# ICAO APAC Webinar on the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) Implementation



7 May 2025







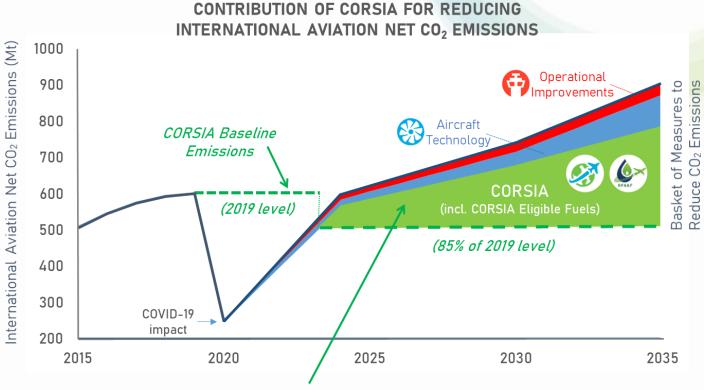


# Updates on the CORSIA Implementation Elements and Important Deadlines for 2025



To achieve ICAO's global aspirational goal of carbon neutral growth from 2020 (CNG 2020), CORSIA is one complementary element in the basket of measures to:

- Aircraft technology
- Operational improvements
- Sustainable aviation fuels



CORSIA addresses the remaining "emissions gap" to achieve Carbon Neutral Growth 2020







#### **CORSIA Implementation Package**

## Assembly Resolutions in force (A41-22)

#### Adopted by 2022 Assembly

Resolution A41-22: Consolidated statement of continuing ICAO policies and practices related to environmental protection - Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

Whereas Assembly Resolution A38-18 decided to develop a global market-based measu (GMBM) scheme for international aviation, for decision by the 39th Session of the Assembly:

Recalling that Assembly Resolution AN I Is requested the Council, with the support of Mender States, to identify the major issues and problems, including for Member States, and make a recommendation on a GMBM scheme that appropriately addresses them and key design elements, including a means to that his account appealed elementations and respective questionilisms, and the includes resolution of the control of the control of the control of the control of the principal control of the include reconstruction of the control of the control of the control of the principal control of the control of the control of the control of the principal control of the control of the control of the control of the principal control of the control of the control of the control of the principal control of the control of the control of the control of the principal control of the control of the control of the principal control of the control of control

Whereas Assembly Resolution A39-3 decided to implement a GMBM scheme in the form of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) as part of a basket of measures which also include aircraft technologies, operational improvements and sustainable aviation fuels to achieve ICAO's global aspirational goals;

Recognizing that ICAO is the appropriate forum to address emissions from international aviation, and the significant amount of work undertaken by the Council, its Climate and Environment Committee (CEC), its Technical Advisory Body (TAB) and its Committee on Aviation Environmental Protection (CAEP) to support the implementation of CORSIA;

Welcoming the adoption of the first edition of Annex 16 – Environmental Protection, Volume IV – CORSIA, the provisions of which include Monitoring, Reporting and Verification (MRV) procedures

Also welcoming the publication of the second edition of Environmental Technical Manual (ETM, Doc 9501), Volume IV – Procedures for demonstrating compliance with the CORSIA;

Welcoming the progress made for the development and update of ICAO CORSIA Implementation Elements, which are reflected in 14 ICAO documents directly referenced in Annex 16, Volume IV, containing materials that are approved by the Council, and are essential for the implementation of CORSIA:

Also welcoming the establishment by the Council of the Technical Advisory Body (TAB), with

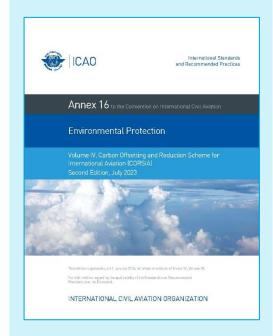
Recognising the importance of a coordinated approach for capacity building activities by ICAO at its Member Scase, in cooperation with the aviation instancy, so support the implementation of CNRSA, in particular through the ICAO Assistance, Capacity-building and Training for CNRSA (Argert CNRSA) (Argert C

Welcoming the increasing number of announcements by Member States of their intention to voluntarily participate in CORSIA in the pilot phase from 2021, with the voluntary participation of 88 States for 2021, 107 States for 2022, and 115 States for 2023.

