

Cleaning up the skies; the commitments made by the aviation industry surrounding COP26

*The 26th Conference of the Parties to the United Nations Framework Convention on Climate Change ("**COP26**") has been taking place in Glasgow over the last two weeks.*

The COP26 Transport Day took place on Wednesday 10 November 2021 with an agenda focused on decarbonising transport. Aviation accounted for 2.8% of global CO₂ emissions in 2019, according to the International Energy Agency (IEA), and as global economies recover post COVID-19, with the international aviation industry and the number of global air passengers and volume of cargo expected to increase significantly over the next 30 years, this figure will increase, and is predicted to grow at rates above the global average for all emissions. At the summit, key players from across the global air transport industry, recognising international aviation's material contribution to climate change and that international action on tackling aviation emissions is essential given the global nature of the sector, outlined how they would meet their climate goals, with airlines, airports and aircraft and engine manufacturers (also known as Original Equipment Manufacturers, "**OEMs**") making a global commitment to reach net-zero carbon emissions by 2050, in support of the Paris Agreement.¹

The commitments made by the industry will seek to reduce carbon emissions through a combination of technology, improvements in operations and infrastructure, and the use of sustainable aviation fuel ("**SAF**"). These commitments will build upon measures already adopted by certain industry players prior to COP26, including, for example, those set out in the Carbon Offsetting and Reduction Scheme for International Aviation ("**CORSIA**"), the EU report 'Destination 2050', and the EU Taxonomy Regulation.

CORSIA was set up in 2016 by members of the International Civil Aviation Organisation ("**ICAO**") as the first worldwide market-based scheme in the aviation sector to address CO₂ emissions. CORSIA came into effect in January 2021 for an initial three-year pilot scheme with the intention of starting the

full phase in 2024. To date 107 nations have committed to keep their combined emissions at 2020 levels in subsequent years, through efficiency programmes or by purchasing credits to offset increases in their emissions and by blending SAF with traditional jet fuel. If the CORSIA programme goes to plan, ICAO will meet in September 2022 to proceed with the next step of developing a long-term goal to keep the industry on track to meet its climate ambitions for 2050.

The EU report 'Destination 2050 – A route to Net Zero European Aviation' was adopted by the European aviation sector in February this year with the intention of building on the Paris Agreement to achieve net-zero carbon emissions for all flights within and departing the EU, the UK and the European Free Trade Association by 2050. The report contains an interim goal of improving fuel economy by 1.5% per year throughout 2030.

The EU Taxonomy Regulation, which came into force on 12 July 2021, sets out a framework to determine which economic activities can be marketed to businesses and investors as environmentally sustainable, according to sector-specific technical screening criteria. On 3 August 2021 an EU-backed advisory group published a draft report containing recommendations for the technical screening criteria including that the criteria for aviation should cover:

- promoting the replacement of old aircraft with newer, more efficient models without increasing the size of the fleet;
- advancing the development of more efficient aircraft; and
- introducing SAF and ensuring that aircraft operators are prepared to operate with high levels of SAF blended with conventional fuel.

COP26 Declaration: International Aviation Climate Ambition Coalition

The International Aviation Climate Ambition Coalition ("**ICAC**") was launched on Transport Day at COP26 with a statement from the UK Transport Secretary Grant Shapps:-

¹ A brief overview of the background to the Paris Agreement and COP26 can be found at the end of the following article which discusses the challenges faced by the aviation industry in the context of COP26, written by James Collins and Charlotte McNeilly of our Aviation Finance practice: [Aviation COP-ing with climate change | Stephenson Harwood - ESG \(esglegalhub.com\)](#)

"From our roads to the skies, the transition to zero emission transport has reached a tipping point. We know that transport plays a key role saving the planet from warming above 1.5 degree C, which is why this is the COP that will kick start our ambition for zero emission aviation and why I'm proud to be uniting world leaders to tackle climate change-creating new opportunities for clean growth, green jobs, and improved air quality right across the globe."

Twenty three nations², who are collectively responsible for more than 40% of global aviation emissions, have signed a new [IACAC declaration](#) in support of reducing aviation CO₂ emissions to meet global emissions targets. However, five of the top ten countries contributing to passenger CO₂ emissions; namely China, Germany, India, the United Arab Emirates and Australia, have not signed up to the IACAC declaration.

