

60<sup>th</sup> Conference of Directors General of Civil Aviation  
Asia and Pacific Region  
Sendai, Japan, 28 July - 1 August 2025

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Agenda item 7: Aviation and Environment

# Overview of ICAO developments on Climate Change

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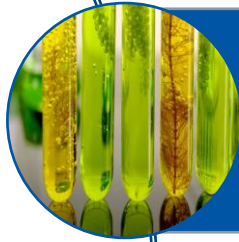
2022



- **41st ICAO Assembly: Long-term global aspirational goal (LTAG)** of net zero carbon emissions from international aviation by 2050
- 2022 CORSIA Periodic review – CORSIA baseline adjustments



2023



- **CAAF/3: ICAO Global Framework** for SAF, LCAF and other aviation cleaner energies: Collective global aspirational Vision to reduce CO<sub>2</sub> emissions by 5% by 2030 using cleaner energies

2024

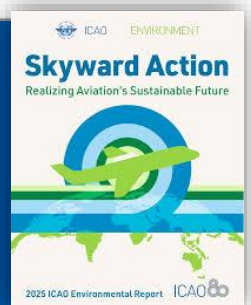


- **ICAO Council: Roadmap** for the implementation of CAAF/3 outcomes and LTAG
- Progress across the four building blocks: 1) Policy and Planning, 2) Regulatory Framework, 3) implementation support and 4) financing

2025



- **ICAO Aviation Climate Week** (2 to 4 June 2025)
- **2025 ICAO Environment Report**, launched at the Aviation Climate Week
- **42nd ICAO Assembly** - updates to the three Assembly Resolutions related to environment.



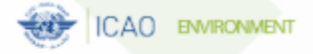
# ICAO Global Framework for SAF, LCAF and other Aviation Cleaner Energies

3

- **Collective global aspirational Vision to reduce CO<sub>2</sub> emissions in international aviation by 5 percent by 2030**, compared to zero cleaner energy use
- **Four interdependent Building Blocks (BBs)** to provide clarity, consistency and predictability to all stakeholders
- In June 2024, the Council approved **the ICAO Roadmap** for the implementation of CAAF/3 outcomes (Global Framework) and the LTAG



## ICAO Cleaner Energy Tracker Tools



ICAO adopted a Vision to reduce CO<sub>2</sub> emissions in international aviation by **5 per cent by 2030** through the use of SAF, LCAF, and other aviation cleaner energies

This requires **23 million tonnes (Mt)** of cleaner energies use in international aviation on 2030  
*(source: LTAG report data)*

This aviation cleaner energy trackers monitors progress under the ICAO Global Framework on this building blocks

(Click on each number to open the full Tracker dashboard)



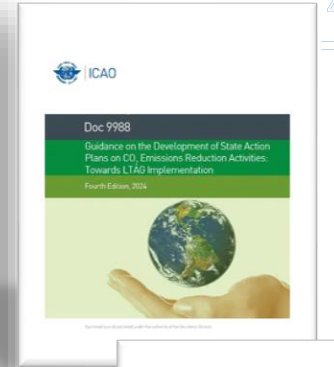
# Policy and Planning

- **Global aspirational Vision** to be monitored and periodically reviewed.
- **LTAG Monitoring and Reporting (LMR) methodology** combines backward and forwarding-looking assessments, with a tiered implementation approach.
- Continued support for the **State Action Plan initiative** – 150 submissions, including 24 from APAC States.
- Annual **LTAG Stocktaking** – 2025 Aviation Climate Week.
- **ICAO Cleaner Energy Tracker Tools** – reflects SAF-related indicators.

## 150 States

representing **99.11%** of global RTK have voluntarily submitted their State Action Plan to ICAO

Map of State Action Plans Submitted to ICAO (click for details)



## ENVIRONMENTAL POLICIES ON AVIATION FUELS

The following map provides a summary of the policies (adopted and under development) to foster the use of Sustainable Aviation Fuels and Lower Carbon Aviation Fuels.



