

Appendix 2: Manchester Airports Group Update

1. Background

- 1.1. Manchester Airport provides vital connectivity and makes an important contribution to the city, the region and the national economy. Prior to the pandemic, the airport employed 25,000 people directly on site and 76,000 indirectly, generating £4.5 billion for the regional economy. Manchester Airport is recovering from the pandemic, with passenger levels in October 2022 returning to 93% of 2019 levels, with over 150 destinations flown by 55 airlines.
- 1.2. Manchester Airport, as part of Manchester Airports Group (MAG) that also owns and operates London Stansted and East Midlands Airport, is an industry leader in driving the decarbonisation of aviation.
- 1.3. In 2006/7 MAG made the ground-breaking commitment to make its airport operations carbon neutral by 2015. Consistent with this target, Manchester Airport became the first in the UK to be certified as carbon neutral in 2015, with East Midlands and London Stansted certified shortly after. In line with the commitment made by Manchester City Council and across Greater Manchester, MAG has committed to achieving net zero emissions no later than 2038.
- 1.4. MAG's contribution to decarbonisation has been widely recognised, including being assessed to be the highest performing transport organisation in the Financial Times' 2021 assessment of European Climate Leaders and the only airport recognised in their list for 2022.
- 1.5. MAG is a member of the UK Government's Jet Zero Council. MAG's CEO is one of two airport chief executives on the Council. MAG was instrumental in the creation of the Jet Zero Council, which was later backed by all parts of the aviation and aerospace industries.
- 1.6. MAG was also a founding member of the industry coalition, Sustainable Aviation. In 2020, under MAG's chairmanship of Sustainable Aviation, the CEOs of all major UK aviation and aerospace companies came together to pledge to achieve net zero emissions by 2050. This pledge, which was jointly signed by the Secretary of State for Transport, was founded on a credible and evidence-based plan. The Sustainable Aviation Decarbonisation Road-Map shows how a combination of operational efficiencies, new aircraft technologies, sustainable fuels and access to international carbon markets can make net zero aviation a reality. This was the first step in establishing an emissions trajectory for aviation that delivers net zero by 2050.
- 1.7. By demonstrating thought leadership, innovative solutions and partnering with the wider aviation industry and the UK Government, Manchester Airport will continue to play an important role in the delivery of our long-

term aspiration to build a more sustainable future for international connectivity.

2. International developments

- 2.1. For international aviation, the United Nations delegates leadership for climate agreements to the International Civil Aviation Organisation (ICAO). In September 2022, ICAO convened its 41st General Assembly, this brought together representatives from the 193 contracting states. The focus of the 41st General Assembly was climate change, with states considering the proposal to adopt a new long-term aspirational goal (LTAG).
- 2.2. The General Assembly agreed that a new LTAG should be adopted and that the target should be net zero emissions from international aviation by 2050. This was consistent with the position of the UK and reflects our national target. The LTAG also ensures that international aviation aligns to the Paris Agreement.
- 2.3. The LTAG is a landmark agreement, it sets a common goal for global aviation, ensuring flying will play a full part in the drive for net zero emissions. The agreement of a common global standard will also avoid the risk of market distortion and ‘carbon leakage’. Work will now continue to negotiate and agree the mechanisms that will deliver net zero aviation and the necessary rate of emissions reduction. The current mechanism agreed through the climate negotiation process led by ICAO is the Carbon Offsetting and Reduction Scheme for International Aviation (CORSA). This mechanism which runs from 2021 to 2035, is a strong first step, capping net emissions from international aviation at 85% of 2019 levels and securing carbon neutral growth from that point.
- 2.4. MAG and the wider aviation and aerospace industries based in the UK have welcomed the new LTAG, which is consistent with the UK’s national policy and pledge to achieve net zero emissions by 2050.

3. National policy - the Jet Zero Strategy

- 3.1. In July 2022 the Government published its Jet Zero Strategy¹. This sets out the Government’s policies to ensure that aviation plays a full part in delivering the UK’s commitment to reach net zero emissions by 2050.
- 3.2. The Government continues to support a technology led transition, expressing clear support for the sustainable growth of aviation. The Strategy emphasises the potential to mitigate emissions through technologies, including improvements in fuel efficiency and the use of alternative fuels. The Government considers that *“the Jet Zero Strategy is*

¹ Jet Zero Strategy, Available online:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1095952/jet-zero-strategy.pdf

not intended to clip the wings of the sector. Rather it is designed to future-proof aviation so passengers can look forward to guilt-free travel”².