The signatories have committed to working together through ICAO in an effort to limit the global average temperature increase to 1.5°C by promoting the development of SAF and new low-carbon and zero-carbon aircraft technologies. The commitments encompassed by the declaration are as follows:

- 1.** Working together, both through ICAO and other complementary cooperative initiatives, to advance ambitious actions to reduce aviation CO₂ emissions at a rate consistent with efforts to limit the global average temperature increase to 1.5°C.
- 2.** Supporting the adoption by ICAO of an ambitious long-term aspirational goal consistent with the above-referenced temperature limit, and in view of the industry's commitments towards net-zero CO₂ emissions by 2050.
- 3.** Ensuring the maximum effectiveness of CORSIA, including by:
 - supporting efforts at ICAO and working with other ICAO member states to implement and strengthen CORSIA as an important measure to address aviation emissions, including to expand participation in CORSIA, and participating in CORSIA as soon as possible, if our state has not done so already;
 - taking steps domestically to implement Annex 16 Volume IV of the Chicago Convention as fully as possible and in a timely manner, including with respect to enforcement of

domestic regulations, legislation, or Implementation arrangements;

- advancing the environmental ambition of the scheme in the course of undertaking the CORSIA Periodic Reviews; and
 - working to ensure that double counting is avoided through the host state's application of corresponding adjustments in accounting for its nationally determined contribution under the Paris Agreement for the mitigation underlying all CORSIA Eligible Emissions Units and, where needed, CORSIA Eligible Fuels, used toward CORSIA compliance.
- 4.** Promoting the development and deployment, through international and national measures, of SAF that reduce lifecycle emissions and contribute to the achievement of the UN Sustainable Development Goals in particular avoiding competition with food production for land use and water supply.
 - 5.** Promoting the development and deployment, through international and national measures, of innovative new low- and zero-carbon aircraft technologies that can reduce aviation CO₂ emissions.
 - 6.** Preparing up-to-date state action plans detailing ambitious and concrete national action to reduce aviation emissions and submitting these plans to ICAO well in advance of the 41st ICAO Assembly, where such plans have not already been updated in line with ICAO Assembly Resolution A40-18, paragraph 11.
 - 7.** Promoting capacity building support for the implementation of CORSIA and other ICAO climate measures, including to advance uptake of freely available tools and to expand regional expertise, accreditation and access to markets for SAF and CORSIA Eligible Emissions Units.
 - 8.** Convening periodically at both ministerial and official levels with a view to advancing and reviewing progress on the above commitments.

Commitments made by OEMs

The Chief Technology Officers (CTOs) of seven of the world's leading aerospace OEMs reaffirmed their commitment to achieving more sustainable aviation in a joint statement published on 10 November 2021. The statement made by Airbus, Boeing, Dassault Aviation, GE Aviation, Pratt & Whitney, Rolls-Royce and Safran updates a commitment made in June 2019 to support the aviation sector's goal of achieving net-zero carbon emissions by 2050.

² The nations are Burkina Faso, Canada, Costa Rica, Denmark, Finland, France, Ireland, Italy, Japan, Kenya, Republic of Korea, Maldives, Malta, Morocco, Netherlands, New Zealand, Norway, Slovenia, Spain, Sweden, Turkey, the UK and the USA.

The seven CTOs discussed the progress of aviation sustainability at a pre-COP26 event and announced three primary areas of focus for the development of aviation technology:

- 1. Airframes and engines** - advancing state-of-the-art airframe and engine design and technology.
- 2. Fuel** - supporting increased availability and use of SAF and exploring the use of green hydrogen as a fuel of the future. The CTOs are calling for a sustained and planned approach from policymakers to support the ramp-up of SAF and green hydrogen usage across the industry, as well as investment in SAF and green hydrogen production capacity by fuel producers.
- 3. New Technologies** - continuing to develop novel technologies that will contribute to achieving net-zero carbon aviation through the collaboration of research institutions and aerospace suppliers, as well as by encouraging investment by airport operators in the infrastructure required to support new aviation technologies.

The OEMs will issue a call to action to policymakers, research centres, suppliers, fuel producers and airport operators to act and deliver on these sustainability commitments.

ICAO President Salvatore Sciacchitano commented "*Only through the introduction of radical, disruptive technology will we be able to decarbonize aviation. Fortunately, innovation is in aviation's DNA.*"

Commitments made by airports

The airport industry took centre stage in COP26's Climate Action Hub, reaffirming their global commitment to net-zero carbon emissions. ACI Europe (the European regional association of Airports Council International, the only worldwide professional association of airport operators), through its Director General Olivier Jankovec, underlined the tangible climate actions being taken by airports globally in addressing their own global emissions whilst also supporting the broader decarbonisation of the air transport sector.