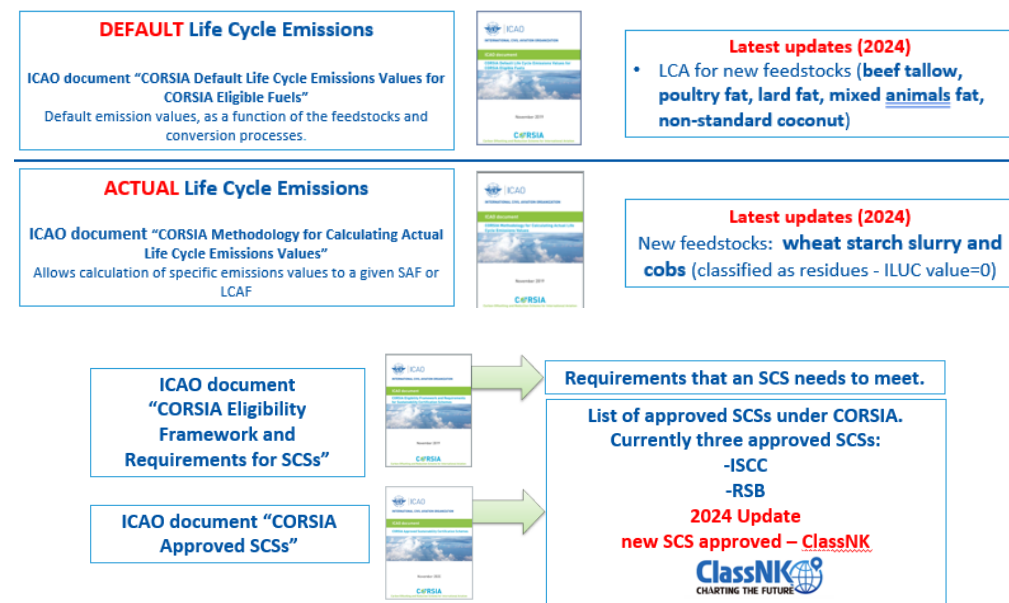


# Regulatory Framework

- **CORSIA framework as the accepted basis** for SAF, LCAF and other aviation cleaner energies in international aviation.
  - Robust eligibility framework for sustainability certification, sustainability criteria, life cycle assessment, recognized feedstock.
  - MRV system in place.
- CAEP/13 agreed on amendments to three ICAO documents related to CORSIA eligible fuels, for consideration by the Council.
- ‘ACT-SAF accelerator’ - Ongoing work to facilitate sustainability certification in line with CORSIA requirements.

CORSIA Eligibility Framework and Requirements for Sustainability Certification Schemes Third Edition, March 2024	CORSIA Approved Sustainability Certification Schemes* Third Edition, October 2024	CORSIA Sustainability Criteria for CORSIA Eligible Fuels** Third Edition, November 2022	CORSIA Default Life Cycle Emissions Values for CORSIA Eligible Fuels*** Sixth Edition, October 2024	CORSIA Methodology for Calculating Actual Life Cycle Emissions Values Fifth Edition, October 2024


## CORSIA Life Cycle Assessment of SAF



# Implementation Support


- **ACT-SAF programme** – tailored support for States, partnerships and cooperation, knowledge sharing, and recognition of global initiatives.
- ACT-SAF Knowledge Hub to enhance conceptual knowledge of SAF – series of training sessions, feasibility studies, events, technical references and reports.
- **Over 20 APAC States are ACT-SAF partners.**
- ICAO is finalizing the SAF feasibility study for India (EU-funded) and organizing a training session in Viet Nam (supported by Austria).





ICAO

ENVIRONMENT



ACT

SAF

HELPING COUNTRIES TAKE ACTION ON THE DEVELOPMENT AND DEPLOYMENT OF SUSTAINABLE AVIATION FUELS

28-May-2025

Last update

ACT-SAF Studies

This dashboard provides details on the studies enabled by contributions made to the ICAO Environmental Fund

Visualization by:

Charts & numbers

World Map

Table

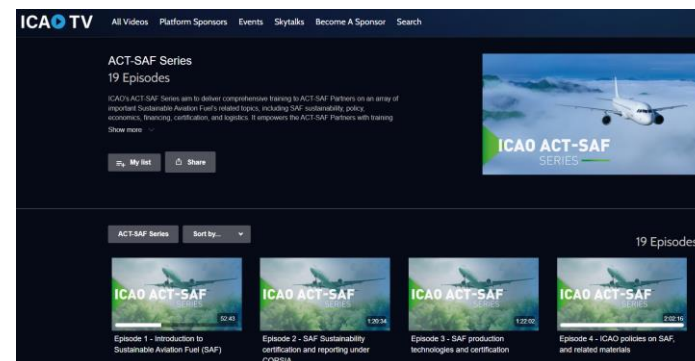
State (supported)	By Year	Supporting States/Org.	Study type	Status
All	All	All	All	All