Overall ICAO policy on CORSIA

**Annex 16, Volume IV** 

#### 2nd Edition Applicable from 2024



**Standards and Recommended Practices (SARPs) on CORSIA** 

Doc 9501 (ETM), Vol. IV

#### 3rd Edition to support 2nd Edition of Annex 16, Volume IV



Overall ICAO policy on CORSIA

CORSIA Implementation Elements and ICAO CORSIA documents

# Regularly updated/approved by Council



INTERNATIONAL CIVIL AVIATION ORGANIZATION

December 2019

**C** RSIA

14 ICAO CORSIA documents directly referenced in Annex 16, Volume IV - Essential for CORSIA implementation

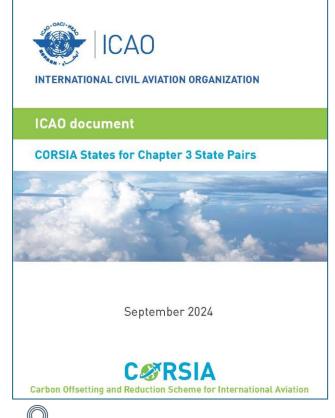


# **CORSIA Implementation Elements** and related ICAO documents

<b>CORSIA Implementation Elements</b>	ICAO documents
CORSIA States for Chapter 3 State Pairs	1. CORSIA States for Chapter 3 State Pairs
ICAO CORSIA CO₂ Estimation and Reporting Tool (CERT)	2. ICAO CORSIA CO <sub>2</sub> Estimation and Reporting Tool
CORSIA Eligible Fuels	<ol> <li>CORSIA Eligibility Framework and Requirements for Sustainability Certification Schemes</li> <li>CORSIA Approved Sustainability Certification Schemes</li> <li>CORSIA Sustainability Criteria for CORSIA Eligible Fuels</li> <li>CORSIA Default Life Cycle Emissions Values for CORSIA Eligible Fuels</li> <li>CORSIA Methodology for Calculating Actual Life Cycle Emissions Values</li> </ol>
CORSIA Eligible Emissions Units	8. CORSIA Eligible Emissions Units 9. CORSIA Emissions Unit Eligibility Criteria
CORSIA Central Registry (CCR)	10. CORSIA Central Registry: Information and Data for the Implementation of CORSIA 11. CORSIA Aeroplane Operator to State Attributions 12. CORSIA 2020 Emissions 13. CORSIA Annual Sector's Growth Factor (SGF) 14. CORSIA Central Registry (CCR): Information and Data for Transparency



#### **CORSIA States for Chapter 3 State Pairs**



- Edition 4 rev.1 (October 2023)
  - ➤ List of 126 States defining routes subject to offsetting requirements in 2024
  - ➤ Reference for the preparation of Emissions Reports for year 2024 (deadline: 30 April 2025)
- Edition 5 rev.1 (September 2024)
  - ➤ List of 129 States defining routes subject to offsetting requirements in 2025
  - Reference for the preparation of Emissions Reports for year 2025 (*deadline: 30 April 2026*)
- Edition 6 (to be published in 2025) will contain the list of States defining routes subject to offsetting requirements in 2026

# CERT ICAO CORSIA CO2 Estimation and Reporting Tool

.0 2024





Version 2024

#### End user license agreement

ICAO Carbon Offsetting and Reduction Scheme for International Civil Aviation (CORSIA) CO. Estimation and Reporting Tool (CERT)

#### End User License Agreemen

Please read this Agreement carefully: This End User Licence Agreement is a legal agreement ("Agreement") between you ("Licensee") and the International Civil Aviation Organization ("ICAO" or "Licensoe"). By clicking "I Accept" or taking any step to use this Software, you agree, on behalf of yourself and your organization (collectively "Licensee"), to be bound by all of the terms and conditions of this Agreement. If you do not agree with the terms and conditions of this Agreement, do not continue the download process, do not use the software and delete or destroy all copies of the software in your possession or control.

