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Testimony

New York State Clean Fuel Standard of 2023
Written Testimony of Airlines for America

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On behalf of our Airlines for America® (A4A) members,[1] thank you Chairperson Krueger, Chairman Harckham, and Chairman Parker for the opportunity to submit written testimony today. U.S. airlines have long been committed to proactively addressing and reducing environmental impacts associated with aviation. This is especially true with regard to aviation's greenhouse gas (GHG) emissions footprint, including the development and deployment of sustainable aviation fuel (SAF).

Commercial aviation has been an indispensable pillar of our national, state and local economies for decades. Prior to the onset of the COVID-19 pandemic, commercial aviation helped drive over 10 million U.S. jobs and over 5 percent of U.S. Gross Domestic Product (GDP). In New York, according to the most recent Federal Aviation Administration (FAA) analysis, civil aviation accounts for about 5 percent of jobs and drives almost 4 percent of State GDP ($58.7 billion in 2016).[2] At the same time, U.S. passenger and cargo airlines contributed just 2 percent of the nation's CO2 emissions – and our industry is only getting greener.

The record of the U.S. airline industry demonstrates that we can grow and help the country prosper even as we continue to improve our environmental performance. Between 1978 and 2021, U.S. airlines improved their fuel efficiency (on a revenue ton mile basis) by more than 135 percent, saving over 5.5 billion metric tons of carbon dioxide (CO_2) – the equivalent to taking more than 28 million cars off the road on average *in each of those years*.[3] Similarly, since 1975, U.S. airlines quintupled the number of passengers served in the U.S. while reducing the number of people exposed to significant levels of aircraft noise by 94 percent. The U.S. airline industry has continually demonstrated their ability to contribute to the nation's economic productivity, while minimizing their environmental footprint.

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[1] A4A's members are: Alaska Airlines, Inc., American Airlines, Inc., Atlas Air, Inc., Delta Air Lines, Inc.; Federal Express Corporation, Hawaiian Airlines, JetBlue Airways Corp., Southwest Airlines Co., United Airlines Holdings, Inc. and United Parcel Service Co. Air Canada, Inc. is an associate member.

[2] *See* FAA, *The Economic Impact of Civil Aviation on the U.S. Economy – State Supplement* (Nov. 2020), at 11, available at https://www.faa.gov/about/plans_reports/media/2020_nov_economic_impact_report.pdf.

[3] Data from the Bureau of Transportation Statistics confirm that U.S. airlines improved their fuel- and CO_2-emissions efficiency by 40 percent from 2000 to 2021.

This environmental record is not happenstance, but the result of a relentless commitment to driving and deploying technology, operations, infrastructure and SAF advances to provide safe and vital air transport as efficiently as possible within the constraints of the air traffic management system. Indeed, for the past several decades, airlines have dramatically improved their fuel efficiency and reduced their CO_2 and other emissions by investing billions in fuel saving aircraft and engines, innovative technologies, including winglets (which improve aerodynamics) and cutting-edge route-optimization software.

We are committed to addressing and further reducing our industry's GHG emissions. On March 30, 2021, A4A, together with our member carriers, pledged to work across the aviation industry and with government leaders in a positive partnership to achieve net-zero carbon emissions by 2050 (2050 NZC Goal).[4] This pledge continues our longstanding commitment to embracing our responsibility to address climate change and reduce commercial aviation's GHG emissions footprint.[5]

Achieving the 2050 NZC Goal will require the continued pursuit of an "all of the above" strategy that includes realizing improvements in the efficiency of our operations (including through improvements to the nation's air traffic control system) and in technology, especially aircraft and aircraft engines. Most importantly, however, consistent analyses show that reaching our 2050 NZC Goal will require access to tremendous quantities of SAF. Put simply, net-zero carbon emissions cannot be achieved unless the production and availability of SAF grows exponentially. Thus, at the same time that A4A and our carriers adopted the 2050 NZC Goal, we also pledged to work with governments and other stakeholders toward a rapid increase in the production and deployment of commercially viable SAF to make 2 billion gallons available to U.S. aircraft operators in 2030. On September 9, 2021, as a complement to the federal government's announcement of the SAF Grand Challenge,[6] A4A and our members increased the A4A SAF "challenge goal" by an additional 50 percent, calling for 3 billion gallons of cost competitive SAF to be available to U.S aircraft operators in 2030.[7] Notably, this SAF challenge goal and the 2050 NZC Goal represent collective minimums – some A4A members have established even more ambitious goals.