Supported States/Region	Year	Supporting States/Organizations	Project type	Status	Additional information	WebLink
Cameroon	2024	EU	Feasibility Study	State invited and confirmed	<div>Project with the European Union (EU) Funding "Capacity Building for CO2 mitigation from international aviation"</div> <div>A Feasibility Study in Cameroon is planned, funded by the EU. The current timeframe to start the study is Q3 2025.</div>	<a href="#">🔗</a>
Chile	2024	Netherlands	Feasibility Study	Ongoing study and drafting	<div>A Feasibility Study in Chile is ongoing, funded by the Netherlands. The study started in November 2024, a pre-feasibility assessment has been concluded and an on-site kickoff workshop was held. The report is being drafted.</div> <div>SAF Feasibility Study developed under the Phase II of the ICAO Assistance Project with the European Union (EU) Funding.</div>	<a href="#">🔗</a>
Côte d'Ivoire	2023	EU	Feasibility Study	Concluded	<div>SAF Feasibility Study developed under the First Phase of the ICAO Assistance Project with the European Union (EU) Funding "Capacity Building for CO2 mitigation from international aviation"</div>	<a href="#">🔗</a>
Dominican Republic	2017	EU	Feasibility Study	Concluded	<div>SAF Feasibility Study developed under the First Phase of the ICAO Assistance Project with the European Union (EU) Funding "Capacity Building for CO2 mitigation from international aviation"</div>	<a href="#">🔗</a>
Egypt	2024	EU	Feasibility Study	State invited and confirmed	<div>A Feasibility Study in Egypt is planned, funded by the EU. The current timeframe to start the study is Q4 2025.</div>	<a href="#">🔗</a>

## Templates and Guidance Materials

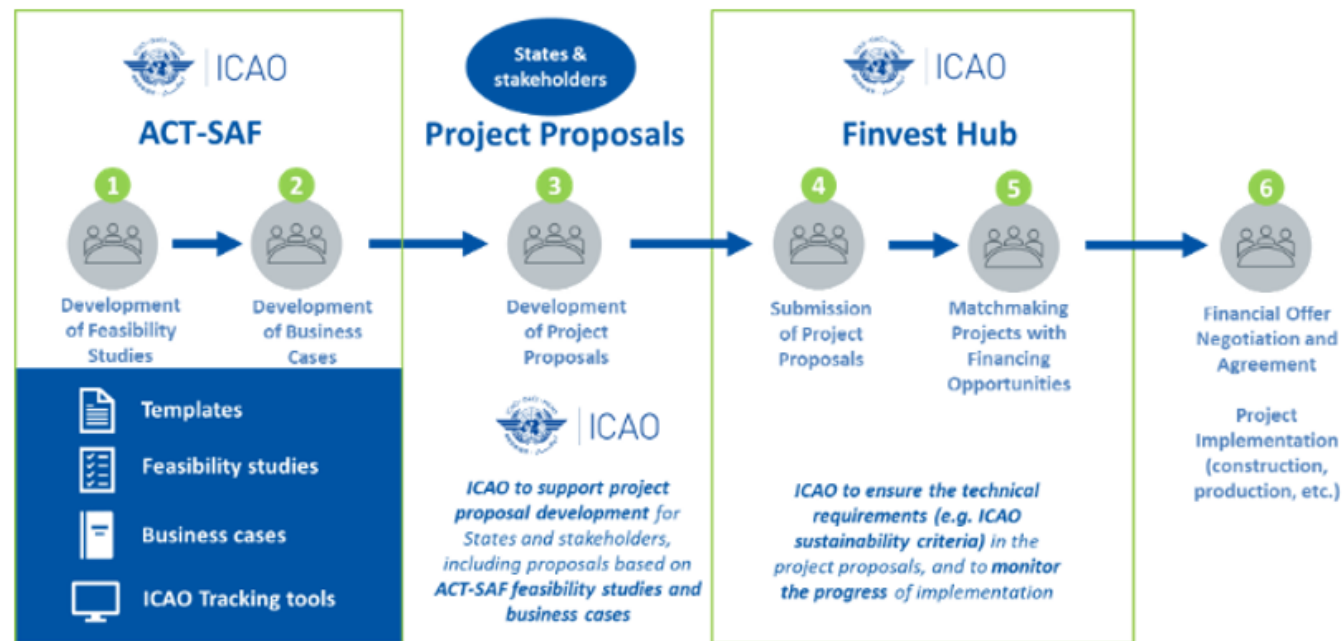
The ACT-SAF template and guidance for the development of Feasibility Studies and Business Implementation Reports are provided below:

ACT-SAF template for feasibility studies on Sustainable Aviation Fuels Version 1 (July 2023)	ACT-SAF guide for feasibility studies on Sustainable Aviation Fuels Version 1 (July 2023)	ACT-SAF template for Business Implementation Reports Version 1 (July 2024)



# Financing

- Access to financing is crucial –scaling up fuels in support of LTAG would require cumulative investments of **USD 3.2 trillion by 2050 by producers alone.**
- Ongoing advocacy and outreach efforts by ICAO.
- **ICAO Finvest Hub** to facilitate access to climate finance and to connect States and project developers with funding opportunities.
  - ICAO-IRENA partnership to identify financial resources.
- Consideration of establishment of climate finance initiative or funding mechanism under ICAO



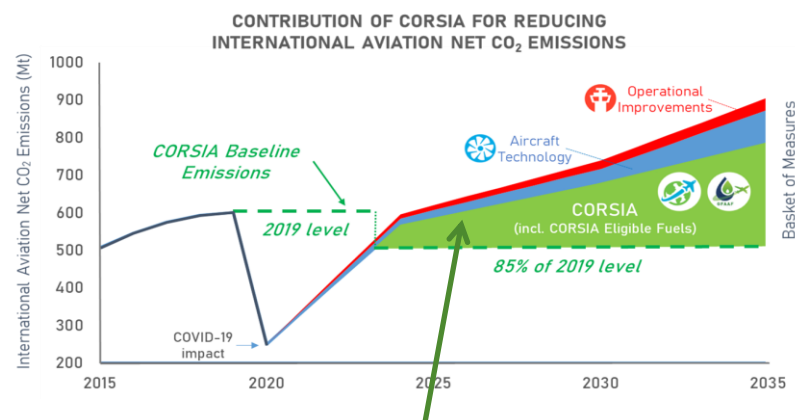
ICAO – IRENA agreement to boost financing opportunities for SAF and other cleaner aviation energy projects

## The first global market-based measure for any industry sector

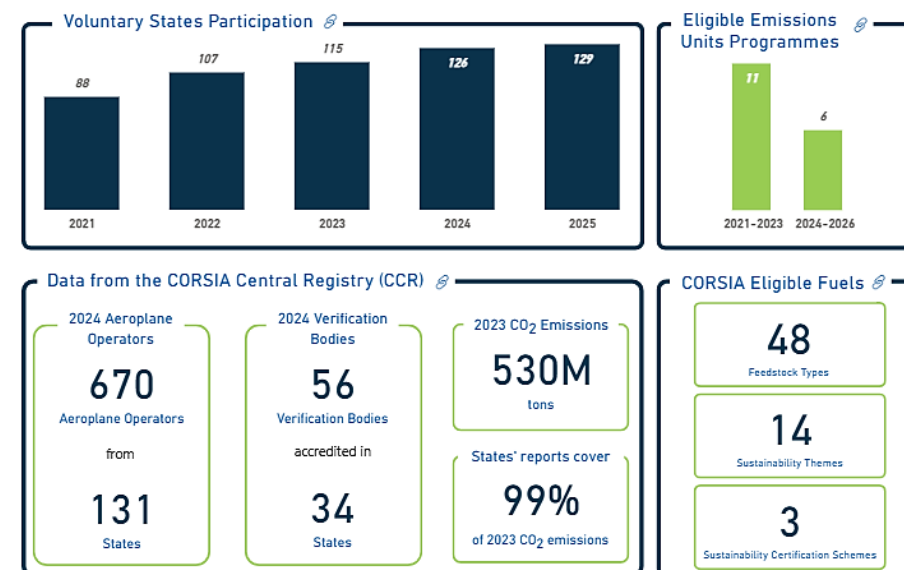
CORSIA **complements** the other three elements in the ICAO basket of measures:

- **technological innovations**
- **operational improvements**
- **sustainable aviation fuels**

Objective: Achieve ICAO's global aspirational goal of carbon neutral growth from 2020 (CNG 2020)



