



International Civil Aviation Organization

CAAF/3-WP/18
17/10/23

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

Agenda Item 5: Reviewing the 2050 ICAO Vision for SAF, including LCAF and other cleaner energy for aviation, in order to define a global framework

**POLICIES IN SUPPORT OF A GLOBAL, COLLECTIVE AND
ASPIRATIONAL QUANTIFIED OBJECTIVE FOR SAF, LCAF AND
OTHER AVIATION CLEANER ENERGY**

(Presented by Spain on behalf of the European Union and its Member States¹, the other Member States of the European Civil Aviation Conference² and EUROCONTROL)

SUMMARY

This working paper proposes that the global framework for aviation cleaner energy, should include a global, collective and aspirational quantified 2050 objective for aviation cleaner energies and a trajectory towards it.

Action by the Conference is in paragraph 3.

¹ Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain and Sweden.

² Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Georgia, Iceland, Moldova, Monaco, Montenegro, North Macedonia, Norway, San Marino, Serbia, Switzerland, Türkiye, Ukraine and United Kingdom.

1. **ADOPTING A GLOBAL, COLLECTIVE AND ASPIRATIONAL QUANTIFIED OBJECTIVE FOR SAF, LCAF AND CLEANER ENERGY**

1.1 ICAO Assembly Resolution A41-21 adopted a long-term aspirational goal of net-zero CO₂ emissions from international aviation by 2050 (LTAG). The same Resolution requests the ICAO Council to “*convene the CAAF/3 in 2023 for reviewing the 2050 ICAO Vision for SAF, including LCAF and other cleaner energy sources for aviation, in order to define a global framework*”.

1.2 The ICAO 2050 Vision, adopted by the Second Conference on Aviation and Alternative Fuels (CAAF/2) in 2017 calls for the Third Conference on Aviation and Alternative Fuels to “[...] *update the 2050 ICAO Vision to include a quantified proportion of CAF to be substituted with SAF by 2050, and carbon reductions achieved by SAF*”.

1.3 The direction of the aviation energy transition should be guided by the LTAG, which is in line with the Paris Agreement temperature goal. The net-zero goal was developed on the scientific basis of the CAEP report on feasibility of an LTAG³. This report incorporates three integrated scenarios, all showing the feasibility of substantially reducing CO₂ emissions by 2050. None of the scenarios reaches zero CO₂ emissions using in-sector measures only. All scenarios show that within the basket of measures identified by ICAO, the contribution to the reduction of CO₂ emissions of SAF, LCAF and other aviation cleaner energies is by far the largest.

1.4 An agreement by CAAF/3 on a global, collective and aspirational quantified objective for 2050 underpinned by a trajectory, is fundamental to maintain momentum following the LTAG adoption, to send a clear signal through ICAO on the commitment of States and the international aviation community to operationalise the LTAG and to trigger scale of investments matching the ambition. It is necessary to provide a long-term policy certainty and to mobilize the global industry responsible for the development and deployment of SAF, LCAF and other aviation cleaner energies as well as public and private investors.

1.5 The attainment of the objective and trajectory for aviation cleaner energies will rely on a holistic and comprehensive global framework that encompasses policy and planning, regulatory framework, implementation support and financing. All elements are necessary to attain the objective.

1.6 The preparatory work for CAAF/3 has included various consultations with the financial sector, five Environmental Regional Seminars, the Pre-CAAF/3 Policy and Finance Consultation and the Pre-CAAF/3 Outcomes Consultation. These consultations have been crucial to better understand concerns of States that are not represented on the Council, and to allow for a constructive and open dialogue towards an agreement on the global framework that will operationalise the LTAG for fuels-related measures.

1.7 To send a clear signal of the urgency of investment in aviation cleaner energies, and to ensure a feasible pathway to the 2050 objective, the updated 2050 Vision for aviation cleaner energies should include a trajectory towards the 2050 objective. Setting the trajectory periodically will enable monitoring the progress achieved, ensure that policy and support can be quickly adjusted if needed, and provide visibility and certainty to investors on the global market in the medium-term. In particular, defining at CAAF/3 a trajectory for year 2030 is critical to encourage swift industrial action and investments across the globe into aviation cleaner energies.

³ <https://www.icao.int/environmental-protection/LTAG/Pages/LTAGreport.aspx>

1.8 Such an objective and trajectory would be adopted under the overarching LTAG, and therefore cannot give rise to specific obligations on any individual State or region. States should design their own policies to incentivise the production and use of SAF, LCAF and other cleaner energy sources, using the policy guidance provided by ICAO.