Our airlines' efforts to address GHG emissions are designed to reduce their fuel consumption, GHG contribution and potential climate change impacts responsibly and effectively, while allowing commercial aviation to continue serving as a key contributor to the U.S., global, state, and local economies. At the same time, we continue to build upon our strong record of reducing conventional air pollutant emissions. Our airlines' primary focus is realizing further fuel efficiency

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[4] *See* https://www.airlines.org/news/major-u-s-airlines-commit-to-net-zero-carbon-emissions-by-2050/. On October 4, 2021, the International Air Transport Association and its member airlines followed suit by also committing to achieve net-zero carbon emissions by 2050. *See* https://www.iata.org/en/pressroom/2021-releases/2021-10-04-03/.

[5] Since 2009, A4A and our members have been active participants in a global aviation coalition. Prior to strengthening our commitment in 2021, we had committed to 1.5 percent annual average fuel efficiency improvements through 2020, with goals to achieve carbon-neutral growth beginning in 2020 and a 50 percent net reduction in CO_2 emissions in 2050, relative to 2005 levels.

[6] *See* https://www.whitehouse.gov/briefing-room/statements-releases/2021/09/09/fact-sheet-bidenadministration-advances-the-future-of-sustainable-fuels-in-american-aviation/ and https://www.energy.gov/eere/bioenergy/sustainable-aviation-fuel-grand-challenge.

[7] *See* https://www.airlines.org/news/u-s-airlines-announce-3-billion-gallon-sustainable-aviation-fuelproduction-goal/.

and emissions savings through increasing levels of SAF deployment, modernization and optimization of the air traffic management system, public-private research and development partnerships, and a vast array of additional operational and infrastructure initiatives being undertaken in collaboration with regulators, airports, manufacturers and other aviation stakeholders.

A4A and our members have been particularly focused on developing low-carbon, sustainable liquid fuel alternatives, understanding that rapid, exponential growth in the deployment of SAF is imperative for the successful decarbonization of commercial aviation. As drop-in fuel made from non-petroleum feedstocks that currently reduces lifecycle GHG emissions by up to 80 percent compared to conventional, petroleum-based jet fuel while also helping to improve local air quality (with even greater GHG emissions reductions possible in the future[8]), SAF is vital to our industry. Unlike the on-road transportation sector (cars, trucks, buses, etc.), energy alternatives like electricity and hydrogen will not be sufficiently advanced in the near- or mid-term to make a meaningful contribution to the decarbonization of the aviation sector by 2050, meaning that commercial aviation will remain reliant on high energy density liquid fuels for years to come.[9]

A4A and our members have been working diligently for many years to lay the groundwork for the establishment of a commercially viable SAF industry. In 2006, A4A was instrumental in cofounding with the FAA and other aviation organizations the Commercial Aviation Alternative Fuels Initiative (CAAFI®), which seeks to facilitate the development and deployment of SAF.[10] CAAFI has been integral in obtaining the certification of the seven SAF pathways that are recognized under the ASTM International specification for aviation turbine fuel from alternative, non-petroleum sources (i.e., ASTM D7566) as well as the two co-processing pathways recognized under the ASTM D1655 jet fuel specification. Nearly all A4A member carriers have also entered into offtake agreements over the past decade with SAF producers in a concerted effort to spur the SAF industry and utilize the fuel. These offtakes include (but are not limited to) those of Delta Air Lines, which last month used pipeline-delivered SAF on one of its flights from LaGuardia Airport,[11] and JetBlue Airways, which last September announced an agreement that will enable the carrier to upload SAF at John F. Kennedy International and LaGuardia Airports.[12] More recently, some A4A airlines have entered into SAF arrangements with corporate and cargo customers as another way to help expand the SAF market. In sum, A4A and our members have been and remain deeply committed to the development of a commercially viable SAF industry – throughout the U.S. and around the globe.