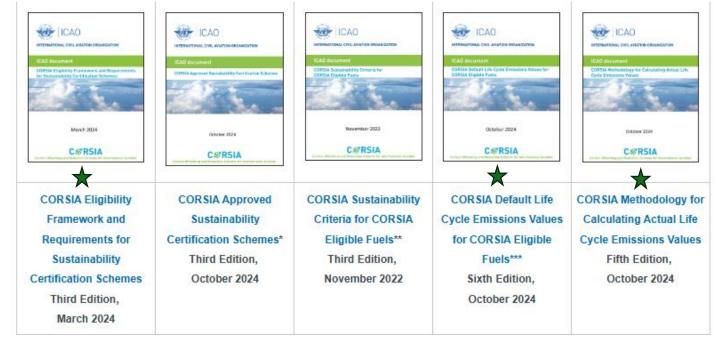
- 1. Licence: ICAO grants to the Licensee the right to access and use the ICAO CORSIA CERT interface, which is comprised of a Microsoft Excel spreadsheet (collectively "Software"), provided that the Licensee complies with all the terms and conditions of this Agreement
- 2. Permitted Use. The Software is provided for use only by the Licensee for the sole purpose of estimating CO<sub>2</sub> emissions and populating the Emissions Monitoring Plan and Emissions Report templates as part of CORSIA monitoring, reporting and verification requirements, as per the Standards and Recommend Practices (SARPs) in Annex 16, Volume I
- 3. Restrictions on Use. Licensee may not: copy, in whole or in part, Software or any related documentation, modify the Software; reverse compile, reverse earning reverse assemble or any portion of the Software; local for any portion of the Software; local for soft and the Software. Licensee may not create writerative worst from the Software, specifically including the creation of a database of aviation CO, emissions for use outside of the CORSIA framework. Commercial use of the Software is expressly prohibited. Licensee obtains no rights in the Software except those given in this limited license.
- 4. Intellectual Property Rights. The Software, any related documentation and all intellectual property rights therein are owned by Licensor. Licensee will not remove, alter or destroy any copyright, proprietary or confidential notices placed on the Software or any related documentation. Licensee agrees not to disclose, provide, or otherwise make available the Software or any data obtained through it in any form to any third party other than to satisfy the CORSIA monitoring, reporting and verification requirements, as per the Standards and Recommend Practices (SARPs) in Annex 15, Volume IV. Licensee agrees to take the necessary security measures to protect the Software.
- 5. No Warranties. The Software and any related documentation are provided to Licensee "as is," without warranty of any kind either expressed or implied, including, without limitation, fitness for a particular purpose and satisfactory quality. Without limitation, fitness for a particular purpose and satisfactory quality. Without limiting the above, Licensee ease the Software at his, Pher own risk.
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- Published in December 2024
- To be used by eligible aeroplane operators for the preparation of their 2024 Emissions Report (deadline: 30 April 2025)



#### **CORSIA Eligible Fuels**

- 5 ICAO documents containing the information needed to claim emissions reductions from the use of CORSIA Eligible Fuels
- Current editions:





3 of the 5 CEF-related documents will be updated in June 2025 following Council's consideration of recommendations by the CAEP/13 Meeting

#### **CORSIA Eligible Emissions Unit Eligibility Criteria**



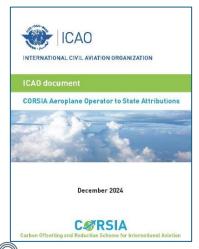
- First edition (2019) unchanged since then
- Used by the Council's Technical Advisory Body (TAB) in its assessment of CORSIA eligibility of applicant emissions unit programmes
- Not relevant for the purpose of purchasing and cancelling CORSIA Eligible Emissions Units, nor for the reporting of the said cancellation.

