



Assistance, capacity-building, and training for cleaner energy, including the ICAO ACT-SAF programme



ICAO Environmental Regional Seminars

13 April – 8 May 2023



- **Assembly request on means of implementation**
- **Updates on the ACT-SAF Programme**
 - Objectives of the programme
 - Status of partner States and Organizations
 - ACT-SAF Series of Training
 - Feasibility Studies and template
 - Support to certification
 - Support to policy implementation
 - Facilitating financing
- **Upcoming assistance and capacity-building activities**
- **Dialogue session**

“Means of implementation commensurate to the level of ambition, including financing, will promote the achievement of the LTAG” (A41-21, para. 17)



Relevant provisions from A41-21 on assistance, capacity building, and other means of implementation

Para. 12: ... share information ...

Para. 13: ... dissemination of economic and technical studies ...

Para. 17: ... means of implementation ...

Para. 18.a: ... facilitate... access to private investment capacities...

Para. 18.b: ... climate finance initiative or funding mechanism under ICAO ...

Para. 18.c: ... assistance and cooperation programme dedicated to LTAG ... ACT-SAF

Para. 18.d: promote the voluntary transfer of technology...

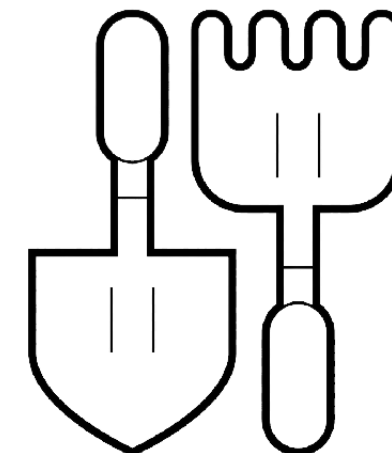
Para. 18.e: ... regular and substantial contributions to the ICAO Environment Fund...

Para. 20.d: ... assist Member States with studies, evaluations and development of procedures ...

Para. 21: ... to work together with relevant organizations ... recognizing ... largest ... CO2 emissions reduction will come from fuel-related measures

Para. 27.b: ... consider the use of incentives to ... cleaner and renewable energy sources ...

Para. 28: ... facilitate the establishment of partnerships and the definition of policies ...



Click on the paragraphs to see the full text

What is the ICAO ACT-SAF?

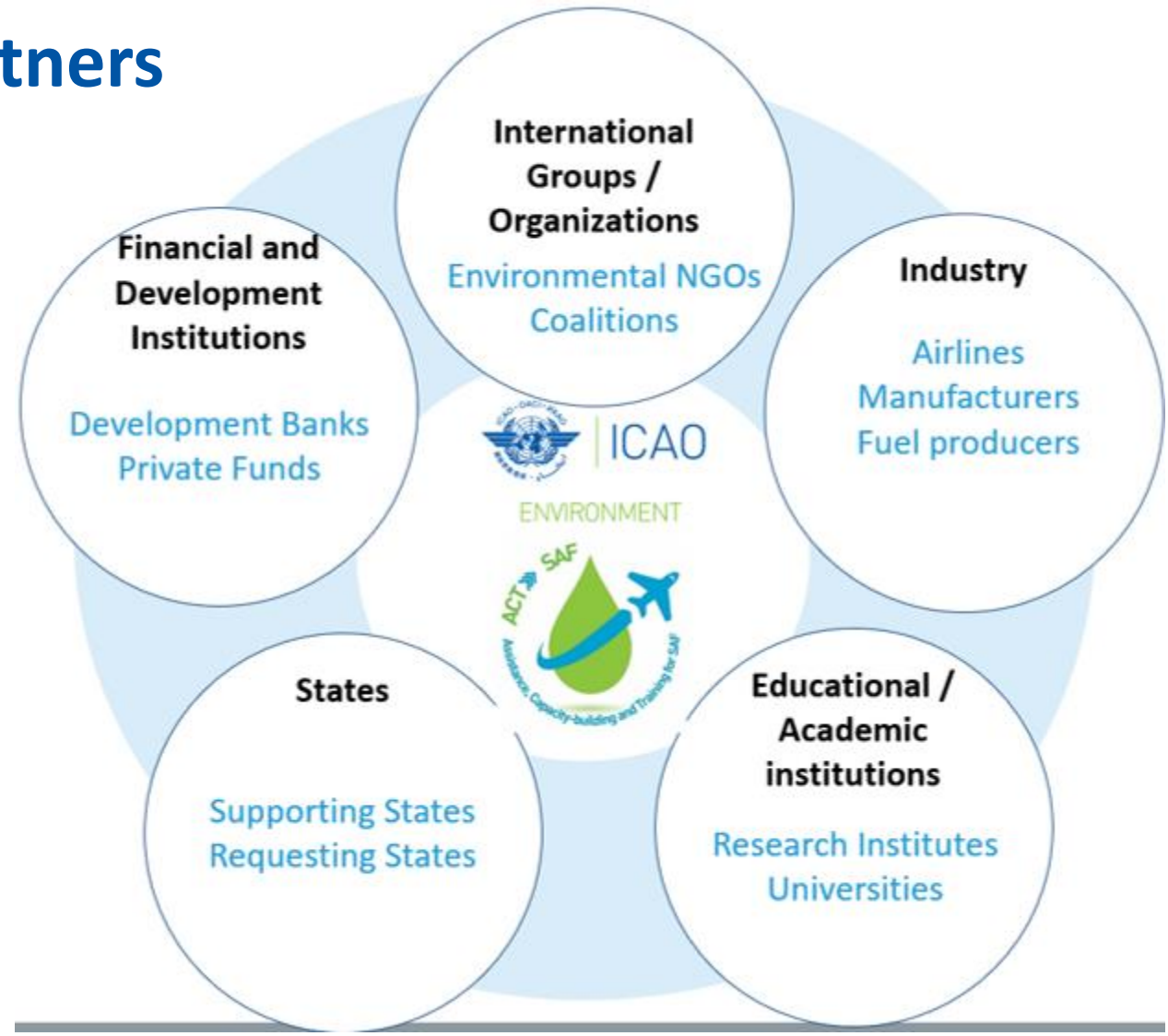
- Launched on June 1st 2022, ACT-SAF is an ICAO initiative to facilitate the development and deployment of SAF
- Tailored support for States
- Facilitate cooperation under ICAO coordination
- A Platform to facilitate knowledge sharing and progress monitoring