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[8] Coupled with other technologies or practices, SAF may one day be emissions-negative on a lifecycle basis, meaning that for each gallon of SAF used in an aircraft, CO_2 is removed from the atmosphere.
[9] *See* FAA, *United States 2021 Aviation Climate Action Plan*, at 18-19 (Nov. 2021) (*U.S. 2021 Aviation CAP*) ("there is no realistic option that could replace liquid fuels in the commercial aircraft fleet in the coming decades"), available at https://www.faa.gov/sites/faa.gov/files/2021-11/Aviation_Climate_Action_Plan.pdf.
[10] *See* https://caafi.org/.
[11] *See* "Delta, Neste, Colonial Pipeline Show How Current Infrastructure is Ready for SAF" (June 15, 2022), available at https://news.delta.com/delta-neste-colonial-pipeline-show-how-current-infrastructureready-saf.
[12] *See* "JetBlue Accelerates Transition to Sustainable Aviation Fuel (SAF) With Plans for the Largest-Ever Supply of SAF in New York Airports for a Commercial Airline" (Sept. 29, 2021), available at https://blueir.investproductions.com/investor-relations/press-releases/2021/09-29-2021-132310033.

U.S. airlines also have long supported improvements to airport infrastructure and modernization of the country's air traffic management system on a business-case basis. For example, electrification of aircraft gates and installation of ground power units and pre-conditioned air units provide access to a clean central heating and cooling system for aircraft while at parking positions. This allows airlines to run aircraft systems on electricity provided to the airport rather than relying on jet fuel-powered aircraft auxiliary power units. In addition, airports may install charging stations that serve electric-powered ground support equipment (eGSE). Improvements to airport power grids ensure the reliability of electric power needed to take advantage of these systems, but even without those improvements, our member carriers have invested millions, including at airports in New York, to replace their traditional, petroleum-fueled GSE with eGSE.[13] An important source of funding for such improvements is the FAA's Voluntary Aviation Low Emissions Program, which makes funds generated by the aviation industry available to airports to support projects that achieve reductions in regulated air pollutants.[14] Moreover, when necessary to improve the efficiency of their operations, airlines also support major infrastructure projects such as upgrades to or reconfigurations of terminals and runway and taxi systems.[16] We also have been supportive for many years of the federal government's effort to upgrade the nation's air traffic management system, known as NextGen, which is comprised of a suite of technologies and procedures to improve efficiencies in managing air traffic and reducing emissions. A4A and its members continue to work cooperatively with the FAA to implement elements of the plan that are supported by a sound business case.

A4A Supports the Inclusion of SAF in a Statewide Clean Fuel Standard on a Voluntary, Opt-In Basis

A. 964/S. 1292 establishes a Clean Fuel Standard (CFS) for New York State, exempting aviation fuels from the CFS due to federal pre-emption while including SAF as an eligible credit-generating fuel on a voluntary, opt-in basis. Where states chose to adopt such fuel standards, this approach ensures consistency with federal law while ensuring the program drives the production and use of SAF in the state and we strongly support it here. This approach would mirror the approach taken by every state that has adopted such a standard, i.e., California (under CARB's Low Carbon Fuel Standard Program), Oregon (under the Clean Fuels Program (CFP) administered by the Oregon Department of Environmental Quality), and Washington (under its impending CFP to be administered by the Washington Department of Ecology).[28] Inclusion of SAF as an eligible credit-generating fuel on a voluntary, opt-in basis would promote the development of SAF by incentivizing its production and use in aircraft departing from New York airports, boost the SAF industry, and contribute to aviation decarbonization by "reducing emissions in [the] difficult-to-electrify [aviation] subsector."[15] Adopting this approach also would comport with the federal Renewable Fuel Standard (RFS) program, under which RFS credits, known as Renewable Identification Numbers (RINs), can be generated from the production of

[13] *See, e.g.,* "JetBlue Introduces the Largest Electric Ground Service Equipment (eGSE) Fleet at New York's JFK International Airport, Cutting Four Million Pounds of Greenhouse Gas Emissions per Year" (Sept. 26, 2019), available at https://www.businesswire.com/news/home/20190926005676/en/.
[14] Funds come from two airport assistance programs, the FAA Airport Improvement Program (AIP) and the Passenger Facility Charges (PFC) program – AIP funds come from the Aviation Trust Fund, which is largely funded by taxes on airlines and airline passengers; PFCs are federally-approved taxes imposed on airline passengers by airports – airlines are required to collect the taxes and remit them to the airports.
[15] *Draft Scoping Plan,* at 118.

