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Agenda Item 7: Promotion and Implementation of Regional Actions for Environmental Protection

GOALS AND POLICIES OF THE UNITED STATES RELATED TO SUSTAINABLE AVIATION FUELS

(Presented by United States)

EXECUTIVE SUMMARY	
This working paper outlines some of the policies and goals related to the development and deployment of Sustainable Aviation Fuels (SAF) in the United States. In addition, this paper outlines U.S. efforts to collaborate with international partners to increase the capabilities for SAF development and deployment globally, with a specific emphasis on work within the NAM/CAR Regions.	
Action:	Under paragraph 4.
Strategic Objectives:	• Strategic Objective 5 – Environmental Protection
References:	• United States 2021 Aviation Climate Action Plan: https://www.faa.gov/sites/faa.gov/files/2021-11/Aviation_Climate_Action_Plan.pdf

1. Introduction

1.1 At the 41th ICAO Assembly (A41), ICAO Member States agreed to a Long-term Aspirational Goal (LTAG) that strives to achieve net-zero carbon emissions from international aviation by 2050, in line with the United Nations Framework Convention on Climate Change (UNFCCC) Paris Agreement's temperature goal. The LTAG agreement reflects a common understanding from Member States, as well as industry, that there is both a willingness and a need to collaborate to decarbonize the sector. Production and use of sustainable aviation fuel (SAF) is one of the most promising measures to reduce emissions and help meet the LTAG goal because of its lower lifecycle greenhouse gas emissions compared to conventional jet fuel and its ability to “drop in” to existing aircraft and fuel infrastructure. While the most effective SAF feedstocks and supply chain considerations may vary from State-to-State and region-to-region, identifying the most efficient set of SAF research programs, production incentives, and policies can help maximize the environmental and economic benefits of SAF in their State.

2. Discussion

2.1 U.S. Goals and Policies

2.1.1 At the United Nations Climate Change Conference in November 2021, U.S. Transportation Secretary Pete Buttigieg announced the U.S. Aviation Climate Action Plan (Action Plan), which sets out an ambitious, yet achievable goal of net-zero greenhouse gas emissions from the U.S. aviation sector by 2050. The Plan builds on individual and sector-wide commitments announced by the U.S. aviation industry and highlights specific actions and policy measures to foster innovation and drive change across the entire U.S. aviation sector.

2.1.2 The Action Plan builds on key initiatives, such as the Sustainable Aviation Fuel (SAF) Grand Challenge announced on September 9, 2021. The SAF Grand Challenge aims to scale up SAF production to at least 3 billion gallons per year by 2030 by supporting SAF producers. It includes a partnership between the U.S. Department of Energy (DOE), U.S. Department of Transportation (DOT), and the U.S. Department of Agriculture (USDA) to accelerate research, development, demonstration, and deployment needed for innovative solutions and technologies and the policy framework to enable an ambitious government-wide commitment to scale up the production of SAF. We believe that these combined efforts will help reduce the cost, enhance the sustainability, and expand production of SAF that achieves a minimum of a 50 percent reduction in lifecycle greenhouse gas (GHG) emissions compared to conventional fuel to meet a goal of supplying sufficient SAF to meeting 100% of U.S. aviation fuel demand by 2050.

2.1.3 Well aligned SAF policy incentives are critical to reaching industry and government goals for aviation decarbonization. Provisions in the recently passed Inflation Reduction Act (IRA) seek to provide incentives to boost domestic production of SAF and bridge the cost gap between SAF and petroleum jet fuel. Specifically, IRA includes three incentives for SAF – (1) SAF Blenders Tax Credit (BTC), (2) Clean Fuel Production Credit (CFPC), and (3) a new SAF and low-emissions aviation technology grant program.

2.1.4 The BTC provides a tax credit starting at $1.25 per gallon for qualified fuel blenders that supply SAF with at least 50% lifecycle GHG emissions reductions compared to conventional jet fuel. Fuels that exceed the minimum threshold are eligible for an additional $0.01 per gallon credit for each percentage point of emissions reductions over 50 percent (up to a maximum of $1.75 per gallon). The BTC is technology- and feedstock-neutral, which allows SAF to be made from biomass, waste streams, direct air capture, and other sources, and will end at the end of 2024.

2.1.5 The CFPC will be in effect from 2025 through 2027. Unlike the SAF BTC, the CFPC is not exclusive to SAF, though SAF is eligible for a higher credit than other types of biofuels due to the amount of investment needed to make it cost competitive. The methodology for calculating the value of the CFPC is slightly more complex than the SAF BTC, but it is similarly based on a sliding scale that rewards cleaner fuels with higher credits ranging from $0.35 to $1.75 per gallon.