Why ICAO ACT-SAF programme?

- Builds on existing ICAO “ACT” experience, through partnerships and cooperation among States
- ICAO LTAG report foresees largest CO₂ reductions coming from fuels and cleaner energy sources
- Need for immediate action to fully realize SAF potentials
- ACT-SAF was welcomed by the 41st ICAO Assembly (A41-21, para. 18)



The ACT-SAF Partners



<https://www.icao.int/environmental-protection/Pages/act-saf.aspx>

States

Acceptance to ... ● Pending ● Yes



- Name of State ^
- Albania
- Argentina
- Bhutan
- Botswana
- Brazil
- Burkina Faso

International Organizations

Acceptance T&C ● Pending ● Yes



- Name of Organization ^
- AACO - Arab Air Carriers' Organization
- ACI - Airports Council International
- Airbus
- Airports Company of Zimbabwe
- All Nippon Airways (ANA)

ACT-SAF website provides the details on ACT-SAF participation and initiatives

Latest news on ACT-SAF

| Date | Latest news | Link |
|------------|------------------------------------------------------------|----------------------|
| 16/02/2023 | ACI joins ACT-SAF | |
| 12/01/2023 | Cote d'Ivoire offers financial resources to ACT-SAF | |
| 22/12/2022 | Netherlands offers financial resources to ACT-SAF | |
| 20/12/2022 | France offers financial resources to ACT-SAF | |
| 17/11/2022 | ICAO launches the ACT-SAF Series of training events on SAF | Link |

The ACT-SAF Programme is open to all interested parties in supporting the programme.

To become a partner, the interested party shall accept the Terms and Conditions on the ICAO website.

How to become an ACT-SAF Partner?

You can become an ACT-SAF Partner by agreeing to the [ACT-SAF Terms and Conditions](#). For those interested in further information, an e-mail can be sent to the Office of Environment (officeenv@icao.int). ICAO will schedule a meeting to discuss potential needs and/or contributions under ACT-SAF and further steps into the programme.

docs.google.com/forms/d/e/1FAIpQLSf28JBcRZNR9Xdj-LGB4XCZuhfwfIBSmsl9zjqeBGz5fGoUZA/viewform

1. Abbreviations and Definitions

1.1 In this document, unless the context otherwise requires, the following words or abbreviations shall have the corresponding meanings indicated below:

ACT-SAF ICAO's Assistance, Capacity-building and Training for Sustainable Aviation Fuels Programme

ENV ICAO's Office of Environment, a branch of the Air Transport Bureau (ATB)

ICAO The International Civil Aviation Organization, with Headquarters at 999 Robert- Bourassa Boulevard, Montréal, Quebec, Canada, H3C 5H7.

