



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

ASSISTANCE AND CAPACITY BUILDING FOR CLEANER ENERGY

(Presented by the ICAO Secretariat)

SUMMARY

This paper presents possible means of providing implementation support for the development and deployment of cleaner energy for aviation, building upon the ICAO Assistance, Capacity-building and Training programme, such as the exchange of information and best practices through a platform, supporting the delivery of feasibility studies, and facilitating partnerships and cooperation, as well as support under the ICAO State Action Plans initiative.

Action by the Conference is in paragraph 4.

1. INTRODUCTION

1.1 In line with the ICAO's *No Country Left Behind* initiative and the Assembly Resolution A41-21, paragraph 17, which recognizes that "means of implementation commensurate to the level of ambition, including financing, will promote the achievement of the LTAG", ICAO is taking action to assist its Member States towards the achievement of the "collective long-term global aspirational goal for international aviation (LTAG) of net-zero carbon emissions by 2050, in support of the Paris Agreement's temperature goal, recognizing that each State's special circumstances and respective capabilities (e.g. the level of development, maturity of aviation markets, sustainable growth of its international aviation, just transition, and national priorities of air transport development) will inform the ability of each State to contribute to the LTAG within its own national timeframe" (A41-21, paragraph 7 refers).

1.2 In this regard, the Assembly requested the Council to develop and implement "a robust assistance and cooperation programme dedicated LTAG in order to share information on best practices and provide guidance, capacity-building, and other technical assistance. Welcoming the establishment of the ICAO Assistance, Capacity-building and Training for SAF (ACT-SAF) programme, it should be extended to add support to the implementation of other emissions reduction measures in an ICAO ACT-LTAG programme (e.g. aircraft technologies, operational improvements, infrastructural changes, LCAF and other cleaner energy sources for aviation)" (A41-21, paragraph 18. c) refers).

1.3 The Assembly also requested the Council to “promote the voluntary transfer of technology, in particular for developing countries and States having particular needs, to enable them to adapt to cutting-edge technology and to enhance their contribution to achieve the LTAG” (A41-21, paragraph 18. d) refers).

1.4 This paper provides an overview of the ICAO activities in providing implementation support for the development and deployment of SAF, LCAF and other cleaner energies for aviation. The financing aspects of the Assembly decisions (A41-21, paragraphs 18. a) and 18. b)) are covered in CAAF/3-WP/8.

2. ICAO ACT-SAF PROGRAMME¹

2.1 In June 2022, prior to the 41st Session of the Assembly, the ICAO Assistance, Capacity-building and Training for Sustainable Aviation Fuels (ACT-SAF) programme was launched to provide tailored support for States in various stages of SAF development and deployment, and serve as a platform to facilitate knowledge sharing and recognition of all SAF initiatives around the globe.

2.2 The activities envisaged under the ACT-SAF programme include training, feasibility studies, support for SAF certification and for policy development, as well as the implementation of specific SAF projects, and the establishment of partnerships amongst States and other stakeholders under ICAO coordination. More details are contained in paragraphs 2.6 and 2.7 below.

2.3 Terms and Conditions for participation in the ACT-SAF programme for all States and other stakeholders were developed and made available for acceptance by electronic means on the ICAO website². Once a partner signs the Terms and Conditions, ICAO contacts the partner to identify needs or offers and starts engaging the partner in the activities of the programme. As of September 2023, 87 States and 46 organizations have joined the ACT-SAF programme, and they are recognized on the ACT-SAF Platform.

2.4 The ACT-SAF programme operates based on in-kind contributions and financial support received from supporting States and organizations. In that line, the 41st Assembly “urges ICAO Member States to make regular and substantial contributions to the ICAO Environment Fund, to address specific activities on the LTAG, including the ACT-SAF programme, aiming at assisting developing States and States having particular needs” (A41-21, paragraph 18. e)).

2.5 In this regard, ACT-SAF partners contributed to the ICAO Secretariat human resources (i.e., secondments by Brazil, France, Singapore and the European Union) and also provided relevant knowledge for the programme activities, such as for the ACT-SAF Training Series (paragraph 2.6 refers) and for the development of feasibility studies’ template and guide. In addition, financial resources to the ICAO Environment Fund to support the ACT-SAF programme were received from Cote D’Ivoire, France, Italy, the Netherlands, and the European Union, including for the conduct of feasibility studies (paragraph 2.7 refers).