- 3.3. To realise the potential of technologies, there are several important announcements. Further funding of £180 million is announced to support the development of sustainable aviation fuel (SAF). The Jet Zero Strategy confirms that the Government will bring forward a mandate to require that, by 2030, 10% of fuel must be SAF. This is a challenging commitment, and the Strategy makes a commitment that, by 2025, there will be “*at least five commercial-scale UK SAF plants under construction*”³.
- 3.4. On new aircraft technologies, particularly the development of hydrogen powered aircraft, the Strategy confirms sustained investment in research and development. There is a commitment to invest a further £685 million, which will be match-funded by industry, to provide a total investment of £1.3 billion. The Strategy anticipates that hydrogen powered aircraft will begin to enter service in the mid-2030s.
- 3.5. Whilst the Government does not intend to implement policy measures to directly reduce demand for flying, the costs associated with decarbonisation are anticipated to be substantial and the Jet Zero Strategy suggests that at 2050 growth will be suppressed by around 11%.
- 3.6. The Jet Zero Strategy accepts that there remains uncertainty about the rate at which the necessary technologies will develop and adopts a policy of a clear goal of net zero emissions by 2050 with multiple solutions.
- 3.7. To address this uncertainty, and to ensure that aviation emissions are kept to an acceptable level, the Jet Zero Strategy sets a forward trajectory for aviation emissions. The trajectory assumes that emissions peaked in 2019 and that, relative to 2019, by 2030 they will reduce by 7%, by 26% by 2040 and by 49% by 2050. The residual emissions in 2050 will need to be offset by purchasing carbon removals from the market such as through carbon capture and storage.
- 3.8. Further important developments and announcements in the Jet Zero Strategy include:

Table 1: Jet Zero Strategy key points

Domestic flying: Recognising that domestic flying can be decarbonised sooner, all domestic flights will be net zero by 2040.

Airports: Recognising that airport infrastructure can be decarbonised sooner, all UK airports must reach zero emissions by 2040. The definition of zero emissions will be subject to further detailed consultation.

² Jet Zero Strategy Foreword, Page 4

³ Jet Zero Strategy Executive Summary, Page 9

Future Airspace: The Jet Zero Strategy reaffirms the importance of modernising airspace arrangements and the Government's commitment to a national programme of change.

Passenger information: The Government wants consumers to be able to make informed choices, understanding the emissions associated with their flights and the differences between airlines.

Non-CO₂ impacts: The effects of other, non-carbon, emissions from aviation are less well understood, though it is widely accepted that, overall, they have an additional climate warming effect. The Jet Zero Strategy commits to further research to better understand the effects and inform future policy.

4. MAG's approach to decarbonising

Airports and ground operations

- 4.1. All MAG's airports continue to be certified as carbon neutral. Manchester Airport has an aggressive energy conservation strategy, and since 2007/08 consumption of electricity and gas has reduced by 55%. During the same period passenger numbers at Manchester Airport have increased by 28%, resulting in a reduction in energy use per passenger of 71%. Overall Manchester Airport's (market-based scope 1 and 2) emissions have reduced by 87%.
- 4.2. Most residual emissions arise from the operation of ground support vehicles, the use of gas to provide heating and hot water, and fugitive emissions from air conditioning plant. To date, these residual emissions have proven difficult to mitigate, however, the situation is changing quickly, and the airport expects to begin to deploy electric vehicles at scale, and to set out a forward plan that will see most residual emissions eliminated over the course of this decade. Facilities to support customers' transition to electric vehicles are also now in plan.
- 4.3. The transition to different vehicle types and alternative sources of heating and cooling will require different skills to design, install and maintain assets and infrastructure. Manchester Airport is developing a green skills assessment alongside the physical asset plan and will share the results with regional stakeholders.