*CORSIA addresses the remaining “emissions gap” to achieve CNG2020*



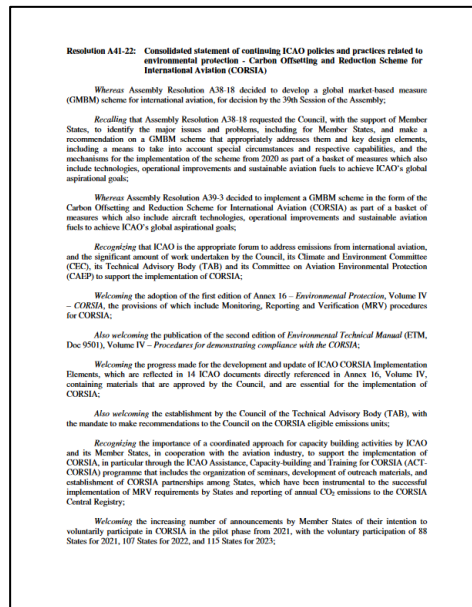
The information presented here is based on the currently applicable editions of the ICAO documents for CORSIA implementation directly referenced in Annex 16, Volume IV and available on the ICAO CORSIA public website.



# CORSIA Implementation Package

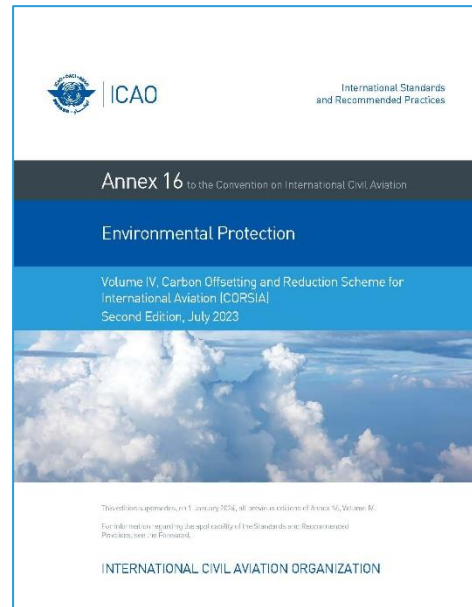


## Assembly Resolution A41-22



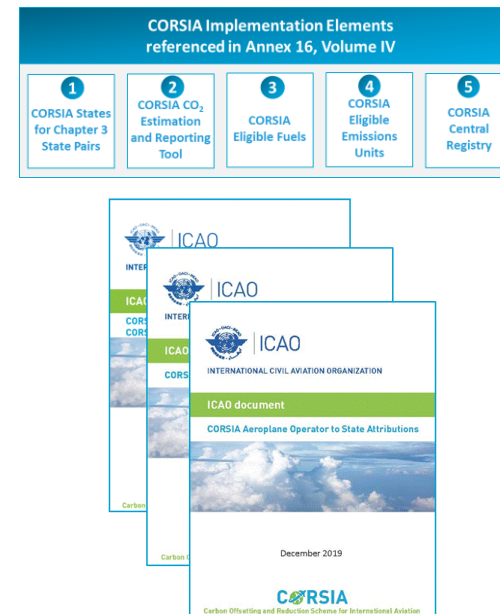
*(overall ICAO policy on  
CORSIA)*

## Annex 16, Volume IV (2<sup>nd</sup> edition)



*(applicable from 1  
January 2024)*

## CORSIA Implementation Elements and ICAO CORSIA documents



*(regularly updated)*

## Doc 9501 (ETM), Vol. IV (CORSIA) (3<sup>rd</sup> edition)



*(supports implementation  
of the 2<sup>nd</sup> ed. of Annex  
16, Volume IV)*

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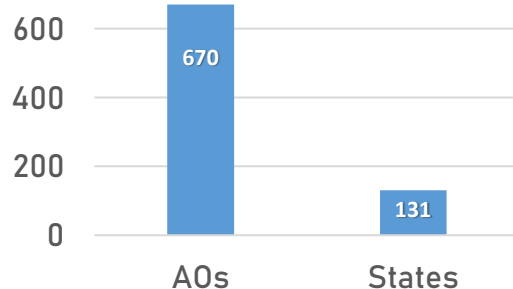
Available here: <https://www.icao.int/environmental-protection/CORSIA/Pages/state-pairs.aspx>