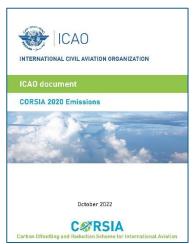
#### **CORSIA Eligible Emissions Units**



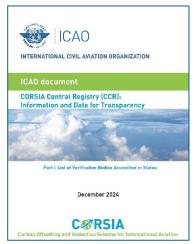
- Edition currently applicable: 12<sup>th</sup> (October 2024)
- This document provides information on which emissions units are CORSIA-eligible and thus can be purchased and cancelled by aeroplane operators to meet their offsetting requirements in CORSIA
- Next expected update: October 2025
- Reminder: reporting on cancellation of CORSIA Eligible Emissions Units will take place for the first time in April 2028

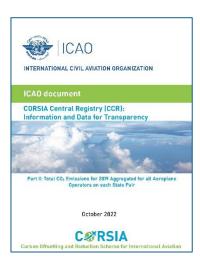
• CCR-related ICAO documents reflect CCR output based on States' inputs into the CCR (as per Annex 16, Volume IV requirements)

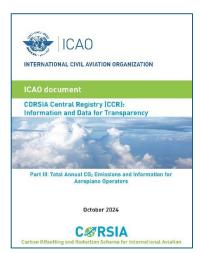






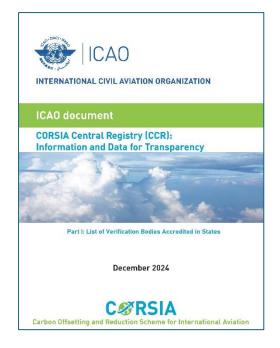






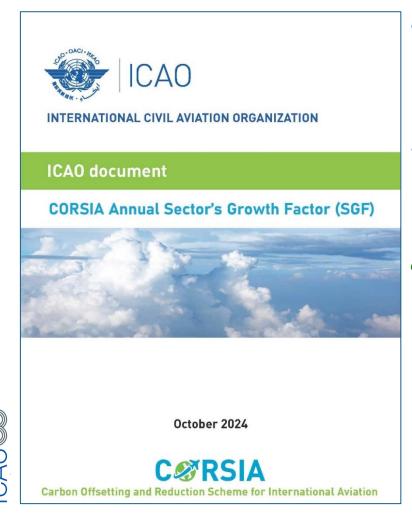


 List of aeroplane operators and accredited verification bodies published in December 2024 should serve as the reference for the preparation and verification of 2024 Emissions Reports (<u>deadline</u>: 30 April 2025)

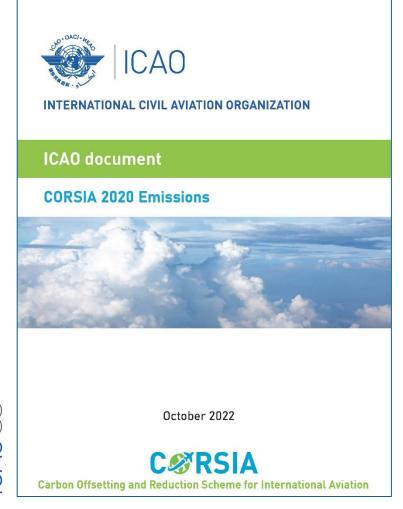


Importance of meeting the next reporting deadline (<u>30 November 2025</u>) in preparation for the 2025 Emissions Reports (<u>deadline</u>: <u>30 April 2026</u>)





- ICAO document "CORSIA Annual Sector's Growth Factor (SGF)"
- Next update (October 2025) will provide the value of  $SGF_{2024}$  expected not to be 0.0.
- For States to calculate their operators' offsetting requirements in 2024.



- ICAO document "CORSIA 2020 Emissions"
- This document was amended following the adjustments made by the ICAO Assembly to the CORSIA design elements as a result of the 2022 CORSIA periodic review
- Important document to support States in determining when Annex 16, Volume IV, Part II, Chapter 3 (offsetting requirements) provisions apply to new entrant aeroplane operators
- Relevant only to new entrant aeroplane operators with large volume of activity