Partner An entity (State, Organization, or Institution) that has accepted the Terms and Conditions of the ACT-SAF in order to participate in the activities envisaged in the programme either as a supporting Entity or as a Requesting State.

Requesting State A Partner State that requests or receives support under the ACT-SAF Programme

SAF Sustainable Aviation Fuels

Supporting Entity A Partner entity that provides resources for the ACT-SAF Programme



How does ACT-SAF work?

| | | | |
|-----------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------|----------------------------------------------------------------------|
| 1) Interested party expresses interest in becoming an ACT-SAF Partner | 2) ICAO deploys ACT-SAF activities based on States tailored needs and capabilities | 3) ICAO connects ACT-SAF Participants | 4) ICAO facilitates agreements and coordinates concrete SAF projects |
|-----------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------|----------------------------------------------------------------------|

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p style="text-align: center;">Deployment of ACT-SAF activities</p> <ul style="list-style-type: none"> - Coordination calls with States to assess needs and offers - ACT-SAF Series on a monthly basis - Preparations to launch feasibility studies - Development of ICAO template for feasibility studies - Inception of ACT-SAF Platform on monitoring and reporting of SAF | <p style="text-align: center; color: green;">Ongoing</p> <div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: 80%;"> <p style="text-align: center;">Facilitate the matching of needs and opportunities between States and industry</p> </div> |
| <p style="text-align: center;">Connection with financing institutions</p> <p style="text-align: center;">Regional workshops & meetings with banks</p> <p style="text-align: center;">Identification of financial tools relevant for SAF</p> | |

- **Technical Knowledge of SAF is a pre-requisite for implementation of specific SAF projects and policies.**
- **Training on SAF is a key request of ACT-SAF partners**
- **ICAO is offering the “ACT-SAF Series” of training events to the ACT-SAF partners**
 - ACT-SAF partners participate live and can directly ask questions and have feedback
 - Recordings and presentations publicly available after the events
 - Exploring the possibility of offering events in other ICAO languages



Introduction
to SAF
Nov/2022



SAF
sustainability
and reporting
under CORSIA
Jan/2023



SAF
technology &
certification
Feb/2023



SAF policies
Mar/2023



SAF market
outlook
May/2023



SAF
Economics and
financing
Jun/2023



SAF logistics
Jul/2023



SAF feasibility
assessment
Sep/2023

icaoinf/environmental-protection/Pages/ACT-SAF-Series.aspx

- [Home](#)
- [Scientific Understanding](#)
- [Environmental Trends](#)
- [Technology Goals & Standards](#)
- [Aircraft Noise](#)
- [Trends](#)
- [Technology Goals](#)
- [Technology Standards \(Reduction of noise at source\)](#)
- [Land Use Planning and Management](#)
- [Noise Abatement Procedures](#)
- [Operating Restrictions](#)
- [Noise from Emerging Technology Aircraft](#)
- [Local Air Quality](#)
- [Trends](#)
- [Technology Goals](#)
- [Technology Standards](#)
- [Guidance on Airport Air Quality](#)
- [Climate Change](#)
- [LTAG - Long-term global aspirational goal](#)
- [Trends](#)
- [Technology Goals](#)
- [Technology Standards](#)
- [Operational Measures](#)
- [Sustainable Aviation Fuels](#)
- [CORSIA](#)
- [Adaptation](#)



ACT-SAF Series

Coordination with ACT-SAF partners identified that many States need conceptual training on SAF.

To address that, ICAO is developing the **ACT-SAF Series of training sessions**, to be held on a monthly basis. This will allow delivering comprehensive training to ACT-SAF Partners on an array of important SAF-related topics, ranging from sustainability, to policy, economics/financing certification and logistics.

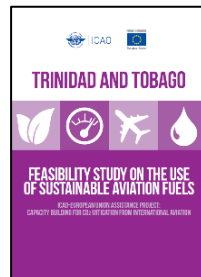
The ACT-SAF Series will empower the ACT-SAF Partners with training material designed with the support of Supporting States and Organisations from the air transport, fuels and finance sectors, as well as academics and actors with niche expertise such as SAF reporting under CORSIA.

