Written evidence from the International Air Transport Association

Introduction

The International Air Transport Association (IATA) is the trade association for the world's airlines, representing some 290 airlines and 82% of global air traffic. IATA's member airlines include many that operate flights to the UK, including UK airlines British Airways, Virgin Atlantic and DHL Air UK, as well as many foreign-based airlines that serve the UK market. IATA supports many areas of aviation activity and helps formulate industry policy on critical aviation issues to drive a safe, secure, and a sustainable industry. For more information on IATA and its work visit www.iata.org

Overview

IATA recognizes the need to address the global challenge of climate change and in 2008 adopted a set of ambitious targets to mitigate CO_2 emissions from air transport, including a commitment to cut net CO_2 emissions to half 2005 levels by 2050. Several countries are now committing to net zero aviation by 2050, including the UK which has legislated for net zero carbon emissions across the whole economy by 2050. Global airlines are seeking to match this ambition and 48 airlines have made firm commitments to achieve net-zero or carbon neutral growth. This accounts for 36% of global passengers and 41% RPKs.

The recent 'Waypoint 2050' report, coordinated by the cross-industry Air Transport Action Group (ATAG), examined the air transport industry's commitments and found that without significant use of carbon offsets, the goals would be "very challenging, but feasible" to meet. IATA remains confident a combination of improved technology, SAF, operational measures and better infrastructure can provide the long-term solutions to deliver sustainable growth for the aviation industry. This will require a significant shift in aircraft technologies, including the development and deployment of electric and hydrogen aircraft for short-haul routes, accompanied by a greatly accelerated production and deployment of sustainable aviation fuels – requiring up to as much as a 10,000% increase on current levels over the next 30 years.

To deliver on this ambition, it will be critical for both industry and government to fully assess the costs and logistical challenges involved. Assessments will be needed to ascertain how airlines can remain financially solvent as they introduce new technologies and solutions, without losing connectivity or accessibility to air travel for all citizens. In considering ambitious goals for UK domestic aviation, IATA urges the UK Government to conduct a thorough cost impact assessment, to identify the areas that will require government financial support and to quantify the amount. In parallel, the UK Government should also develop policies to promote the development of new technologies that will either maximize engine efficiencies or accelerate the transition away from fossil fuels.

Aviation's long-term target will largely rely on the delivery of solutions that are outside the direct control of airlines and therefore achieving the ambitious goal of net zero by 2040 for UK domestic aviation can only be achieved if it is underpinned by the actions of manufacturers, the energy industry, air navigation service providers, airports, and the Government. IATA urges the UK Government to play a leading role in coordinating between the relevant stakeholders and continually assessing whether the actions taken separately by different parts of industry can collectively lead to net zero 2040, including identifying where gaps exist and assessing how gaps can be bridged.

Inquiry Questions

What contribution can operational efficiencies make to reduce emissions from aircraft / shipping vessels and over what timescale could these have an effect on emissions?

Although the main pathway to decarbonisation in aviation will rely heavily on technology and energy solutions, there are a range of operational and infrastructure measures that can help cut emissions further and which can be implemented sooner. For example, aircraft operations can be safely adapted to improve operational efficiency and load factors can make a significant impact on the fuel-efficient utilisation of aircraft. Load factors improved substantially in the years running up to the global pandemic.

Enhancing the operational efficiencies of the airport and airspace will also be critical to reducing CO2 emissions and meeting the net zero goal. The UK's efforts to drive forward airspace modernisation will play a critical role in efforts to drive down CO2 impacts. To a lesser extent, efficiencies can also be found in airport operations, for example through limiting the use of auxiliary power units, single engine taxi, and reduced taxi times.

Since the adoption of the fuel efficiency and carbon targets in 2009, airlines have invested over 1 trillion dollars on new aircraft orders. Significant CO2 savings will continue to materialise in the coming decade through continuous fleet renewal - today's new generation aircraft can provide an immediate 20-25% fuel and CO2 savings compared to the previous generation. However, one obstacle is that the gains through evolutionary technology are becoming increasingly more difficult to achieve due to the high costs involved, especially as there is no existing radical technology yet available.