- ICAO document "CORSIA Central Registry (CCR): Information and Data for Transparency"
  - Part IV: Information on CORSIA Eligible Fuels (CEF) Claimed
    - Not published yet
    - First edition expected in October 2025 / 2026 / 2027 (depending on when operators initiate CEF claims under CORSIA)
  - Part V: Information on Total Offsetting Requirements and Quantity of Emissions
     Units Cancelled
    - Not published yet
    - First edition expected in October 2028 (for the cancellation of CORSIA Eligible Emissions Units for meeting offsetting requirements in CORSIA's first phase (2024 2026)







#### **CORSIA Phased Implementation**

#### **Second phase participation criteria:**

- **Cumulative 90% of global 2018 RTK**
- Individual 0.5% of 2018 RTK
- **Voluntary participation**

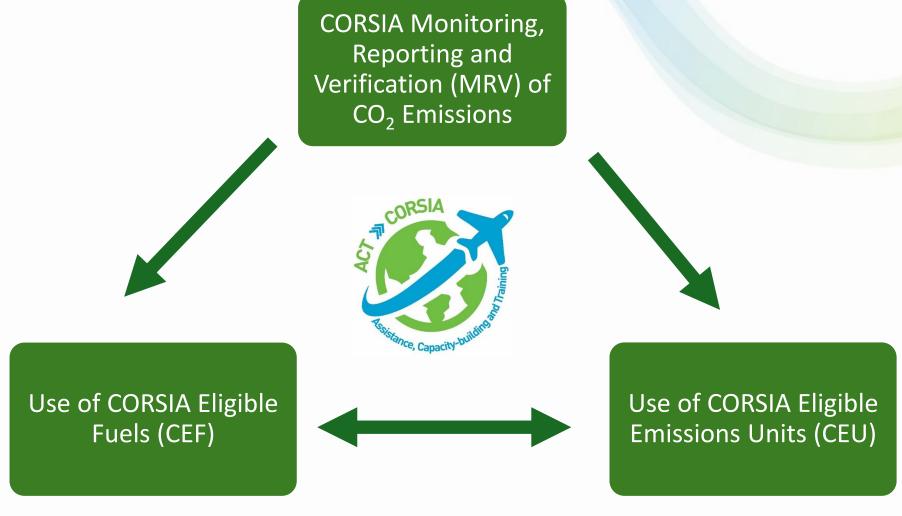
# JOURNAL PARTICIPATION FIRST PHASE 2024-2026 Participation **Exemptions:** LDCs, LLDCs, SIDS

3 PHASES OF IMPLEMENTATION





## **CORSIA Implementation**







## **CORSIA Implementation**

CORSIA Monitoring, Reporting and Verification (MRV) of CO<sub>2</sub> Emissions



Use of CORSIA Eligible Fuels (CEF)



Use of CORSIA
Eligible Emissions
Units (CEU)

CORSIA offsetting requirements (until 2035) could be complied by CEF or CEU

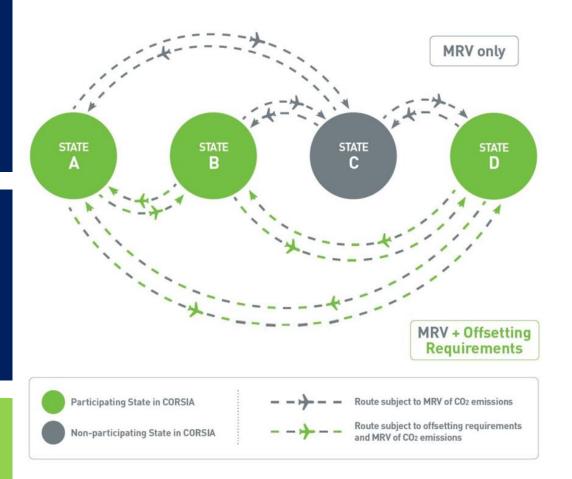


## **CORSIA CO2 MRV Requirements**

From 1 January 2019, all operators performing international flights have to monitor CO2 emissions, annually reporting verified CO2 emissions to State, and States to report ICAO CORSIA Central Registry (CCR)