Want to participate on the ACT-SAF Series? Join ACT-SAF now ([click here to access the ACT-SAF Terms and Conditions](#)). Participation is open to all States and Organizations interested in further action on SAF.

| ACT-SAF Series | Date | Topics | Contributor(s) | Abstract | Video and Presentation |
|----------------|------------------|-----------------------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| #1 | 25 November 2022 | An introduction to SAF | ICAO | <ul style="list-style-type: none"> Introduction to ACT-SAF Basics of SAF |  <p>Download Presentation</p> |
| #2 | 25 January 2023 | SAF sustainability and reporting under CORSIA | ISCC RSB Verifavia | <ul style="list-style-type: none"> process for sustainability certification of SAF Reporting and |  |

A feasibility study is the first step to assessing the SAF potential in a State

- ICAO Experience - four successful feasibility studies previously developed under an ICAO-EU project
- Many feasibility studies will be developed in the ACT-SAF programme
 - Three new feasibility studies under the existing ICAO-EU project
 - Financial resources provided by Cote D'Ivoire, France, Netherlands and the European Commission will allow several additional feasibility studies
 - ICAO and World Bank project being structured
 - Studies also being pursued by ACT-SAF partners





Feasibility Study Template

Comprehensive Version

1. EXECUTIVE SUMMARY

- **Background:**
This section will provide a brief overview of the background of the feasibility study, including the reasons for conducting the study and its main objectives.
- **Key findings:**
This section will summarize the key findings of the feasibility study, highlighting the most important and relevant information for the Requesting State and its stakeholders. This should include an overview of the different types of feedstock that were evaluated, the potential for expanding the use of different types of feedstock, and the critical success factors for the development, deployment and commercialisation of Sustainable Aviation Fuels (SAF), including the key findings from the Roadmap developed.
- **Policy environment:**
This section will provide an overview of the current policy environment related to SAF, including any relevant regulatory standards, and guidelines. It will also provide an analysis of the policy environment in the Requesting State and the policy implications of the study's findings.
- **Opportunities:**
This section will identify and describe the opportunities for implementing SAF, including the potential for feedstock expansion, the availability of financing, and the potential for reducing greenhouse gas emissions. It will also highlight any challenges and barriers that need to be addressed in order to realize these opportunities.

The Executive Summary will provide a concise, high-level overview of the entire feasibility study, highlighting the most important and relevant findings and recommendations for decision-makers. It will provide an overview of the background, the key findings of the study, policy environment and the opportunities mapped.

