BALPA - Jet Zero Strategy response September 2022

BALPA welcomes the publication of the Jet Zero Strategy with its carbon reduction and sustainable fuel blending targets. We recognise that policy in sustainable aviation is moving ahead at a great pace and congratulate the Government on a level of ambition that would have been unthinkable just a few years ago.

It represents a sea-change in the industry, with manufacturers, airlines and regulatory authorities all accepting that the future of aviation must be a sustainable one; and embracing the challenge. From strengthening CORSIA and improving the UK Emissions Trading Scheme through to capping emissions at 2019 levels, there is a lot to like in this strategy.

However, we have identified some areas where we feel the strategy does not meet its ambition, or unacceptable risks exist. BALPA has already made a detailed submission to the Jet Zero consultation process and published its own environmental position [1], and it is not the intention of this document to repeat those detailed points. Instead, we have identified just four key areas of concern:

The critically important subject of non-CO_2 effects is not suitably addressed

The Paris Agreement – which this strategy is intended to deliver – is only concerned with limiting global temperatures. The Jet Zero Strategy focusses almost entirely on CO_2, yet experts agree that CO_2 causes just *one third* of the total global warming effect of aviation [2]. A strategy that directly tackles only one third of a problem – and that partially – is no solution at all.

However, BALPA notes, and strongly supports, the inclusion of non-CO_2 as a policy pillar and suggestion of including non-CO_2 effects in the UK Emissions Trading Scheme (p48), and looks forward to contributing to the upcoming consultation.

Aviation's biggest contribution to global temperatures results from aviation-induced cloudiness and contrails [2]. Experts across UK including at NATS, the Royal Aeronautical Association, Transport and Environment, Satavia and Imperial College all agree – we must act now on this vital issue. A recent important study shows that contrail reduction is both possible and practical even in the difficult environment of North Atlantic airspace [3]. Moreover, it can be done almost immediately, at little cost and with no change to aircraft or fuel.

BALPA exhorts the UK government to act now on this immensely important area, and implement a large and meaningful trial of contrail avoidance *this winter*, and commit to act on its results.

Contrail avoidance has the potential to halve aviation's climate impact almost overnight, and we have the expertise and technology here in the UK to achieve it. It is a golden opportunity. What are we waiting for?

Reliance on carbon capture and storage (CCS) is a huge risk

The inclusion of aviation in the Sixth Carbon Budget ties us to a legally binding target of net zero emissions, in sector, by 2050 [4]. To achieve this, we need a credible and robust pathway.

BALPA is concerned that the strategy outlined in Jet Zero relies too heavily on the nascent and un-costed technology of carbon capture and storage for *fully half* of the CO_2 mitigations required by 2050. Without knowing if CCS is affordable or even practical, this represents a huge risk to success [5].

Moreover, what would the consequence to our industry be if we fail to achieve our interim and 2050 targets? BALPA is concerned that this could lead to industry-damaging mitigations such as direct market control or greatly increased tax burden, enforced on aviation through no fault of the industry.

Holding the UK aviation industry to a target that relies so heavily on unproven CCS puts our future at risk. **We need to understand the mitigations that will be taken if the strategy fails**. **What is plan B?**

Lack of a holistic cross-economy energy model

Most solutions for sustainable aviation including CCS, electric aircraft, hydrogen and e-fuels all have a common factor: the need for huge quantities of renewable electricity. They will be in competition for this valuable resource with other sectors, from ground transport and domestic heating through to energy-intensive industries such as steel makers and data centres.

How much renewable energy can realistically be generated in UK? How will it be used and shared across the economy? A holistic strategy is badly needed to untangle the subtleties and ensure that renewable energy is put to its best use.

For example, it may prove more sustainable to prioritise green electricity for domestic heat pumps (efficiency 200-300%) and continue to burn fossil kerosene in aircraft; rather than to use electrically synthesised aviation fuels (efficiency 10-20%) while continuing to burn fossil gas in homes [6].

The UK needs a comprehensive green energy strategy that recognises and balances the likely massive demand from sustainable aviation.

Some new funding, but not nearly enough

BALPA has called for, and welcomes, the new funding being made available for the transition to green aviation, including the £685 for the ATI, £125m for the Future Flight Challenge and £180m of new funding for sustainable aviation fuels.

Although these numbers seem impressive, they need to be seen in the broader context. Air Passenger Duty alone nets the treasury approximately £3bn per year, while IATA estimates the total benefit to the UK economy of air transport is $120bn annually [7].

Aviation faces a formidable challenge; fleet replacements need to be accelerated at a cost of tens of millions *per aircraft*, whole new infrastructure is required to deal with new fuel types, and operating costs are likely to soar due to SAF blending mandates, the UK ETS and fuel taxation in EU.

The UK aviation sector needs far more government support to make the difficult and expensive transition to sustainability. *Made quickly, such investment will pay dividends by placing the UK aeronautical industry at the head of a global movement.*

BALPA calls for rapid, substantial investment and for APD to be ring-fenced for reinvestment into the sector.

Jeremy Thomson, Chair
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[1] Positions: Environment and Sustainability. BALPA. https://www.balpa.org/Positions/Environment-and-Sustainability

[2] The current state of scientific understanding of the non-CO2 effects of aviation on climate. David S. Lee. Manchester Metropolitan University. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/813342/non-CO2-effects-report.pdf

[3] Molloy J, Teoh R, Harty S, Koudis G, Schumann U, Poll I, Stettler MEJ et al., 2022, Design principles for a contrail-minimizing trial in the North Atlantic, Aerospace, Vol: 9, Pages: 375-375, ISSN: 2226-4310 https://spiral.imperial.ac.uk/handle/10044/1/98347

[4] The Sixth Carbon Budget – Aviation. Climate Change Committee. https://www.theccc.org.uk/wp-content/uploads/2020/12/Sector-summary-Aviation.pdf

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