

ANZ0001

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Background and Context

Heathrow Airport welcomes the opportunity to respond to this call for evidence and recognises the Committee's important work in scrutinising the Government's plans to map out and lead the way on the path to Net Zero by 2050.

Heathrow is the UK's hub airport and biggest port by value. We support the UK's economy, delivering trade and tourism to all corners of the globe. We believe that aviation is a force for good in the world, supporting millions of people's livelihoods and businesses, building understanding across cultures, connecting families, and as we have seen over the last year, delivering vaccinations and medical supplies around the world.

Climate change is an existential threat to us all. Like every other part of the global economy, aviation needs to reach net zero emissions by 2050. Our collective challenge is to protect the benefits of aviation in a world without carbon.

Net zero flying is possible. By taking out the carbon – through sustainable aviation fuels (SAFs), zero emission aircraft and carbon removal projects – it is possible to fly guilt free. The Government is right that there does not need to be a choice between growth in aviation, with the benefits it brings, and protecting the climate – we can and must do both.

Our response outlines how and why the Government must take action to mandate the use of Sustainable Aviation Fuels (SAFs) and how this should be an important part of the UK's aviation roadmap to 'Jet Zero'.

The roadmap and UK as a leader

The UK already is a leader in decarbonising aviation. It was the first country to include aviation in its carbon budgets and the UK aviation industry was the first in the world to commit to net zero by 2050. The Government has matched this by setting out its Jet Zero ambition in its Ten Point Plan and publishing this consultation.

Jet Zero is a huge opportunity for the UK to maintain its leadership in the coming net zero industrial age. This country can show the world how it is possible to offer affordable, widespread global connectivity while building new industries with factories across the UK, reskilling British workers in industries like aviation and petrochemicals. By leading, the UK can create jobs, investment, export opportunities and the security of energy supply. By taking the carbon out of flight, domestic and international political priorities can be made real – both making a concrete contribution to Levelling Up and Building Back Better through a greener economy while fostering global connectivity and a world-leading aerospace industry core to Global Britain.

The Government must now act urgently to take this opportunity. Ministers' intent is good, but a gap is growing on action both compared to other nations and the urgency to decarbonise. Without a suitable policy pathway for decarbonised aviation, individual, societal and commercial trade-offs will be needed that restrict commerce and lower connectivity. Working in partnership with industry, if the Government does not take action to match the ambition, it will miss the wider opportunity for the UK to take a lead.

If passengers and cargo are to fly net zero by 2050, solutions must be rolled out to cut emissions this decade. That means private sector investment of potentially billions of pounds by 2030 particularly in new sustainable fuel plants. Decisions on those investments need to start in 2022 and 2023. So, to see progress by 2030, Ministers must take clear and concrete policy steps now: publishing the UK Jet Zero strategy as soon as possible and confirming a SAF mandate and price support mechanism in the first half of 2022. Bold, robust action on known solutions cannot be delayed any further.

Achieving Jet Zero via Sustainable Aviation Fuels

Sustainable Aviation Fuels (SAF) are the most promising solution for net zero flying by 2050. It can be used with existing aircraft and can cut carbon by 70% or more.

The benefits of focusing on SAF are:

- The technology is proven. Six different ways of producing SAF have been certified for aviation and more are under development.
- It is a “drop-in” solution. It can be dropped into today's aircraft, avoiding the need for costly and timely replacement of the world's aircraft fleets. It can be dropped into today's pipelines avoiding the need for new fuel distribution systems.
- Before 2050 SAF will remain the only solution for the longer journeys that represent most of aviation's emissions. SAF is the only plausible solution for long haul flights or flight longer than two hours, before 2050. Zero emissions flight technology (electric and/or hydrogen) is likely to only emerge for shorter journeys by the mid-2030s.

- It cuts life-cycle carbon by 70% or more and can be produced sustainably. Using currently approved feedstocks and manufacturing processes, waste-based or “second generation” SAFs can deliver around 70% carbon reduction compared to conventional jet fuel (based on Life Cycle Assessment) .
- There is sufficient feedstock globally for aviation. A recent report by the Energy Transitions Commission concluded that there is sufficient sustainable biomass globally for all of aviation’s needs and that aviation should be prioritised for its use as alternative zero carbon technologies exist for other industries and modes of transport .

The main challenge for SAF is an economic one: it typically costs 4 – 5 times more than kerosene. Airlines are therefore reluctant to sign up to significant long-term supply contracts and investors are therefore hesitant to invest.

As such, key market signals are needed from Government to stimulate SAF use and investment in its production:

1. An escalating mandate for the use of SAF in UK flights, rising to at least 10% of all aviation fuel by 2030.
2. A price support mechanism to close the price gap with fossil kerosene to make a mandate commercially possible for airlines.

Zero Emission Flight technology is exciting and headline grabbing. It could be available for flights of up to 2 hours on aircraft of up to 150 seats by the early 2030s. However, these flights represent less than 30% of carbon from global aviation and it will take time for new aircraft to roll out through the fleet. SAF will still be needed for the 70% of carbon from longer journeys.

However, SAF will take time to be fully scaled up so paying for carbon cuts out of sector will be an important part of aviation’s transition to net zero. Aviation can help to finance UK natural climate solutions – which deliver many other benefits – as well as engineered removals. However, finance also needs to be made available to achieve our Jet Zero goals and to help set us on our path to delivering these policy asks. The UK National Infrastructure Bank has a role to play in offering this support, taking action to stimulate private sector investment as has been the case in other countries like the USA.

It is vital that the UK asserts a position of global leadership by being a driving force for change within ICAO. The next opportunity provided is the upcoming ICAO General Assembly in 2022. It is critical that ICAO reach and agree a Net Zero deal at this assembly. This would make it clear that ICAO is front and centre of tackling the climate change challenges we face and would align with the Aviation sector which airlines and airports alike, has already committed to Net Zero by 2050.

Classification: Internal