2.6 Knowledge Enhancement and Sharing

2.6.1 Since November 2022, ICAO has been conducting the ACT-SAF Training Series, where experts from the ACT-SAF supporting partners deliver presentations and answer live questions from the participants on various subject matters, such as the fuel sustainability, certification, production technology, policies, logistics, market, and feasibility assessment. All the ACT-SAF partners are invited to attend the

¹ ICAO ACT-SAF programme: <https://www.icao.int/environmental-protection/Pages/act-saf.aspx>

² ACT-SAF Terms and Conditions: <https://docs.google.com/forms/d/e/1FAIpQLSf28JBcRZNR9Xdj-LGB4XCZuhfwfIBSmsI9zjqeBGz5fGoUZA/viewform>

training sessions, which are recorded and made available on the ACT-SAF Platform along with the presentations delivered³.

2.6.2 Regarding policies for the deployment of the SAF, the ICAO Council's Committee on Aviation Environmental Protection (CAEP) developed a *Guidance on potential policies and coordinated approaches for the deployment of Sustainable Aviation Fuels*⁴, which summarizes potential policies and coordinated approaches for the deployment of SAF and serves as a support reference (or "policy toolkit") for States. The Guidance also contains additional comparative analysis tools, such as the "Rules of Thumb", which provides order of magnitude estimations of SAF costs, investment needs and production potential. More information is available in CAAF/3-WP/3.

2.6.3 The ICAO website also includes several Tracker Tools for actions related to aviation cleaner energies, including policies, airports distributing SAF, volume of SAF under offtake agreements, approved conversion processes, feedstocks recognized under CORSIA, number and capacity of SAF facilities, and a list of feasibility studies. These ICAO SAF Tracker Tools⁵ are regularly updated to facilitate the exchange of information and sharing of best practices for all stakeholders.

2.7 Feasibility Assessment of SAF, LCAF and Other Aviation Cleaner Energies

2.7.1 In July 2023, ICAO developed a template for feasibility studies on SAF in consultation with the ACT-SAF partners to facilitate the preparation of standardized feasibility studies on SAF. This can be used to assess the feasibility of SAF development and deployment both at the State and regional (e.g. groups of States) level. An accompanying guide was also developed, which is consistent with the structure defined in the template and incorporates examples from a selection of publicly available feasibility studies, as well as resources on SAF published by ICAO, to show in a practical manner varying approaches in support of the development of a SAF feasibility study.

2.7.2 The template and guide are available on the ACT-SAF website, aiming to stimulate in depth discussions between States and consultancies performing feasibility studies, and facilitate next steps in SAF development and deployment, which may also facilitate access to financing (CAAF/3-WP/8 refers).

2.7.3 With the funding to the ICAO Environment Fund to support the ACT-SAF programme, ICAO is currently working with the European Union to initiate feasibility studies in ten partner States (Cameroon, Egypt, Equatorial Guinea, Ethiopia, India, Gabon, Mauritania, Mozambique, Senegal, and South Africa) on the development and deployment of SAF. This will constitute a crucial step towards developing a SAF market in these partner States, through the identification of viable SAF feedstock/conversion technologies, estimates on costs for SAF production facilities, policy options and long-term roadmaps, which may be incorporated into their State Action Plans. Preliminary discussions with France and the Netherlands have been underway regarding the scope of support under the ACT-SAF programme.

2.8 The ICAO capacity-building and implementation support should be delivered in an efficient, effective and coordinated manner under the 'one-ICAO' approach, incorporating support for all stages of SAF, LCAF and other aviation cleaner energies development and deployment. States are also encouraged to develop specific projects under the ICAO Technical Cooperation Programme, as well as through the establishment of partnerships among States and other stakeholders.