With a keynote speech called "*Delivering the Net Zero Airport of the Future*" Jankovec said the airport industry has long championed the sector's need to chart a course to net-zero, with the first ACI Europe carbon management resolution in Europe in 2008, followed by the launch of the Airport Carbon Accreditation programme twelve years ago. Europe's airports committed to a net-zero CO₂ airport emissions goal by 2050 in 2019, followed by a further global Net Zero 2050 commitment made earlier this year, which is a long-term carbon goal

reduction programme with concrete guidance and transparent reporting on progress incorporated in the recently announced *Repository of Roadmaps and accompanying Guidance*, which will soon be followed by a worldwide *Airport Action Plans Initiative*.

It is anticipated that 94 European airports will achieve net-zero carbon emissions by 2030, as a consequence of these measures, with 10 airports having already achieved this objective.

Commitments made by airlines

In the lead up to COP26, the UK government pushed for countries to agree to lower global aviation emissions to levels in line with the Paris Agreement. This approach corresponded with an increased push towards off-setting of emissions and decarbonisation within the industry worldwide.

In late October, airlines acting through the representative body, the International Air Transport Association ("**IATA**"), passed a resolution that committed its members to achieving net-zero carbon emissions by 2050. Willie Walsh, IATA's Director General, spoke of this "*momentous decision*" taken by the world's airlines "*that will ensure the freedom of future generations to sustainably explore, learn, trade, build markets, appreciate cultures and connect with people the world over.*" IATA, which counts among its members close to 300 of the world's largest carriers, which account for 83% of the world's air traffic, fleshed out a £1.5 billion plan with a clear focus on developing new technologies. In addition to the support of airlines, this plan relies heavily on the cooperation of government and industry players, such as fuel suppliers and engine manufacturers. The initiative has gained traction worldwide, with the Association of Asia Pacific Airlines ("**AAPA**")³ and Airlines for America⁴ declaring their commitment to achieving net-zero carbon emissions by 2050, signalling a clear desire to transform the way the industry operates.

Unsurprisingly, such plans were discussed extensively at COP26, where 20 airlines, which collectively operate over 800 aircraft and carry more than 177 million passengers annually, decided to go further by committing to flying more sustainably to minimise the sector's carbon footprint. The 20 airlines, which include easyJet, Air New Zealand and

³ The member airlines: Air Astana, All Nippon Airways (SA), Asiana Airlines (SA), Bangkok Airways, Cathay Pacific Airways (OW), China Airlines (ST), EVA Airways (SA), Garuda Indonesia (ST), Japan Airlines (OW), Korean Air (ST), Malaysia Airlines (OW), Philippine Airlines, Royal Brunei Airlines, Singapore Airlines (SA), and Thai Airways International (SA).

⁴ The member airlines: Alaska Airlines, American Airlines, Atlas Air, Delta, FedEx Express, Hawaiian Airlines, jetBlue, Southwest, United Airlines, and UPS.

Icelandair, are members of the World Economic Forum's "Target True Zero initiative"⁵, and have pledged to ensure nearly 30% of their respective aircraft serving shorter-range routes are to be electric or hydrogen-powered. The airlines plan to make this commitment a reality by creating new aircraft designs or retrofitting their existing fleet, although the exact timelines for such developments are yet to be confirmed.

Transport Day also provided the opportunity for airlines to advance their ambitious plans to respond to increasing global pressure for sustainable aviation. British Airways spoke of their success in powering the first transatlantic flight after the pandemic with a fuel mix that contained 35% SAF. While easyJet, which became the first major airline to offset the carbon emissions from the fuel used in all of its flights in 2019, has spoken about joining the UN-backed campaign Race to Zero, aimed at achieving net-zero carbon emissions by 2050. The airline, which will set out its net-zero roadmap in the coming months, has committed to setting an interim science-based target for 2035 that will require approval by the Science Based Targets initiative (SBTi).⁶ easyJet, which describes offsetting as an interim solution, has spoken optimistically about its collaborations with Airbus and Wright Electric and plans to accelerate development of zero-emission technologies, such as hydrogen electric, hydrogen-combustion and hybrid aircraft which it hopes to begin operating by the mid to late 2030s.