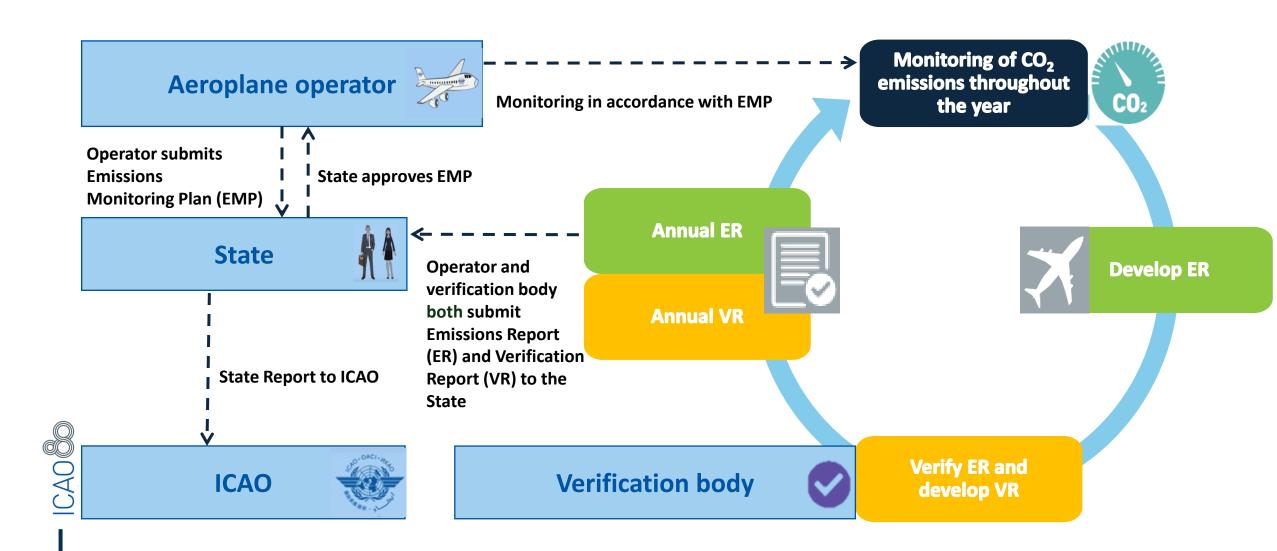
**Purpose of CO<sub>2</sub> MRV** is to collect information on international aviation CO<sub>2</sub> emissions on an annual basis and compare these emissions against the baseline emissions, to calculate CORSIA offsetting requirements

**All operators** performing international flights between States participating in CORSIA have to comply with the CORSIA offsetting requirements





## **CORSIA CO<sub>2</sub> MRV Annual Cycle**



## **CORSIA Central Registry (CCR)**

# CCR for collection/publication of CORSIA-related data and info



Version 2 of CCR has been launched in March 2024 to include the 2nd Edition of Annex 16, Volume IV



Consolidated CCR data published on ICAO CORSIA website





# ICAO 🚳

## CCR and GF data – 2023 CO<sub>2</sub> emissions (2024 reporting year)

**CORSIA Central Registry (CCR)** 

Indicator	2022	2023
CCR Reports submitted	115	121 🛕+6
Gap-filling States	21	15 \(\bigve{V}_{-6}\)
No data/no requirement	57	57
CCR CO <sub>2</sub> coverage (total)	97.7%	99.0%+1.3%
CO <sub>2</sub> emissions submitted to CCR (M tonnes)	419	525
Gap-filling CO <sub>2</sub> emissions estimated (M tonnes)	9.9	5.4
Total of 2023 CO <sub>2</sub> emissions	429	<i>530</i> +101 M

# 2025 MRV Timeline and Actions (Reporting Year: 2024)

	Timeline	Responsibility	Action
	1 January to 30 April 2025	Operator and Verification Body	<ul> <li>Operator to compile CO<sub>2</sub> emissions data for 2024</li> <li>Verification body to verify 2024 Emissions Report</li> <li>Operator and verification body to submit verified 2024 Emissions Report and associated Verification Report to the State of attribution</li> </ul>
2025	by <b>31 July 2025</b>	State	<ul> <li>Conduct order of magnitude check of verified 2024 Emissions Report(s)</li> <li>Aggregate data in verified 2024 Emissions Report(s)</li> <li>Use the CCR to submit aggregate 2024 CO<sub>2</sub> emissions data to ICAO</li> </ul>
	31 October 2025	ICAO	Publish 2024 CO <sub>2</sub> emissions and 2024 CORSIA Sector's Growth Factor (SGF)
	by <b>30 November 2025</b>	State	Use 2024 SGF to calculate 2024 offsetting requirements and inform aeroplane operator(s)



