



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**

**SULTANATE OF OMAN'S INITIATIVES TOWARDS NET-ZERO
CARBON EMISSIONS FROM INTERNATIONAL AVIATION AND FINANCING
CLEANER ENERGY**

(Presented by Oman)

SUMMARY

This paper elaborates Oman's initiatives to facilitate the use of alternative fuels such as SAF/eSAF, LCAF, and cleaner energy to ensure the achievement of ICAO's LTAG of decarbonisation strategy 2050, and the fulfilment of other environmental international commitments which in turn contribute to the achievement of Oman vision 2040.

Action by the Conference is in paragraph 5.

1. INTRODUCTION

1.1 At its 39th Session in 2016, the ICAO Assembly reaffirmed its global aspirational goal for carbon-neutral growth from 2020, and recognized the work to explore a long-term global aspirational goal for the sector in light of the 2° C and 1.5° C temperature goals of the Paris Agreement.

1.2 While the ICAO Assembly Resolution A41 in October 2022 agreed to a collective global Long-Term Aspirational Goal (LTAG) of net-zero carbon emissions from international aviation by 2050, the expectation from LTAG's scenarios that a drop-in SAF will play a significant role in the mitigation of aviation CO₂ emissions using the existing global fleet will reach 55% of the formulated scenario, where the technology-design, operations, and market-based measures (CORSA) will ensure the rest of the value.

1.3 Accordingly, in the pursuit of a sustainable future, the Sultanate of Oman, under the visionary guidance of His Highness the Sultan, has set ambitious goals outlined in Vision 2040. This strategic roadmap envisions a diversified and knowledge-based economy, a thriving society, and a

sustainable environment. One of the key pillars driving this vision is the exploration of renewable energy solutions that reduce dependency on conventional fossil fuels.

1.4 Moreover, the principal mandate of the Omani Civil Aviation Authority (CAA) is to promote the development of the civil aviation industry in a sustainable and environmentally-friendly manner. Therefore, Oman's civil aviation industry plays an important role, and it is experiencing accelerated growth in the national transportation system. Thus, the Sultanate of Oman fully supports the role of ICAO to achieve the global aspirational goal (LTAG) of net-zero carbon emissions from international aviation by 2050.

2. **OMAN'S STATE ACTION PLAN INITIATIVE**

2.1 The Sultanate of Oman's Action Plan to reduce CO₂ Emissions from International Aviation, which was submitted in July 2023, outlines a vision for net-zero (GHG) emissions from international aviation to ensure the achievement of ICAO's Long-Term Aspirational Goals (LTAG) of the Decarbonization Strategy by 2050 and plan the key measures and primary steps to achieve Sustainable Development of the Aviation sector in the Sultanate of Oman with its three pillars: Economy, Environment, and Society.

2.2 However, we acknowledge that meeting our commitments to Net-Zero emissions by 2050 will require continuous efforts, and that our latest submitted Action Plan is a crucial step in working towards fulfilling the commitments of the Sultanate of Oman to develop a whole-of-government approach to the long-term decarbonisation of aviation, particularly through the three main mitigation measures included in it, which are technology-design, operational improvement, sustainable aviation fuel, and finally, market-based measures such as CORSIA.

2.3 In addition, to ensure that our commitments are maintained through the mid-to-long term, the Sultanate of Oman's Action Plan will be subject to several periodic and pre-planned reviews. These extensive reviews will involve re-assessing long-term projections, strengthening near-term commitments, establishing interim targets, and ensuring continued alignment with Oman's climate commitments, strategic sustainability, and Oman's 2050 net zero target.

3. **OMAN'S FESABILITY STUDY (SAF) INITIATIVE**

3.1 The quantified analysis of the submitted Oman's action plan revealed that the mitigation measures will mainly depend on the purchase of new aircraft for replacement, by a percentage of 88%, and the more efficient operations such as single engine taxi, minimising delaying flaps during landing and take-off and others will contribute by 9% while the improved in ATM and CORSIA ensure the remaining.

3.2 Thus, the gap analysis revealed that the current uses of alternative aviation fuel are not yet ready to be included in the action plan, while the recommended action in this regard has led the Omani Civil Aviation Authority (CAA) to sign a memorandum of cooperation (MoC) on October 11, 2023, with OQ Alternative Energy, a limited liability company incorporated in Oman, 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. However, the MoC came on the sidelines of the first national forum for innovation in aviation alternative fuel that was held in Oman on October 10-11, 2023, as one of the most relevant outcomes of the forum.

3.3 As per the MoC, the three parties will recognise the need for setting up a unit in the field of producing sustainable jet fuel, building capacities, and researching technologies used in producing green and sustainable jet fuel. Thus, this strategic cooperation reflects the joint vision to position the Sultanate of Oman in a vital role in the invention and use of green energy by implementing joint campaigns that have the intention of achieving net-zero carbon emissions by 2050.

4. **OMAN'S INITIATIVE FOR GREEN HYDROGEN**

4.1 The escalating global energy demand and environmental concerns, primarily driven by global warming, necessitate a shift from fossil fuels to sustainable and renewable energy sources. Hydrogen, hailed as a transformative clean energy option, has garnered substantial attention.

4.2 On 1 June 2023 the Ministry of Energy and Minerals (MEM) in Oman signed \$20 billion of contracts with partners, including BP, Shell, and the newly formed Hydrogen Oman (Hydrom), to produce 500,000 tonnes of green hydrogen each year. The Sultanate of Oman is dedicating an area of 50000 km² to solar power projects to produce green hydrogen, a gas produced entirely from renewable sources.

4.3 In addition, the Sultanate of Oman is expected to become among the top 10 of green hydrogen (H₂) exporters by 2030, according to the International Energy Agency (IEA). Thus, Oman aims to produce at least a million tonnes of renewable hydrogen a year by 2030 before ramping up capacity to 3.75 million tonnes by 2040 and 8.5 million tonnes by 2050, positioning Oman as one of the world's leading green Hydrogen hubs. This might pave the way for potential business opportunities in the next 10 years and may accelerate the production of SAF/eSAF, LCAF, and cleaner energy for sustainable aviation.

4.4 Furthermore, the Sultanate of Oman will continue to actively work alongside ICAO to update their state action plan periodically and to support the development of a global sustainability framework for Sustainable Aviation Fuel (SAF), Lower Carbon Aviation Fuels (LCAF), and implementation of CORSIA.

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

5.1 The CAAF/3 is invited to:

- a) encourage the requirement for close co-operation through all national stakeholders and entities concerned in order to achieve effective feasibility studies and research for exploring and driving the momentum of the development and deployment of eSAF, SAF, and LCAF, in addition to the relevant activities on their regulation and economic sustainability;
- b) note Oman's efforts to adopt and deploy green Hydrogen production;
- c) recommend more States to prepare and update their quantified State Action Plans and submit them to ICAO, including gap analysis which may be utilized as part of information to monitor the achievement of the LTAG, tailor appropriate capacity building and implementation support measures and facilitate access to financing with the energy sector and investor companies;
- d) agree to work collaboratively to achieve the ICAO-LTAG Vision 2050; and
- e) use information in this paper, for consideration of CAAF/3 outcomes.