opportunity exists to democratise energy production for aviation – from 90% of energy originating in 23 countries today, to new green energy industries in countries across the world. In addition, up to 14 million jobs could be created or sustained by a shift to SAF.

## What industry would like to see delivered at the ICAO Assembly in 2022

### Balanced response to the challenge ahead

- Aviation plays a fundamental role in connecting communities; establishing and maintaining business connections; carrying 45% of global trade; and supporting 58% of world tourism.
  - The aviation sector wants to continue to provide this connectivity whilst playing its part to ease global climate impact and reach net zero.
- Increasingly, pressure is also being applied on the industry from passengers, corporate customers, investors and the finance community – as well as government regulation.
- The challenge to act on climate change is balanced with the need for many States to grow their economies and continue enjoying the benefits of development.
- The air transport industry knows that growth in connectivity is vital, but excess growth in CO<sub>2</sub> emissions could make the business of operating the network unviable in the long-term.

### A sector-wide long-term goal for air transport

- Aviation business leaders are calling on Governments meeting at ICAO to agree a decarbonisation goal for the long-term, aligned with the industry objective of net-zero by 2050.
  - Any goal should be collective – the industry recognises that individual carriers, States and even regions will be able to decarbonise at different rates at different points in time, but collaboration across the industry and States to collectively achieve our climate ambitions is an important principle.
  - Any roadmap to decarbonisation should be technology, pathway and feedstock agnostic and that can respond to the best options as they develop in the coming decades from a cost, operationalisation and sustainability perspective.
  - A long-term goal needs to be adopted at the 41<sup>st</sup> ICAO Assembly – to delay until the next Assembly will lose us valuable time (10% of the time we have until 2050)
- In addition, a framework for action following the ICAO Assembly will be needed, looking at building blocks to achieve the goal and the means of implementation: capacity building and financing for States.