



WORKING PAPER

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

Dubai, United Arab Emirates, 20 to 24 November 2023

Agenda Item 3: Assistance and capacity building for cleaner energy

**THE SULTANATE OF OMAN'S INITIATIVE IN THE DEVELOPMENT AND DEPLOYMENT OF
ALTERNATIVE AVIATION FUELS: FORUM OF INNOVATION SUPPORT IN SUSTAINABLE AND
LOWER CARBON AVIATION FUEL AND CLEAN ENERGIES IN CIVIL AVIATION AUTHORITY**

(Presented by Oman)

SUMMARY

This paper highlights the forum of innovation support in sustainable and lower carbon aviation fuel and clean energies which was held by the civil aviation authority in Oman during the period from 10 to 11 October 2023 as an initiative to raise awareness and enhance the deployment and development of alternative aviation fuels in the country.

Action by the Conference is in paragraph 3.

1. INTRODUCTION

1.1 The ICAO Assembly Resolution A21 in October 2022 recognizes that the drop-in sustainable aviation fuels are expected to have the largest impact on aviation CO₂ emissions reduction by 2050 and continue to have a large impact beyond 2050.

1.2 Resolution A41-21 requests the state to set a coordinated approach in national administrations for policy actions and investment to accelerate the appropriate research, development, deployment, and use of cleaner and renewable energy sources for aviation, including the use of sustainable aviation fuel (SAF) and lower carbon aviation fuel (LCAF), in accordance with their national circumstances.

1.3 The Sultanate of Oman has recently submitted its first Voluntary State Action Plan to the International Civil Aviation Organization. This plan outlines the expected future air traffic in Oman, as well as the projected emissions from international civil aviation until 2050. It also includes mitigation measures that can be taken to reduce emissions from international civil aviation, according to the basket of measures defined by ICAO, including technological and operational improvements and market-based measures (CORSIA).

1.4 The Sultanate of Oman will continue to actively work alongside ICAO to support the development of and deployment of sustainable Aviation Fuel (SAF), lower Carbon Aviation Fuel(LCAF), and cleaner energies.

1.5 Accordingly, the Sultanate of Oman represented by the civil aviation authority held the forum of innovation support in sustainable and low carbon aviation fuel and clean energies on 10 to 11 October 2023 as an initiative to promote a general understanding of alternative fuels and their contribution to addressing the environmental impact of the civil aviation industry's activities and identify the current status and future potential related to the production of sustainable and low-carbon aviation fuel in the Sultanate of Oman.

2. FORUM OF INNOVATION SUPPORT IN SUSTAINABLE AND LOW CARBON AVIATION FUEL AND CLEAN ENERGIES IN CIVIL AVIATION AUTHORITY

2.1 About the forum

2.1.1 The forum of innovation support in sustainable and low carbon aviation fuel and clean energies was held under the slogan "Clean fuel for sustainable aviation" at the Civil Aviation Authority in the Sultanate of Oman during the period from 10 to 11 October 2023. It was convened under the patronage of His Excellency the Minister of Energy and Minerals, and was attended by several ministers, their Excellencies Undersecretary of some government entities, and CEOs from related entities.

2.1.2 The forum was honoured by the attendance of Ms. Jane Hupe, Deputy Chair of the International Civil Aviation Organization's Environmental Protection Committee as well as the participation of several international experts from the United Arab Emirates, Saudi Arabia, Boeing, Airbus, and SkyNRG alongside many national experts who were invited to share their experiences and knowledge in the forum.

2.2 Vision and objectives

2.2.1 The forum was convened with the vision to promote the development and deployment of sustainable and environmentally friendly aviation fuels in the air transport industry, which contributes to the achievement of Oman Vision 2040 and the fulfilment of international commitments.

2.2.2 The main objectives of the forum are:

- a) Promote a general understanding of sustainable and low carbon aviation fuel and their contribution to addressing the environmental impact of the civil aviation industry's activities.
- b) Identify the current status and future potential related to the production of sustainable and low carbon aviation fuel in the Sultanate of Oman.
- c) Contribute to the implementation of the Civil Aviation Environmental Protection Plan in the Sultanate of Oman, which in turn contributes to the implementation of international commitments and the achievement of Oman Vision 2040.
- d) Explore investment opportunities in the civil aviation fuels production sector.

2.3 **Forum's Sessions**

2.3.1 ICAO's long-term aspiration goals and Oman CAA's roadmap to reduce CO₂ emission from the international civil aviation sector were presented in opening ceremony.

