Aviation: long-term climate goal key to net-zero carbon emissions by 2050

The global aviation industry has committed to achieving net-zero carbon emissions by 2050. This commitment brings the industry in line with the Paris Agreement's 1.5C goal.

Climate change is the greatest threat facing our societies and achieving net-zero emissions will be a huge challenge as the expected scale of the industry in 2050 will require the mitigation of nearly 1.8 gigatonnes of carbon.

To fulfil aviation's net-zero commitment, current estimates are for sustainable aviation fuels (SAF) to account for 65% of aviation's carbon mitigation in 2050. That would require an annual production capacity of 449bn litres.

Investments are in place to expand SAF annual production from the current 125mn litres to 5bn by 2025. With effective government incentives, production could reach 30bn litres by 2030, which would be a tipping point for SAF production and utilisation.

In 2021, irrespective of price (SAF is between two and four

times the price of conventional jet fuel), airlines have purchased every drop of the 125mn litres of SAF that was available. And already more than 38 countries have SAF-specific policies that clear the way for the market to develop.

Taking their cue from these policy measures, airlines have entered into $17bn of forward-purchasing agreements for SAF.

Further investment in production needs support from the right policies, according to the International Air Transport Association, the global body of airlines. This would boost supply and drive down costs.

Electricity production through solar or wind power faced similar hurdles as these technologies replaced fossil fuels. With effective policy incentives, both are now affordable and widely available.

By applying similar incentive-based policies to SAF, governments can support global SAF production to reach 30bn litres by the end of the decade.

This would be a tipping point as it would send a clear signal to the market that SAF is playing its intended long-term role in aviation’s decarbonisation and encourage investments to drive up production and drive down the price.

The market for SAF needs stimulation on the production side. The United States is setting an example for others to follow. Its SAF production is expected to reach 11bn litres in 2030 on the back of heavy government incentives.

Europe, on the other hand, is the example not to follow. Under its Fit for 55 initiative, the EU is planning to mandate that airlines uplift 5% SAF at every European airport by 2030.

Decentralising production will delay the development of economies of scale. And forcing the land transport of SAF will reduce the environmental benefit of using SAF.

To provide the right set of consistent policies and long-term stability needed for investments, the global aviation industry has called upon all governments to support the adoption of a long term climate goal for air transport at the 41st Assembly of the International Civil Aviation Organisation (ICAO) this

September, aligned with industry commitments.
Undoubtedly, this climate goal is critical to back up the industry’s decarbonisation ambitions and would provide a global multilateral framework for action without distorting competition.