1.9 The progressive trajectory and objective for 2050 should be consistent with LTAG Integrated Scenario 3, which would put international aviation in the most favourable position to achieve net-zero CO₂ emissions by 2050 without overreliance on out-of-sector reductions. Such level of aspiration is consistent with A41-21 resolution, paragraph 21, that invites the Council, States and organisations to strive to achieve the maximum possible level of progress on the implementation of aviation in-sector CO₂ emissions reduction measures.

1.10 The trajectory for cleaner aviation energies towards 2050 should be defined consistently with the LTAG. Setting the trajectory with regular time intervals will enable monitoring the progress achieved, ensure that policy and support can be quickly adjusted if needed, and provide visibility and certainty to investors on the global market in the medium-term. In particular, defining at CAAF/3 a trajectory for year 2030 is critical to encourage swift industrial action and investments across the globe into aviation cleaner energies in a timescale compatible with the LTAG.

1.11 The selection of a metric is necessary to quantify the objective and trajectory for aviation cleaner energies and to measure the contribution of such energies to the LTAG progress. The technical work by CAEP, summarised in WP4, delivered a comprehensive assessment on the metric selection. In that assessment, metrics expressed as *average mass carbon intensity from fuel* (Option 7) or as *percentage emissions reduction from the use of aviation cleaner energy* (Option 6) were equally identified as the most appropriate. Both allow for all fuels to be credited in proportion to the emissions reductions achieved and are consistent with CORSIA methodologies and provide a benchmark for comparison. We express a preference to the metric expressed as *percentage emissions reduction from the use of aviation cleaner energy* because it allows for easier understanding and communication with the general public. This metric can also be described as *percentage reduction in emissions intensity compared to a baseline scenario of 100% fossil fuel use*.

2. SUPPORTING POLICIES

2.1 A global, collective and aspirational quantified objective cannot be translated into a specific obligation at national or regional scale, but States and regions should be encouraged to develop and implement their SAF, LCAF and cleaner energy policies to support achievement of the objective, and therefore the LTAG. There is no one-size-fits-all policy which can be applied uniformly globally, and each State and region should develop policies according to their local circumstances and capabilities.

2.2 In addition to emission reductions, development of aviation cleaner energies offers significant socio-economic benefits for States and regions. The diversity of existing and potential fuels-related technologies, production pathways and feedstock provides a wide-ranging production potential of aviation cleaner energies across various geographical States and regions, with a positive economic and job-creation impact. While the majority of fossil fuels currently come from just approximately twenty countries worldwide, most States could become producers of aviation cleaner energies to different extents.

2.3 Defining effective national or regional policies is a pre-requisite for States to seize these opportunities from aviation cleaner energies, reducing the price gap with conventional fuels and help to bring certainty to attract investments.

2.4 We welcome the policy toolkit contained in the draft global framework. It is a good complement to the ICAO initiative on the SAF Policy Guidance, which is essential to inform States or region in support of developing their SAF policies. ICAO should regularly update the Guidance so that it can serve as a central repository of best practice.

2.5 Many States across the world have developed or are currently developing their policies for the development and deployment of SAF, which will contribute to the achievement of the LTAG. This has sent an important signal to the SAF market and consequently triggered increased SAF production. As more States are developing and implementing their respective policies, this will further increase the production and use of SAF

2.6 The SAF market landscape is changing rapidly, with new projects being announced continuously by the industry bringing new capacities to the market. The ICAO SAF Tracking tools monitor these developments at the global scale. ICAO should continue to monitor developments of production and uptake of SAF, and act as a consolidator of information, providing an overview to States and regions which are taking steps to develop, implement and strengthen their SAF policies. A global collective aspirational quantified objective, based on a clear metric, will facilitate this task of tracking progress towards net-zero by 2050.

3. ACTION BY THE CAAF/3

3.1 The CAAF/3 is invited to:

- a) agree to include a global, collective and aspirational quantified objective for 2050 and a trajectory towards it as an integral part of the global framework;
- b) agree that a progressive trajectory and a quantified objective for 2050 for aviation cleaner energies needs to be consistent with LTAG Integrated Scenario 3;
- c) agree to express the quantified objective and trajectory in terms of percentage emissions reduction from the use of aviation cleaner energy (WP/4, Table 1, Metric Option #6);
- d) invite all regions and ICAO States to define their policies and actions in support of development and deployment of SAF, LCAF and other aviation cleaner energies, based on the policy toolkit and the related ICAO guidance; and
- e) recommend to ICAO to regularly update the ICAO SAF Policy Guidance and continue to monitor developments in SAF policy, production and use.

— END —