2.3.2 Three sessions were conducted during the forum, consisting of 24 presentations.

2.3.3 During the first session, the opportunities and challenges associated with the deployment and development of sustainable and lower carbon aviation fuel and cleaner energy were presented from countries, producers, manufacturers, airlines, and airports perspectives.

2.3.4 The second session focused on the feedstock's insights in the Sultanate of Oman. Local experiences where feedstocks suitable for SAF production have been used were presented. Moreover, the session highlighted the relevant policies in renewable energy, CCUS, and hydrogen, as well as the future plans for the production of biofuel and SAF.

2.3.5 The main focus of the third session was means of support and implementation including, policies, financing, research and development, and capacity building that contribute to enhancing the deployment and development of sustainable, low-carbon aviation and clean energies.

2.4 **Youth session**

2.4.1 Youth session was held on 10 October 2023 with the aim to engage and educate young people who are interested in aviation environmental protection and climate change. It serves as a new platform to listen to their views, thoughts, and address their inquiries related to aviation environmental protection.

2.4.2 The attendance of the youth session was His Excellency the President of Civil Aviation Authority, Their Excellencies, Undersecretary of some government entities, specialized international and local experts, academics relevant to the field, students from universities and colleges related to biotechnology, environmental biology, environmental engineering and petroleum engineering and group of youth interested in climate change and environmental protection.

2.4.3 The main agenda of the youth session was sustainable and lower carbon aviation fuels and cleaner energy: definition and importance, the future of these alternative fuels and enhancing youth participation in issues related to the protection of the civil aviation environment, including the production of sustainable, low-carbon aviation fuels and cleaner energy.

2.5 **Recommendation and outcomes**

2.5.1 During the closing sessions, the main recommendations and outcomes were presented. It can be summarized as follows:

- a) Given its hydrocarbon heritage and production of diverse fuels, Oman should embark on an assessment of its wells-to-tank emissions to categorize its fuels under CORSIA-eligible LCAF.
- b) While e-SAF is expected to have modest uptake with a greater contribution to SAF by 2040 onwards, Oman is strongly positioned to play a key role in the e-SAF market and should assess this opportunity diligently.

- c) Other SAF pathways based on waste (oils, agriculture, organic material, solid) contribute towards a circular economy and are necessary for a sustainable and hedged fuel supply. These pathways need to be assessed systematically.
- d) LCAF/SAF is a multi-disciplinary, multi-authority, public-private-international, collaborative endeavor, and therefore requires systematic stakeholder mapping, collaborative workgroups creation locally, and joining existing international ones and establishment of bilateral and multilateral agreements between different stakeholders (Financial Institutions, industry, universities, energy sectors and others).
- e) Feasibility Study: In order to identify the strengths, weaknesses, and capabilities with the collaboration of all key stakeholders, it was advised that Oman begin working on its detailed feasibility study and Aviation Alternative Fuels Road Map. Thus, Omani Civil Aviation Authority (CAA) signed a memorandum of cooperation (MoC) on 11 October 2023, with OQ Alternative Energy company and SKYNRG B.V., a company duly organized and existing in Netherlands to study the possibility of exploring the development of Sustainable Aviation Fuel (SAF) capacity in Oman.
- f) National Workshop: Raising public awareness and understanding of the benefits of aviation alternative fuels. Thus, the CAA will announce the first national workshop for the development and deployment of alternative fuels (SAF, LCAF, and cleaner energies) in Oman, with the participation of all national stakeholders.
- g) Development and deployment of SAF, LCAF, and cleaner energies through investment in research and development (R&D), and the implementation of pilot projects, followed by scaling up the industry.
- h) Creating incubators to support dissemination and development of alternative aviation fuels.
- i) Encouraging youth to join ICAO Sustainable Aviation Youth Foundation (SAYF).
- j) Taking into consideration the triple governance criteria when planning for sustainable aviation fuel production: Economy, social, and environment.
- k) Holding of the second version of the "Forum of Innovation Support on Sustainable & Lower Carbon Aviation Fuel and Cleaner Energy in the Civil Aviation Sector" as a national platform for sharing ideas, know-how, and experiences.

3. ACTION BY THE CAAF/3

3.1 The CAAF/3 is invited to:

- a) note the outcomes and recommendations of the forum of innovation support in sustainable and lower carbon aviation fuel and clean energies;
- b) note the Sultanate of Oman's efforts to enhance the development and deployment of alternative aviation fuels;
- c) encourage States to take such initiative to promote understanding and build capacity in the development and deployment of alternative aviation fuels in their countries.
- d) reaffirm the importance of youth participation in this field; and
- e) use information in this paper, for consideration of CAAF/3 outcomes.