2.1.6 In addition to the SAF BTC and CFPC, IRA also allocates $297 million for the Sustainable Aviation Fuel and Low-Emissions Aviation Technology Grant Program to enable state and local governments, airport sponsors, for-profit companies, research institutions, and non-profits to produce, transport, blend, or store sustainable aviation fuel, and to develop or apply low-emission aviation

technologies. The grant program will be administered by the FAA and will incentivize the mass production of SAF at scale and create domestic jobs and economic opportunities for farmers, manufacturers, start-ups, and others in the biofuels supply chain.

2.2 Collaboration

2.2.1 Decarbonizing the international aviation sector by 2050 is an ambitious goal that will require international cooperation to achieve. While SAF can make a significant contribution to meeting the LTAG goal, States and industry will need to conduct research and analyses to determine the appropriate feedstocks, fuel pathways, and supply chain considerations that may be viable in their region.

2.2.2 ASCENT Project 93

2.2.2.1 The United States has leveraged the work of the ASCENT Center of Excellence (COE) for Alternative Jet Fuels and Environment for several years. ASCENT is a cooperative aviation research organization co-led by Washington State University and the Massachusetts Institute of Technology. It is funded by the FAA, NASA, the Department of Defense, Transport Canada, and the Environmental Protection Agency. To date, ASCENT projects have resulted in data, analytical tools, and analyses to understand the potential environmental and economic benefits that could result from the development of SAF supply chains while also working to understand the barriers to their development.

2.2.2.2 Building on these efforts, a new ASCENT Project 93 titled “Collaborative Research Network for Global SAF Supply Chain Development,” was recently stood up with Washington State University (WSU), the Massachusetts Institute of Technology (MIT), University of Hawaii (UH), and the DOT Volpe Transportation Center. Through collaboration with the World Bank and other international partners with similar interests, this work will enable the development of SAF supply chains around the globe.

2.2.2.3 Project 93 will leverage existing partners of the ASCENT COE universities and focus on three distinct geographical areas with different characteristics – Latin America and the Caribbean (LAC), Africa, and South East Asia. WSU will focus on LAC (Colombia, Dominican Republic, and Ecuador), MIT will focus on Africa (Kenya and South Africa), and UH will focus on SE Asia (Indonesia, Vietnam, and Thailand). FAA is also actively seeking additional partners to support this work.

2.2.2.4 The project will identify waste and biomass feedstock availability, analyze new pathways to optimize SAF production, and assess infrastructure needs and logistical requirements for a holistic approach to SAF supply chain development for each region. It will also identify existing industries and infrastructure that could be leveraged to more rapidly support SAF production, as well as undertake an updated bottom-up assessment of global SAF feedstock potential and barriers. Project 93 will also develop a network of PhD students working at each partner university to extend supply chain analysis techniques and tools from the ASCENT COE and Volpe Center to their respective regions.

2.2.3 ICAO Committee on Aviation Environment Protection (CAEP)

2.2.3.1 The United States believes that increasing technical engagement on aviation environmental protection technical issues with the NACC States will contribute to more effective environmental outcomes at ICAO. In recent years, the ICAO Council has sought to improve the geographic representation of the CAEP by encouraging participation from regions that are not currently well represented. CAEP's Fuels Task Group (FTG) and Working Group 4 on the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) play a critical role in facilitating the update of SAF internationally. The United States urges NACC Member States consider joining CAEP, particularly States that have experience serving on the ICAO Council or that have an interest in expanding their involvement on environmental matters.

3. Conclusion

3.1 The United States is committed to achieving a net-zero aviation sector by 2050, demonstrated by both its domestic climate goal in the United States Aviation Climate Action Plan and internationally by its contributions to ICAO's LTAG. To achieve this goal, the United States is taking concrete action across a broad basket of measures, including a considerable SAF research program and a range of SAF policies. These SAF development efforts are both domestic and international, and the United States welcomes partnerships in the NACC States to enable all States to benefit from the environmental and economic opportunities of SAF development and deployment.

4. Suggested action

4.1 The Meeting is invited to:

a) note the U.S. Climate Goals and SAF Policies presented in this paper;
b) note and discuss the research plans of ASCENT Project 93, particularly in the Dominican Republic; and
c) agree to monitor the outcomes of Project 93 and consider similar research projects in the NACC States.

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