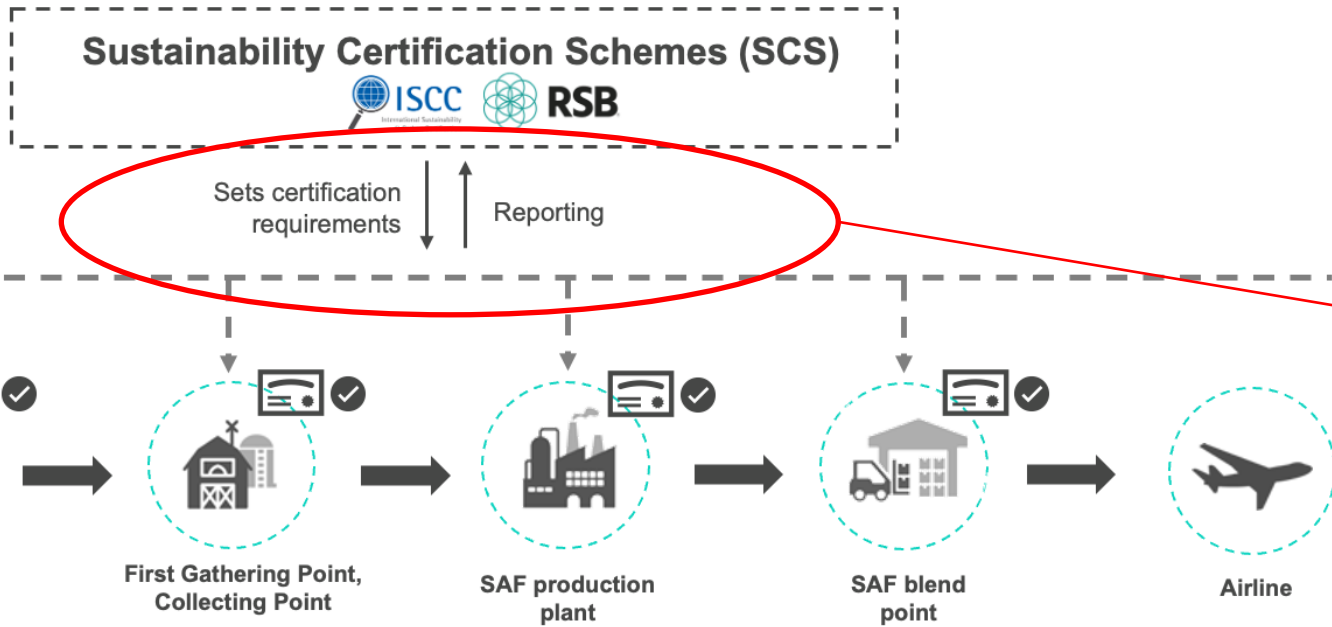
Abbreviations & Acronyms

List of Figures & Tables

ICAO is currently developing a template for SAF Feasibility Studies

- Ensure coherence across studies, increased quality
- Harmonized structure (more practical/quantitative)
- Ensure alignment with ICAO's methodologies and guidance
- Include information relevant to facilitate financing
- Facilitate outreach of results of the studies

ACT-SAF can assist in the SAF sustainability certification processes



Potential support from ACT-SAF partners or ICAO

- Support to data gathering and reporting
- Assistance with the certification process

Many policies are available to support SAF development

| Potential Policy Categories* | |
|----------------------------------------------------------------------------------------|------------------------------------------------|
| Government funding for SAF research, development, demonstration and deployment (RDD&D) | SAF mandates |
| Targeted incentives and tax relief | Update of existing policies to incorporate SAF |
| Recognition of SAF environmental benefits | Demonstrate government leadership |

ACT-SAF can support States in the policy development process, by connecting partners and sharing experiences

Identify tailored policy solutions

Implement a policy framework

Session #1 of this regional seminar - policies to foster SAF deployment

ICAO is connecting with financial institutions across all regions to:

1. **Raise awareness of financial institutions on the role of SAF** to achieve the LTAG, and on the interest of aviation/fuel industries for immediate and massive SAF scale-up;
2. **Inform financial institutions of the significant investments needed** to scale-up SAF production capacity across all regions, in particular for developing countries.
3. **Explore financial institutions' existing or future financing opportunities** to support SAF deployment and inform financing institutions of ways in which they can best contribute to SAF deployment.

ICAO has organized **regional workshops** and had **initial discussions** with **public and private financing institutions** and has learned many lessons in this process.

Session #3 of this regional seminar - financing cleaner energy sources for aviation

Can you share your State or Organization's views on the main areas of assistance and capacity-building needs?





Do you have any feedback or suggestions for the improvement and prioritization of ACT-SAF (e.g., ACT-SAF training areas, sharing of SAF technology development, SAF feasibility studies) and other ICAO activities?



Supplementary Material

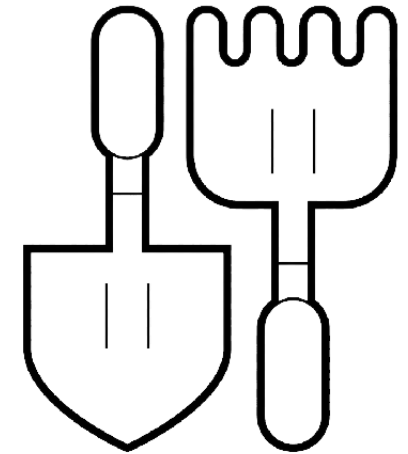
ICAO Resolution A41-21 Climate Change

Long-term Aspirational Goal – Capacity building and means of implementation (para. 12, 13, 17, 18, 20, 21, 27 and 28)

12. Encourages States that have already submitted action plans **to share information contained in action plans and build partnerships with other Member States** in order to support those States that have not prepared action plans, and to make the submitted action plans available to the public, taking into account the commercial sensitivity of information contained in States' action plans;

13. Requests the Council **to facilitate the dissemination of economic and technical studies and best practices related to aspirational goals** and to **continue to provide guidance and other technical assistance for the preparation and update of States' action plans** prior to the end of June 2024, including through cooperation and assistance on identifying possible sources of financing for decarbonization of aviation in cooperation with financial and other relevant organizations, in order for States to conduct necessary studies and to voluntarily submit action plans to ICAO;