³ ACT-SAF Training Series: <https://www.icao.int/environmental-protection/Pages/ACT-SAF-Series.aspx>

⁴ ICAO Guidance is available at: https://www.icao.int/environmental-protection/Pages/saf_guidance_potential_policies.aspx

⁵ ICAO SAF Tracker Tools: <https://www.icao.int/environmental-protection/pages/SAF.aspx>

3. ICAO STATE ACTION PLANS INITIATIVE⁶

3.1 Assembly Resolution A41-21 “encourages all States to submit and update voluntary action plans to ICAO to reduce CO₂ emissions from international aviation, outlining respective policies, actions and roadmaps, including long-term projections” (A41-21, paragraph 10 refers). The Resolution also “invites States that choose to prepare or update action plans to submit them to ICAO as soon as possible preferably by the end of June 2024 and once every three years thereafter, in order that ICAO can continue to compile the quantified information in relation to achieving the global aspirational goals, and the action plans should include information on the basket of measures considered by States, reflecting respective national capacities and circumstances, quantified information on the expected environmental benefits from the implementation of the measures chosen from the basket, and information on any specific assistance needs for the implementation of the measures” (A41-21, paragraph 11 refers).

3.2 The State Action Plans (SAPs) can play a fundamental role in the deployment of cleaner energies for aviation. Aspects related to policies, actions and roadmaps for the development and deployment of SAF, LCAF and other aviation cleaner energies should be considered therein, as well as the identification of resources, capacity building and other implementation support measures, including the facilitation of access to financing and funding, in line with the State’s needs (CAAF/3-WP/8 refers).

3.3 In this regard, the Secretariat is currently working closely with the Regional Offices to provide support to national SAP focal points to develop an action plan that encompasses innovations in aviation technologies and cleaner energies, including long-term projections and ensuring the use of the best available data, supported by ICAO guidance and tools.

3.4 The Secretariat is also progressing on the update of ICAO Doc 9988, *Guidance on the Development of States’ Action Plans on CO₂ Emissions Reduction Activities*, with an aim to provide additional guidance for States to incorporate their long-term emissions reduction initiatives into SAPs and to report quantified information on the expected environmental benefits from the implementation of the measures chosen from the basket of measures, in a more harmonized manner to facilitate the monitoring of the LTAG progress. In this regard, the ICAO Secretariat has engaged with CAEP Members and Observers on the update of ICAO Doc 9988, through the support of experts who have experience in SAP development and update while ensuring geographical representation, with an objective to collect views and suggestions on the amendments of the guidance document. The updated guidance is expected to be available by early 2024.

3.5 Progress also continues under Phase II of the ICAO *Capacity Building for CO₂ Mitigation from International Aviation* assistance project, with funding from the European Union (EU)⁷. Building on the successful partnership with the EU in Phase I⁸ including the development of 14 SAPs and four SAF feasibility studies in Burkina Faso, Dominican Republic, Kenya and Trinidad and Tobago, and to ensure that *No Country is Left Behind*, ICAO undertook the Phase II to develop and implement 10 additional SAPs in African States. All 10 SAPs have been developed and discussed at the project seminars to share experiences on their SAPs and facilitate discussions on the development and implementation of SAF, including three SAF feasibility studies underway in Côte d’Ivoire, Rwanda and Zimbabwe under the Phase II project.

⁶ ICAO State Action Plans initiative: https://www.icao.int/environmental-protection/pages/climatechange_actionplan.aspx

⁷ ICAO-EU assistance project, Phase II: https://www.icao.int/environmental-protection/Pages/ICAO_EU_II.aspx

⁸ ICAO-EU assistance project, Phase I: https://www.icao.int/environmental-protection/pages/ICAO_EU.aspx

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

4.1 The CAAF/3 is invited to:

- a) recognize the ICAO ACT-SAF as a key programme for assistance, capacity building and training for aviation cleaner energies, and encourage States to work further with ICAO to tailor capacity building and implementation support measures;
- b) encourage more States and other stakeholders to become the ACT-SAF partners to enhance the programme's benefits from a multiplier effect, and encourage supporting partners to provide additional resources to the programme;
- c) encourage States to include information on specific assistance needs for the implementation of measures to reduce aviation CO₂ emissions, especially on aviation cleaner energies, into their State Action Plans;
- d) encourage ICAO to continue to update the ICAO Doc 9988, *Guidance on the Development of States' Action Plans on CO₂ Emissions Reduction Activities*, to further support States for the development and update of their State Action Plans; and
- e) use information in this paper, for consideration of CAAF/3 outcomes.

— END —