Aircraft emissions

- 4.4. Most emissions associated with the operation of Manchester Airport arise due to aircraft operations. MAG remains at the heart of work to support the decarbonisation of aircraft emissions. MAG is an active member of the Sustainable Aviation Council, and a former chair of the group. MAG is also a member of the Government's Jet Zero Council, including supporting

working groups addressing the adaption of ground infrastructure and the supply of sustainable alternative fuels (SAF).

- 4.5. Recently, to support the introduction of the Government's Jet Zero Strategy, MAG announced five new pledges, which will make a further contribution to reducing aircraft emissions. The pledges are summarised below.

Table 2: Jet Zero Pledges

Jet Zero Education: MAG will develop new Jet Zero educational materials for use at its Aerozones and Airport Academies to improve understanding of how aviation plans to reach net zero. The Group will supply these materials to other Jet Zero Council members and to schools in the areas around its three airports.

Jet Zero Research: MAG will fund three PhD projects on air travel decarbonisation to support the work of the Jet Zero Council

Jet Zero Technology: MAG will launch a new competition offering five years of free landing fees to the first zero-emission aircraft operating transatlantic flights from its airports.

Jet Zero SAF: MAG will create a financial incentive as part of its charging arrangements to encourage airlines to go further than the UK Sustainable Aviation Fuel (SAF) mandate on flights from its airports.

Jet Zero Airspace: MAG is committed to delivering airspace modernisation at its airports at the earliest opportunity as a key lever of decarbonisation.

- 4.6. MAG continues to support the development of SAF production in the UK, and specifically in the North West. In 2021, a memorandum of understanding was agreed with Fulcrum BioEnergy Limited UK which aims to make Manchester Airport the first UK airport to receive a direct pipeline supply of SAF by 2026. The SAF will be supplied by the Fulcrum NorthPoint facility, a new biorefinery plant at Stanlow, Cheshire, the first of three potential plants in the North West. The facility at Stanlow will benefit from the experience Fulcrum has gained in building and operating a plant in the United States, which uses the same technology.
- 4.7. The production and distribution of SAFs in the region provides an opportunity to support the circular economy, taking residual waste from the Manchester City region that cannot be reused or recycled and transforming it into low carbon jet fuel.
- 4.8. The production of SAF in the region also has the potential to provide upwards of 1,500 green jobs, as well as contributing an estimated £219 million to the regional economy.

- 4.9. Through this partnership, up to 10% of the kerosene fuel used by aircraft at Manchester Airport could be replaced with SAF from 2026.
- 4.10. In addition, Manchester Airport was a case study in the Aerospace Technology Institute's (ATI) landmark FlyZero research project. The project developed the understanding of the feasibility of zero emission hydrogen aircraft and the way in which it will be necessary to adapt airport infrastructure.
- 4.11. To build upon the work undertaken by the ATI, Manchester Airport has partnered with leading Government backed decarbonisation cluster, HyNet to examine the best way to deliver low carbon hydrogen to the airport sector as quickly as possible. Manchester Airport has also joined the North West Hydrogen Alliance. The Alliance brings together the key players in our region and has been successful in establishing positive policy outcomes for Hydrogen including the to the establishment of the North West hydrogen network.
- 4.12. Manchester Airport also continues to make progress with its Future Airspace Programme. There has seen extensive engagement with stakeholders through 2022, including the general public, to define a short list of flight path options. An application for approval to pass the Stage 2 Gateway of the (CAP1616) Airspace Change Process was submitted to the Civil Aviation Authority in November.
- 4.13. Additionally, the airport has brought forward a partnership with CarbonClick⁴, enabling passengers to calculate emissions from their flights and to purchase high quality, independently certified, carbon offsets to compensate for emissions from their flights.
- 4.14. Through its CSR Strategy '*Working together for a brighter future*', the airport introduced commitments to publish information about emissions from aircraft operations and to introduce a league table identifying the most efficient operators. Information about aircraft emissions is published in our Greenhouse Gas Emissions Report⁵ and the airport is actively engaged with its Consultative Committee on the development of sustainability league tables.

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⁴ <https://www.manchesterairport.co.uk/flight-information/carbon-offsetting/>

⁵ https://www.magairports.com/media/1809/mag-emissions-report-2021-22_final.pdf