17. Recognizes that **means of implementation commensurate to the level of ambition, including financing, will promote the achievement of the LTAG**. It requires substantial investments for States, according to their national circumstances, and that various possible modalities and/or funding mechanisms could be used by ICAO to facilitate financing and investment support for implementation of specific aviation CO₂ emissions reduction measures;



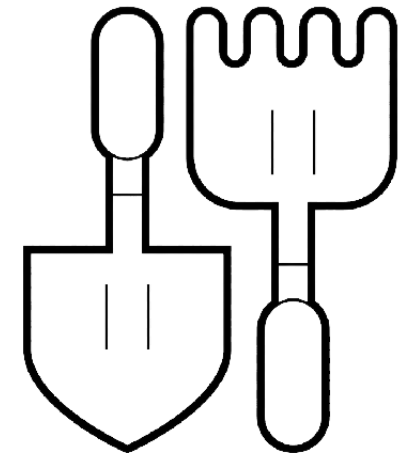
Long-term Aspirational Goal – Capacity building and means of implementation (para. 12, 13, 17, 18, 20, 21, 27 and 28)

18. Requests the Council to:

a) **initiate specific measures or mechanisms so as to facilitate**, in particular for developing countries and States having particular needs, **better access to private investment capacities, as well as funding from financial institutions**, such as development banks, for projects contributing to the decarbonization of international aviation, as well as **encourage new and additional funding** to this purpose;

b) **further consider the establishment of a climate finance initiative or funding mechanism under ICAO**, while addressing the possible financial, institutional and legal challenges, and report to the 42nd Session of the ICAO Assembly;

c) subparagraphs a) and b) above will be **complementary to a robust assistance and cooperation programme dedicated to 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);

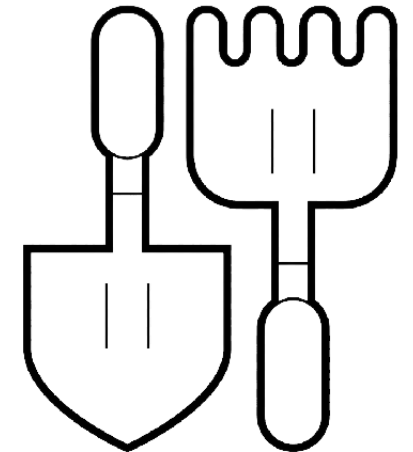


Long-term Aspirational Goal – Capacity building and means of implementation (para. 12, 13, 17, 18, 20, 21, 27 and 28)

18. Requests the Council to: (continued)

d) **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; and

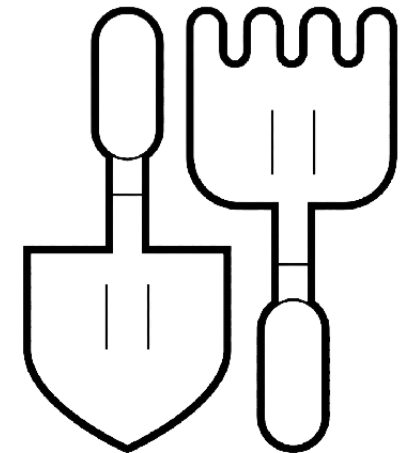
e) in line with the No Country Left Behind initiative, urge ICAO Member States to make **regular and substantial contributions to the ICAO Environment Fund, to address specific ICAO activities on the LTAG, including the ACT-SAF programme, aiming at assisting developing States and States having particular needs**. States are also encouraged to develop specific projects under the ICAO Technical Cooperation Programme.



Long-term Aspirational Goal – Capacity building and means of implementation (para. 12, 13, 17, 18, 20, 21, 27 and 28)

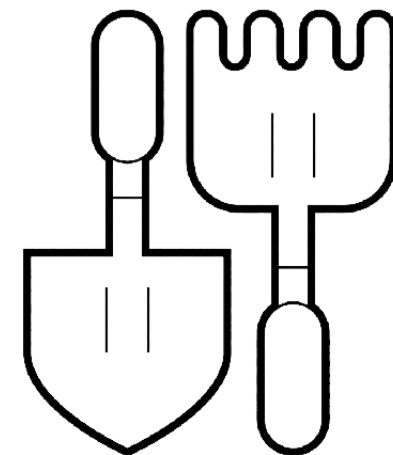
20. Requests the Council to:

- a) **continue to develop and keep up to date the guidance for Member States on the application of policies and measures aimed at reducing or limiting the environmental impact of emissions from international aviation**, and conduct further studies with respect to mitigating the impact of international aviation on climate change and to adapting international aviation systems and infrastructure to climate change impacts and risks;
- b) **encourage States to cooperate** in the development of predictive analytical models for the assessment of aviation impacts;
- c) continue evaluating the costs and benefits of the various measures, including existing measures, with the goal of addressing aircraft engine emissions in the most cost-effective manner, taking into account the interests of all parties concerned, including potential impacts on the developing world; and
- d) **assist Member States with studies, evaluations and development of procedures**, in collaboration with other States in the region, to limit or reduce GHG emissions on a global basis and work together collaboratively to optimize the environmental benefits that can be achieved through various programmes;



Long-term Aspirational Goal – Capacity building and means of implementation (para. 12, 13, 17, 18, 20, 21, 27 and 28)

21. Invites the Council and Member States **to work together with relevant organizations** to strive to achieve the maximum possible level of progress on the implementation of aviation in-sector CO₂ emissions reduction measures (e.g. technology, operations and fuels), **recognizing that the largest potential impact on aviation CO₂ emissions reduction will come from fuel-related measures;**



Long-term Aspirational Goal – Capacity building and means of implementation (para. 12, 13, 17, 18, 20, 21, 27 and 28)

27. Requests States to:

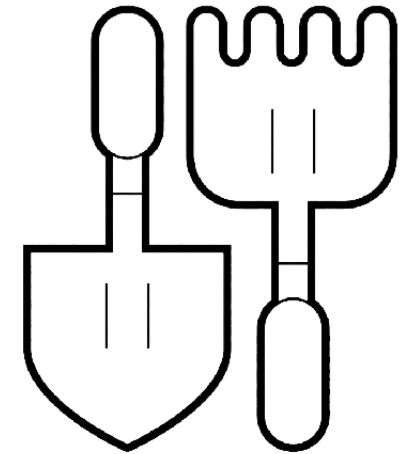
a) set a coordinated approach in national administrations for policy actions and investment to accelerate the appropriate research, development, deployment and use of cleaner and renewable energy sources for aviation, including the use of sustainable aviation fuel (SAF) and lower carbon aviation fuel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

b) **consider the use of incentives to encourage the deployment of cleaner and renewable energy sources** for aviation, including SAF and LCAF;

c) work with relevant stakeholders to accelerate the fuel research, certification and development as well as processing technology and feedstock production, and the certification of new aircraft and engines to allow the use of 100 per cent SAF, in order to decrease costs and support scaleup of sustainable fuel production pathways up to a commercial scale, especially through encouraging and promoting SAF and/or LCAF purchase agreements as well as supporting timely delivery of any necessary changes to airport and energy supply infrastructure, taking into account the sustainable development of States;

d) recognize existing approaches to assess the sustainability of all fuels in general, including those for use in aviation which should achieve net GHG emissions reduction on a life cycle basis, contribute to local social and economic development; competition with food and water should be avoided; and

e) adopt measures to ensure the sustainability of aviation fuels, building on existing approaches or combination of approaches, and monitor their production at a national level;



Long-term Aspirational Goal – Capacity building and means of implementation (para. 12, 13, 17, 18, 20, 21, 27 and 28)

28. Requests the Council to:

- a) encourage Member States and invite industry, financial institutions and other international organizations to actively participate in exchange of information and best practices, and **facilitate the establishment of partnerships and the definition of policies** that will further promote the transition to cleaner, renewable sources of energy for aviation, including SAF and LCAF, through regional seminars;
- b) continue to maintain the ICAO Global Framework for Aviation Alternative Fuels (GFAAF);
- c) continue to give a global view of the future use of SAF and LCAF and to account for changes in life cycle GHG emissions in order to assess progress toward achieving global aspirational goals;
- d) work with financial institutions to facilitate access to financing infrastructure development projects dedicated to SAF and LCAF and incentives to overcome initial market hurdles;
- e) cooperate with other relevant international initiatives, including the Sustainable Energy for All (SE4ALL) initiative, to facilitate aviation's access to renewable energy; and
- f) continue to assess progress on the development and deployment of SAF, LCAF and other cleaner energy sources for aviation as part of the ICAO stocktaking process, and 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 in line with the No Country Left Behind (NCLB) initiative and taking into account national circumstances and capabilities;

