

## Who is Sustainable Aviation?

Sustainable Aviation (SA) is a unique alliance of the UK's airlines, airports, aerospace manufacturers and air navigation service providers, and is the first alliance of its kind in the world. Together members of Sustainable Aviation are driving a long-term strategy to deliver cleaner, quieter and smarter flying.

A full list of members, and reports which detail the progress in reducing aviation's environmental impact are available online.

## SA member progress

UK aviation has already disconnected growth in aviation activity from CO<sub>2</sub> emissions due to a combined range of initiatives from across the aviation industry.

- Between 2005 and 2016 Sustainable Aviation's member airlines carried 26% more passengers and freight but only grew absolute CO<sub>2</sub> emissions by 9%
- Since 2005 UK airlines have introduced more than 470 new, more-efficient aircraft into service, representing an investment of over £37.6 billion
- The UK Aerospace Technology Institute (ATI) has funded 260 projects with a grant value of £1.3 Billion up to the end of October 2019



UK aviation has committed to achieving net zero emissions by 2050, through an international approach, working with governments around the world and through the UN.

Our Decarbonisation Road-Map draws on expertise from all corners of the UK aviation industry, including airlines, airports, aerospace manufacturers and air navigation service providers.

Sustainable Aviation is grateful to the following organisations for leading the work in producing this Road-Map:



## DECARBONISATION ROAD-MAP: A PATH TO NET ZERO

A plan to decarbonise UK aviation

[sustainableaviation.co.uk](http://sustainableaviation.co.uk)

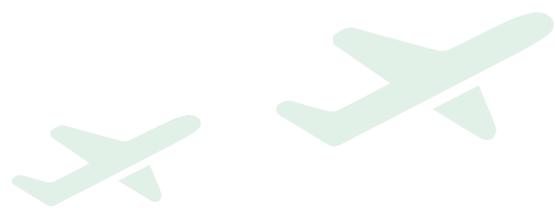


### Members

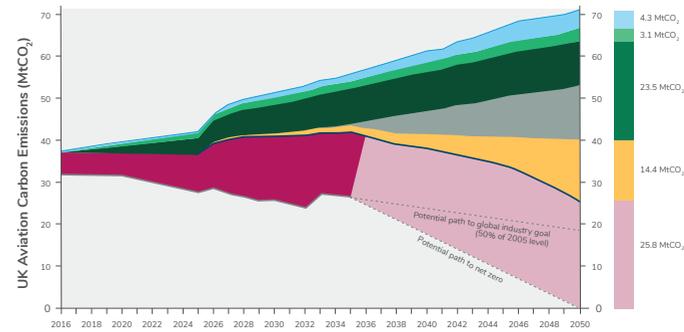


## Our Road-Map shows how we can accommodate a 70% growth in passengers by 2050 whilst reducing net carbon emissions levels from just over 30 million tonnes of CO<sub>2</sub> per year down to zero through:

- 1** Improvements in aircraft and engine efficiency: Aerospace manufacturers are investing heavily in the cutting edge technology including more efficient gas-turbine engines, hybrid electric and fully electric aircraft.  
**CO<sub>2</sub> saving: 23.5Mt**
- 2** Sustainable aviation fuels: These have the potential to reduce UK emissions in 2050 by at least 30%.  
**CO<sub>2</sub> saving: 14.4Mt**
- 3** More efficient operations and airspace: We are undertaking the most significant upgrading of route networks in UK airspace since the 1950s.  
**CO<sub>2</sub> saving: 3.1 Mt**
- 4** Global Market Based Measures: Robust carbon offsets and investment in innovative carbon removal solutions will address residual UK aviation emissions by 2050.  
**CO<sub>2</sub> saving: 25.8 Mt**
- 5** Carbon pricing impact on demand: Progressively applying a carbon price through use of global Market Based Measures is estimated to reduce demand for flying.  
**CO<sub>2</sub> saving: 4.3 Mt**



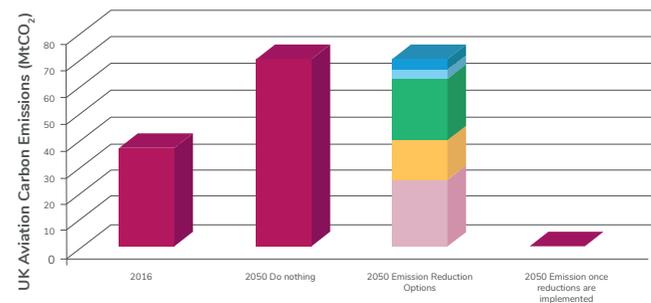
## Decarbonisation Road-Map for UK Aviation



- Activity Growth (without carbon price)
  - Effect of Carbon Price on Demand
  - Improved Operations / ATM
  - Fleet Upgrades, with known aircraft types
  - Fleet Upgrades, with future aircraft types
  - Sustainable Fuels
  - Gross Emissions (CO<sub>2</sub> emissions from UK departing flights before offset and removal)
  - Market Based Measures (MBMs) - specifically EU ETS + CORSIA
  - MBMs (Carbon removal measures)
  - Net Emissions
- using less fuel

MBMs must meet strict eligibility criteria, globally agreed in March 2019 by the International Civil Aviation Organisation.

## Opportunities to deliver net zero emissions for UK aviation



- Effect of carbon price on demand
- Airspace and operational improvements
- Fleet upgrades with new aircraft technology
- Sustainable Aviation Fuels
- MBMs (including EU ETS, CORSIA and carbon removal measures)
- UK aviation CO<sub>2</sub> emissions

## Delivering net zero carbon

Delivering net zero carbon for aviation will only be achievable through an international approach, with substantial investment from industry and development of smart low carbon policies by the UK Government, working in partnership with the sector.

We ask the UK Government to support this Road-Map in the following ways:

### Ask 1:

Continue to support aerospace research and development through the Aerospace Growth Partnership, and accelerate technology development through increased investment in the Aerospace Technology Institute (ATI). With the right support from Government our world-class aviation and aerospace sectors are uniquely placed to capitalise on the opportunities of green aviation technology.

### Ask 2:

Support the development and commercial deployment of sustainable aviation fuels (SAF) through a new Office for Sustainable Aviation Fuels or similar body, deliver matched public/private funding of £500m over five years (totalling £1bn) to support flagship commercial plants, reform the Renewable Transport Fuel Obligation to incorporate Recycled Carbon Fuels and apply at least a 1.2x multiplier for SAF developmental fuels. It is essential that the UK recognises the immediate role and importance of Sustainable Aviation Fuels.



### Ask 3:

Maintain a vital leadership role to ensure that airspace modernisation is delivered enabling reductions in carbon emissions to be realised. The airspace modernisation programme underway is the most significant upgrading of route networks in UK airspace since the 1950s.

### Ask 4:

Work within the International Civil Aviation Organisation to support the Carbon Offsetting & Reduction Scheme for International Aviation (CORSIA) and set a clear, long term CO<sub>2</sub> target for global aviation at the 2022 general assembly compatible with the Intergovernmental Panel on Climate Change (IPCC) 2018 report and 2015 Paris Climate Summit ambition.



The Road-Map can be read in full at [sustainableaviation.co.uk](https://sustainableaviation.co.uk)