59th CONFERENCE OF DIRECTORS GENERAL OF CIVIL AVIATION ASIA AND PACIFIC REGIONS

Cebu, Philippines
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AGENDA ITEM 7: AVIATION AND ENVIRONMENT

FORESEEN CHALLENGES IN SAF CERTIFICATION IN ASIA PACIFIC REGION IN PARTICULAR INDIA

(Presented by India)

SUMMARY

ICAO Assembly Resolution A41-21 encourages States to strive for achieving net-zero emissions by 2050. In this direction, ICAO has released the "Global Framework for SAF, LCAF and other Aviation Cleaner Energies". However, availability, affordability and accessibility of Sustainable Aviation Fuel (SAF) is crucial in the global effort to decarbonize its expanding aviation sector. The problem is more so with the developing States. Therefore, it is crucial for Contracting States in the Asia-Pacific region to closely share challenges and information about SAF production, availability and certification, and to raise the concerns at appropriate platforms. Decentralisation of SAF supply by promotion of SAF production and distribution in the region, fast-track certification of SAF, and working together will help in achieving ubiquitous supply of SAF in APAC region.

FORESEEN CHALLENGES IN SAF CERTIFICATION IN ASIA PACIFIC REGION IN PARTICULAR INDIA

1. INTRODUCTION

1.1 In accordance with ICAO Assembly Resolution A41-21 States are encouraged to strive to achieve net-zero emissions by 2050. It states that "the LTAG is a collective global aspirational goal, and it does not attribute specific obligations or commitments in the form of emissions reduction goals to individual States, and urges each State to contribute to achieving the goal in a socially, economically and environmentally sustainable manner and in accordance with national circumstances."

1.2 During the recent CAAF/3, ICAO released the “Global Framework for SAF, LCAF and other Aviation Cleaner Energies” which proposed a collective global aspirational Vision to reduce CO2 emissions in international aviation by 5 per cent by 2030 through the use of SAF, LCAF and other aviation cleaner energies (compared to zero cleaner energy use). The framework provides a detailed guidance on policy and planning, regulatory framework, implementation support and financing.

1.3 The availability, affordability and accessibility of Sustainable Aviation Fuel (SAF) is crucial in the global effort to decarbonize its expanding aviation sector. SAF offers a cleaner alternative to conventional jet fuel, capable of reducing lifecycle carbon emissions by up to 80%.

2. DISCUSSION

2.1 As per the recent reports, the current share of SAF production in the overall renewable fuel capacity was mere 3% (2023) globally located in fewer countries. The production capacity is projected to increase to 6% during 2024. Both this share and the absolute volume of SAF production needs to rise rather dramatically in order to reach the 14 million tonnes required in 2030 that would satisfy the 5% reduction in CO2 emissions vision for 2030 set by ICAO member states in 2023.

2.2 SAF is an imperative and the most impactful lever to reduce CO2 emissions for aviation by 2050 alongside other levers such as technology breakthroughs and operational improvement. However, the challenges foreseen in this region particularly in India are discussed below:

- **Feedstock availability assessment, Qualifying Various Feedstocks & Waste Feedstocks –**Eligibility of feedstocks suitable for SAF production in this region, considering local availability, sustainability, and economic viability. There is no mechanism to establish the Carbon Intensity C.I. number of each of these feedstocks to check their viability.
- **Certification Process for Multi-Feedstock Setup-** A SAF production plant may use different feedstocks depending on the viability and availability. There is no clarity on the certification process for SAF production facilities utilizing multiple feedstocks, ensuring consistency and accuracy in carbon intensity calculations. For example, a facility may process 1G and 2 G ethanol in the same batch.
- **Availability of ICAO approved Sustainability Certification Schemes for CORSIA Eligible fuels:** At present there are only two sustainability certification schemes that are CORSIA approved viz International Sustainability and Carbon Certification (ISCC) and Roundtable on Sustainable Biomaterials (RSB). Due to which, currently there is a lack of specialized knowledge and expertise in industry related to CORSIA's certification process and documentation required for meeting the criteria set forth to ensure compliance with CORSIA sustainability criteria.

- **Responsibility for ASTM D7566 Certification-** The technology developed by India for SAF production doesn't fall under the 11 approved pathways by ASTM 7566. Therefore, a time consuming certification process is being undertaken which includes rigorous testing, data submission, task force reviews, and balloting. Further, ASTM certification step also requires approval from OEM can take an additional 6 to 12 months, depending on the responsiveness of the manufacturers and the complexity of the testing required.

- **Cost of Certification**: The process of achieving certification involves extensive testing to ensure SAF meets all safety, performance, and environmental standards. This can be expensive, particularly for small-scale producers or new market entrants, and contributes to the overall high cost of SAF.

2.3 While ICAO launched the "ICAO Assistance, Capacity-building and Training for Sustainable Aviation Fuels (ACT-SAF) programme" in year 2022 with the objective of providing tailored support for States in various stages of SAF development and deployment, facilitate partnerships and cooperation on SAF initiatives under ICAO coordination and serve as a platform to facilitate knowledge sharing and recognition of all SAF initiatives around the globe, however, there are many more challenges for the States to work on.

2.4 In conclusion, it is crucial for Contracting States in the Asia-Pacific region to closely share challenges and information about SAF production, availability and certification, and to raise the concerns at appropriate platforms such as ICAO working groups, and other regional meetings. Decentralisation of SAF supply by promotion of SAF production and distribution in the region, fast-track certification of SAF, and working together will help in achieving ubiquitous supply of SAF.

3. ACTION BY THE CONFERENCE

3.1 The Conference is invited to:

a) Note the challenges discussed in this paper.

b) Encourage ICAO to accelerate the approval of additional CORSIA sustainability certification schemes, in line with the ICAO global framework adopted by CAAF/3, to increase the accessibility of certification services for SAF producers under CORSIA.

c) Invite ICAO to develop specific training programs for States and industry stakeholders to enhance their expertise on CORSIA certification requirements with special focus on various challenges.

d) Encourage States to establish a robust national regulatory framework for SAF certification that aligns with ICAO's CORSIA standards.

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