Over the next 30 years a stable policy framework will be necessary to enable the aviation industry and supporting sectors to channel more investment and resources towards operational improvements and the adoption of low-emissions technologies which will be critical to success.

How close are zero carbon fuels to commercialisation for aviation / shipping?
How effective will the Jet Zero Council be in catalysing zero emissions technologies?
What role should transitional fuels such as alternative hydrocarbon fuels play?
What new technologies are there to reduce emissions from aircraft / shipping vessels and how close to commercialisation are they?

The illustrative pathways presented in the Jet Zero Consultation represent possible emission reduction trajectories to 2050; however, attempting to predict the future of the aviation industry, scale and pace of innovation, and the actual contribution of new and emerging technologies is extremely challenging.

There is no way to foresee today what specific mix of technologies, fuels or measures will emerge as the most efficient and cost-effective means of achieving the required emissions reductions in 30 years' time. Given this uncertainty, caution should be exercised not to pursue, or invest disproportionately in, a single technology, fuel-type or measure before their potential can be demonstrated and delivered at scale.

Sustainable Aviation Fuel ("SAF") continues to be the most promising new technology and will be necessary for significant decarbonization of air transport out to 2050. SAF is a liquid replacement for traditional fossil-based jet fuel. It can be produced from a wide variety of sources and processes. Many of the sources of feedstock are not "bio" in a traditional sense in so far as they can be derived from waste resources or synthetic processes as well as non-food crops grown for specifically for this purpose. The very recent completion of Fulcrum's first FT-Gasification facility represents a milestone in the use of municipal waste to generate SAF and unlocking the capital to build additional facilities.

Sustainability is the most important aspect of SAF deployment. The aviation industry is committeed to high sustainability standards for any SAF it will use. All 290 airline members of IATA agreed a resolution supporting the sustainability standards which "conserve an ecological balance by avoiding the depletion of natural

resources". The industry also works closely with organisations such as the Roundtable on Sustainable Biomaterials to implement global sustainability standards.

Although some other decarbonization alternatives are promising such as electric or hydrogen powered aircraft, the level of technical maturity suggest that it is not rational at this point in time to place a heavy decarbonization expectation on these technologies.

However, the cost of SAF continues to be a barrier for faster development and use. IATA believes the UK has a well organised and logical approach towards SAF development and deployment and continuing to invest and incentivise research and technology is important for continuous economic improvement.

IATA also believes that a global book and claim accounting framework for SAF can be a positive initiative for accelerating SAF deployment, but also importantly reducing risk on monopolistic pricing, especially under SAF mandate scenarios. IATA is working on a potential book and claim framework and recognises the complexity of the ambition to develop a global framework. The UK could be a perfect positive case study for book and claim implementation best practice.

How should the Government's net zero aviation strategy support UK industry in the development and uptake of technologies, fuels and infrastructure to deliver net zero shipping and aviation?

IATA is broadly supportive of the UK Government's net zero aviation strategy. However, the establishment of any emissions reduction target or trajectory must be accompanied by credible, realistic, and effective policy measures to support progress. An ambitious target without a clear plan of action will not deliver additional emissions reductions. A stable policy framework that enables and facilitates stakeholders in the aviation industry to channel more investment and resources towards operational improvements and the adoption of low-emissions technologies will be critical to success.

The UK Government will need to work together with a broad coalition of partners, both within and outside of the aviation industry, to identify and support emerging technologies, measures, and new approaches if it is to successfully deliver on the goal of sustained emissions reductions. The paradigm must shift away from traditional ways of thinking that have proven ineffective, such as taxation and other policies aimed at making travel less affordable for citizens. Instead, focus should be directed towards support for academic institutions, technology providers, manufacturers and other parts of industry that have already demonstrated an ability to deliver more efficient and less carbon-intensive aircraft and ways of operating them.

September 2021