



WORKING PAPER

**THIRD CONFERENCE ON AVIATION AND ALTERNATIVE FUELS
(CAAF/3)**

Dubai, United Arab Emirates, 20 to 24 November 2023

Agenda Item 2: Supporting policies to promote the development and deployment of cleaner energy for aviation

SAF FEEDSTOCK NEUTRALITY CONSIDERATION

(Presented by Brazil and Singapore)

SUMMARY

This working paper highlights the need for SAF feedstock and technology neutrality and urges global acceptance of feedstock that meets ICAO CORSIA's eligibility criteria. This will help widen potential feedstock supply options, de-risk SAF investments to scale-up SAF production and lower costs and accelerate the green transition of international aviation.

Action by the Conference is in paragraph 3.

1. INTRODUCTION

1.1 Sustainable Aviation Fuels (SAF), Lower Carbon Aviation Fuels (LCAF) and other aviation cleaner energies are expected to have the largest contribution to aviation CO₂ emissions reduction by 2050. However, whilst there are increasing initiatives to deploy these fuels, current production levels are still extremely low at only 0.1% of all aviation fuel use.

1.2 SAF production is heavily dependent on the availability of suitable and cost-effective sustainable feedstock. In the near and medium-term, production of SAF across several different pathways like Hydrotreated Esters and Fatty Acids (HEFA), Alcohol to Jet (AtJ) and Fischer-Tropsch (FT) are largely dependent on feedstock such as waste fats, used oils and grease or FOG (fats, oil and grease), sugar and molasses, municipal solid waste (MSW), and agricultural and forestry residues. Some of the FOG feedstock are scarce and limited in supply, while the MSW and biomass feedstock would require investments in additional logistics and infrastructure for pre-treatment and processing. This makes the production of SAF already challenging.

1.3 However, adding to these challenges, some States have imposed restrictions on certain crop-based feedstock, including their waste and residues, for SAF production. This is due to supposed indirect land use change (ILUC), biodiversity and environmental impact concerns, but the underlying science and evidence basis remain to be established. Feedstock issues were already covered under CORSIA and the Sustainability Schemes. The additional restrictions on feedstock in some States create inconsistencies in SAF policies and rules across borders, adding to compliance costs for airlines and SAF producers. This would limit wider feedstock access for SAF production, thereby reducing potential SAF supply and lead to higher SAF costs.

2. KEY CONCERNS AND RECOMMENDATIONS

2.1 In the near-to medium term, SAF production will be limited by overall feedstock availability due to constraints in feedstock supply as well as competition of feedstock from other transport sector such as shipping and road transport and energy sector that utilise solid biomass for heating and electricity generation. The aviation industry will need to rely on SAF in the near-to-medium term since there is no efficient cleaner energy for medium-to-long haul flights, and therefore it is crucial that the feedstock available are prioritised for aviation use and produced in a sustainable manner.

2.2 There is a need to widen feedstock availability across different regions to unlock more SAF production globally, and avoid situation where SAF productions are concentrated in certain regions. From life cycle analysis standpoint, there would be more carbon emissions produced to mobilise SAF globally if SAF are only produced at certain locations. Without feedstock diversification and global access to feedstock, SAF production will remain constrained and SAF will continue to be significantly costlier than conventional jet fuel. This would increase compliance costs and place significant financial burden on the aviation industry to scale up the SAF deployment to meet the LTAG SAF goal.

2.3 Besides widening the supply of feedstock, there should also be consistent rules in terms of the acceptability and sustainability requirements for feedstock to allow SAF production to scale. Conventional jet fuel is a commodity product that is widely traded across borders in standardised units to improve access and price transparency for airlines. Complicated and overlapping rules on feedstock will make it impossible for SAF production to scale up and reach the same level of standardisation. With SAF, together with LCAF and other cleaner energies, being the largest potential contributor towards CO2 emissions reduction by 2050, it is imperative to create the right regulatory environment that allows SAF to be produced, traded and used in large quantities like conventional jet fuel today.

2.3.1 Certain crop-based feedstock are being excluded due to perceived environmental concerns without robust studies and life cycle assessments and establishing monitoring, reporting and verification protocols to ensure transparency and traceability of feedstock production. Since SAF is still in the early stages of the development, we should not prematurely rule out any feedstock that is best suited for SAF production without robust evidence-based considerations. A fragmented approach to feedstock acceptance will hinder access to certain feedstock, particular those with high fatty-acids and energy contents, that allow SAF to be produced at a larger scale and lower costs. There is, therefore, a need for clear and consistent rules to give certainty in demand to de-risk investments for investors and financiers, and encourage more producers to produce SAF.

3. **ACTION BY THE CAAF/3**

3.1 The CAAF/3 is invited to:

- a) recognize the need for SAF to be inclusive and adopt a feedstock-neutral approach to support the scaling up of SAF production;
- b) not exclude any particular feedstock, as long as it meets the CORSIA sustainability criteria and delivers the required CO₂ emissions reduction; and
- c) recognize CORSIA sustainability criteria, sustainability certification schemes, and the methodology for the assessment of life cycle emissions as the accepted basis for the eligibility of SAF.

— END —