ZeroAvia also announced plans to partner with Alaska Air Group ("**Alaska**") to develop its zero emission hydrogen-electric powertrain, which will be used for regional passenger aircraft. In partnership with Alaska, ZeroAvia plans to scale the company's existing powertrain platform to produce the ZA2000 engine family, which will be initially deployed in Bombardier Q400 aircraft and which is expected to have a 500-mile range. Alaska has also secured an option for up to 50 engine kits, which will allow the airline to begin converting part of its regional passenger fleet to use hydrogen-electric power through ZeroAvia's zero-emission powertrain, starting with the Bombardier Q400 aircraft.

In the cargo sphere, Qatar Airways Cargo, the freight division of Qatar Airways Group, discussed its

plans to become the first cargo carrier to join the IATA CO2NECT platform in partnership with IATA. This will see Qatar Airways Cargo and IATA join forces with Kuehne+Nagel, one of the world's leading freight forwarders, with the aim of achieving carbon neutrality by offering an integrated carbon calculation and offset solution between Qatar Airways, shippers, and freight forwarders such as Kuehne+Nagel. Speaking at the launch of the partnership, Willie Walsh, IATA's Director General, said "*The industry target of achieving net-zero carbon emissions by 2050 applies to both passengers and cargo. It also needs all stakeholders in the industry to work together and embrace innovative solutions [...] As the world gathers for the COP26 meeting to strengthen global carbon-reduction plans, the launch of this offsetting solution shows our industry-wide commitment to sustainable air cargo.*"

SAF: fuel of the future

The aviation industry has been increasingly focussed on SAF, which is predicted to play a significant role in assisting with the decarbonisation of the airline industry at a time where technological advancements in electric and hydrogen powered aircraft are still some way off commercial implementation. SAF is an alternative to fossil-derived fuel that is produced from sustainable sources, such as cooking oil and solid waste (including packaging and food scraps that would otherwise contribute to landfill). BP explains that "*SAF can be blended at up to 50% with traditional jet fuel and all quality tests are completed as per a traditional jet fuel. The blend is then re-certified as Jet A or Jet A-1. It can be handled in the same way as a traditional jet fuel*". It has been estimated that SAF has the potential to reduce carbon emissions generated by aircraft by up to 80% in comparison to the traditional jet fuels it will replace.

Production of SAF is currently very limited due to high costs and the lack of the infrastructure necessary to support it. An important topic of discussion at COP26 was the need to encourage investment in SAF in order to create more demand which, it is hoped, would lead to greater production and lower costs in the future. The Sustainable Aviation Buyers Alliance ("**SABA**"), which commits to investing in SAF, announced on 10 November that new supporters had joined the alliance. In addition to existing commitments from Boeing, Bank of America, Microsoft and Netflix, new supporters Amazon Air, Alaska Airlines, JetBlue and United Airlines have committed to buying SAF.

⁵ The signatory airlines: Aero, Air New Zealand, Air Nostrum, Alaska Airlines, Amelia, ASL Aviation Holdings, Braathens Regional Airlines, easyJet, Finistair, Icelandair, Iskwew Air, Loganair, Mokulele, Ravn Alaska, SoundsAir, Southern Airways Express, Surf Air Mobility, Viva Aerobus, Waltzing Matilda Aviation, and Xwing.

⁶ The SBTi is a partnership between the CDP, the United Nations Global Compact, the World Resources Institute and the World Wide Fund for Nature (WWF). It was formed for the purpose of driving ambitious climate action in the private sector by enabling companies to set science-based emissions reductions targets.

In the lead up to COP26, London Heathrow Airport announced a carbon offsetting initiative using SAF.

This initiative, the first of its kind in the UK, will allow passengers travelling through LHR to directly offset carbon emissions by purchasing SAF. Passengers will be able to calculate a percentage of emissions to offset with SAF and any remaining emissions may be offset by certified global reforestation projects. The initiative, which applies regardless of the airline or end destination, launched on 25 October 2021 and is the product of a collaboration with global climate-tech company CHOOOSE and SAF provider SkyNRG.

The airport's announcement coincides with the unveiling of the UK government's ambition to achieve at least 10% SAF usage by 2030, which over 60% of LHR's airline partners have committed to so far. It is hoped that increased consumer demand, through initiatives such as this, coupled with the UK government's ambition of seeing 10% usage by 2030, will signal to investors that SAF is the next big investment. Such growth would eventually create economies of scale, leading to lower costs and increased production of SAF in turn.

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