# Monitoring, Reporting and Verification (MRV) of CO<sub>2</sub> emissions

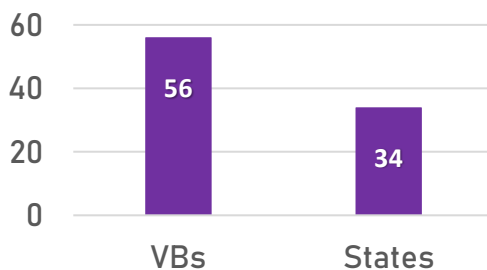
## CCR Data as of December 2024

0% 2021 -23 Sector Growth Factor due to COVID-19

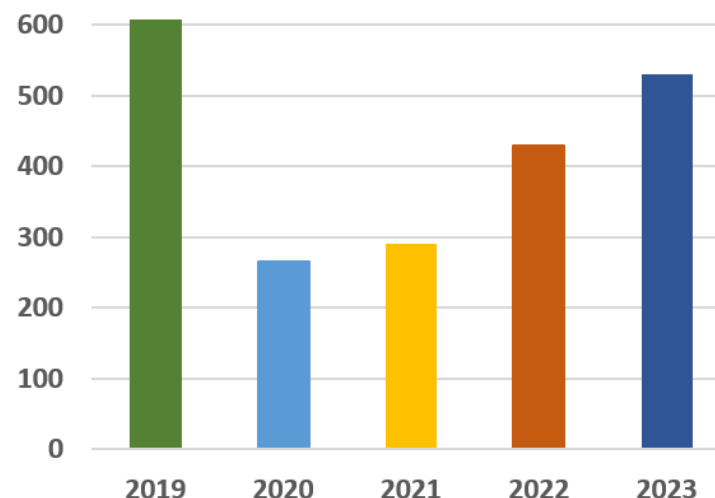
### Aeroplane Operators



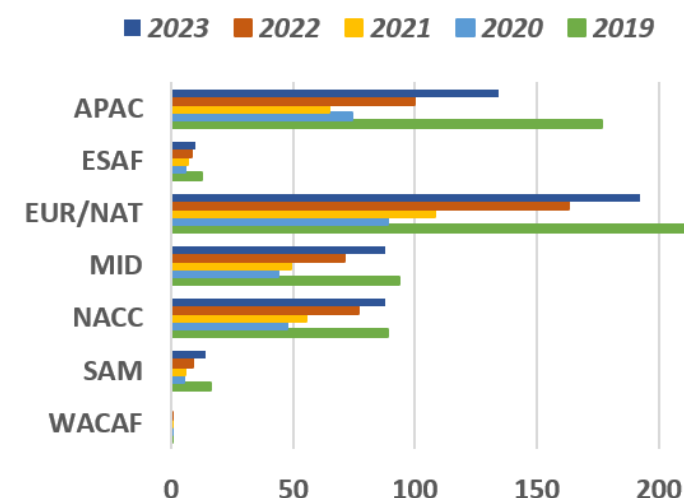
### Verification Bodies



### Total CO<sub>2</sub> Emissions\* (in Mtonnes)



### Total CO<sub>2</sub> Emissions\* by Region (in Mtonnes)



### 2023 CO<sub>2</sub> emissions – Final numbers

121 states

CO<sub>2</sub> Reports submitted  
(99% of total 2023 emissions)

15 states

Gap-filling States - ICAO data  
(1% of total 2023 emissions)

530

Mtonnes of CO<sub>2</sub>  
(total 2023 emissions\*)

99.0%

CORSIA Central Registry  
coverage emissions

\*Totals include CO<sub>2</sub> emissions submitted by States through the CORSIA Central Registry (CCR) and emissions provided by ICAO to fill the emissions gaps

Submission of the 2024 CO<sub>2</sub> emissions data due on 31 July 2025.

# ICAO ACT-CORSIA Programme



**Involves 130 States, including over 30 APAC States**

**Phase I (Sep 2018 – Apr 2019): 15 supporting States and 98 requesting States**

- Development and approval of Emissions Monitoring Plans
- Establishment of national/regional regulatory frameworks

**Phase II (May 2019 – Apr 2020): 16 supporting States and 114 requesting States**

- CO<sub>2</sub> Emissions reporting and verification

**Phase III (Apr 2020 – Dec 2024): 17 supporting States and 119 requesting States**

Use of the CORSIA Central Registry (CCR)

**Phase III (Jan 2025 – Ongoing): 16 supporting States and 120 requesting States**

- Lessons learned and improved support to MRV





**A41-21 para 16.:** ...clear concern on the use of international aviation as a potential source for the mobilization of revenue for climate finance to other sectors...”

**A41-21 para 16.:** ...clear concern on the use of international aviation as a potential source for the mobilization of revenue for climate finance to other sectors...”

**Overlapping proposals for aviation emissions-related levies/taxes to mobilize financial resources for other purposes:**

- No direct correspondence to emissions reduction.
- Diverts financial resources away from aviation decarbonization.
- Negative impact on connectivity, socio-economic development.

[illegible]

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# Thank You