SAF even though the use of any particular volume of SAF is not mandated under the program.[16] Finally, exempting aviation fuels while making SAF an eligible credit-generating fuel on a voluntary, opt-in basis is precisely what is proposed in the CFS bill before the New York State Legislature.[17]

Voluntary, opt-in credit generation for SAF producers would provide benefits beyond the reduction in aircraft GHG emissions, as the use of SAF also reduces emissions of conventional air pollutants, including particulate matter and sulfur oxides,[18] creating local air quality benefits and helping the State achieve the National Ambient Air Quality Standards. In addition, allowing SAF producers and importers to generate credits would significantly improve the economics of SAF production facilities by allowing those facilities to generate credits from all transportation fuels produced. The current economic environment incentivizes renewable fuel production facilities to make renewable diesel. Yet renewable diesel producers can usually also make SAF, and in fact such diversified production can optimize their facility's overall product output.[19] By incentivizing SAF production through a voluntary, opt-in credit, New York would strengthen investment in the entire renewable fuels industry and the entire slate of renewable fuels. Incentivizing the production of SAF is particularly appropriate in light of the critical role the airline industry can play in helping to obtain financing for facilities through dedicated offtake agreements, a role that the airline industry is uniquely situated to fill. Modeling conducted for A4A by the National Renewable Energy Laboratory has demonstrated the synergistic relationship that airline offtake agreements can have when coupled with access to credit markets.[20]

A4A Recommends The State Also Make Robust Financial Investments in SAF Production and Deployment in the Future

The availability of SAF is extremely limited today, despite the concerted efforts of A4A members' and other aviation stakeholders' concerted efforts over the years. Further, the SAF that is available is considerably more costly than conventional jet fuel. The SAF industry, still at a nascent stage, needs strong financial support to reach scale and become a mature industry, one that is capable of providing airlines and other jet fuel users in New York with significant

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[16] *See* 75 Fed. Reg. 14670, 14682 (Mar. 26, 2010) (jet fuel not an obligated fuel under the RFS, butrenewable jet fuel can generate RINs); *see also* https://www.epa.gov/fuels-registration-reporting-andcompliance-help/while-there-no-renewable-fuel-obligation-under.

[17] *See* § 19-0331(1) of Senate Bill 2962-B and Assembly Bill A862-B ("Aviation fuels shall be exempted from the [CFS] due to federal preemption, but [SAF] shall be eligible to generate credits on an opt-in basis").

[18] *See, e.g.,* "Aircraft Engine Particulate Matter Emissions From Sustainable Aviation Fuels: Results From Ground-Based Measurements During the NASA/DLR Campaign ECLIF2/ND-MAX," available at https://www.sciencedirect.com/science/article/abs/pii/S0016236122016106?via%3Dihub; National Aeronautics and Space Administration Release 17-027, "NASA Study Confirms Biofuels Reduce Jet Engine Pollution" (March 15, 2017), available at https://www.nasa.gov/press-release/nasa-study-confirmsbiofuels-reduce-jet-engine-pollution; Neste, "Renewable Aviation – Key Benefits of Neste MY Renewable Jet Fuel," available at https://www.neste.com/sites/neste.com/files/attachments/aviation_downloadable_brochure_benefits_of_rjf_29012020.pdf.

[19] *See* National Renewable Energy Laboratory, "Effect of Additional Incentives for Aviation Biofuels:Results from the Biomass Scenario Model," available at https://www.nrel.gov/docs/fy18osti/67845.pdf.

[20] *Id.*

quantities of the low-carbon fuel at a competitive price. A4A therefore urges the State to consider adoption of incentives and further programs to support SAF production and deployment. State investments in SAF should be at least as robust as public investments made in other modes of transport (e.g., zero emission cars, trucks, and buses). As detailed above, SAF is critical to further decarbonizing the commercial aviation sector. It also is critical to attaining the GHG emissions limits and the net zero by 2050 goal set forth in New York's Climate Leadership and Community Protection Act and codified in sections 75-0107(1) and 75-0103(11) of the Environmental Conservation Law.

CONCLUSION

A4A remains committed to using all the tools in our toolbox to strive for an aviation system that is safe and efficient, while minimizing the environmental impacts of flying.