2025 is potentially to be the first year with a positive SGF (for 2024 CO<sub>2</sub> emissions)

## **CORSIA Implementation**

COSIA Monitoring, Reporting and Verification (MRV) of CO<sub>2</sub> Emissions



Use of CORSIA Eligible Fuels (CEF) Use of CORSIA
Eligible Emissions
Units (CEU)

CORSIA offsetting requirements (until 2035) could be complied by CEF or CEU



#### **Calculation of CORSIA Offsetting Requirements**

Offsetting requirements are calculated annually, based on CORSIA MRV data of Aeroplane Operator (AO)'s emissions between participating States, and using a combination of Sectoral Growth Factor and AO's Individual Growth Factor

From 2021 to 2032: 100% sectoral and 0% individual



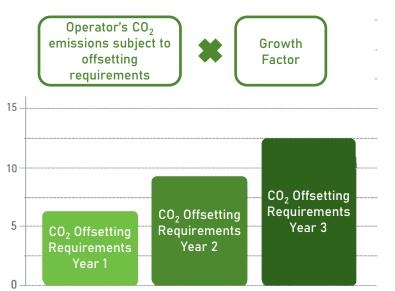
From 2033 to 2035: 85% sectoral and 15% individual



## **CORSIA Eligible Fuels and Offsetting Requirements**

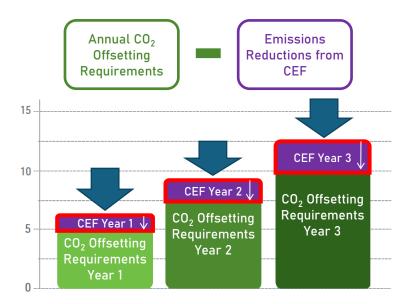
An aeroplane operator can reduce its CORSIA offsetting requirements by claiming emissions reductions from the use of CORSIA Eligible Fuels (CEF)

CO<sub>2</sub> Offsetting
Requirements calculated by the State for each year



Emissions reductions

claimed from the use of
CORSIA Eligible Fuels (CEF)



Total Final CO<sub>2</sub> Offsetting
Requirements for a 3-year
Compliance Period

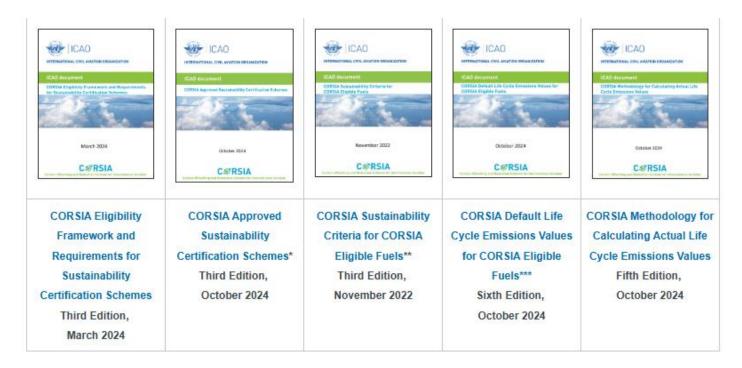




The remaining total final CO<sub>2</sub> offsetting requirements will be met by operators through the cancelation of CORSIA eligible emissions units (CEU)

## **CORSIA Eligible Fuels and Offsetting Requirements**

- CORSIA eligible fuel (CEF) is CORSIA sustainable aviation fuel (SAF) and CORSIA lower carbon aviation fuel (LCAF), which an operator may use to reduce its offsetting requirements.
- CEF needs to be certified based on the CORSIA Sustainability Criteria, including its life-cycle emissions values, by an approved Sustainability Certification Scheme (SCS)



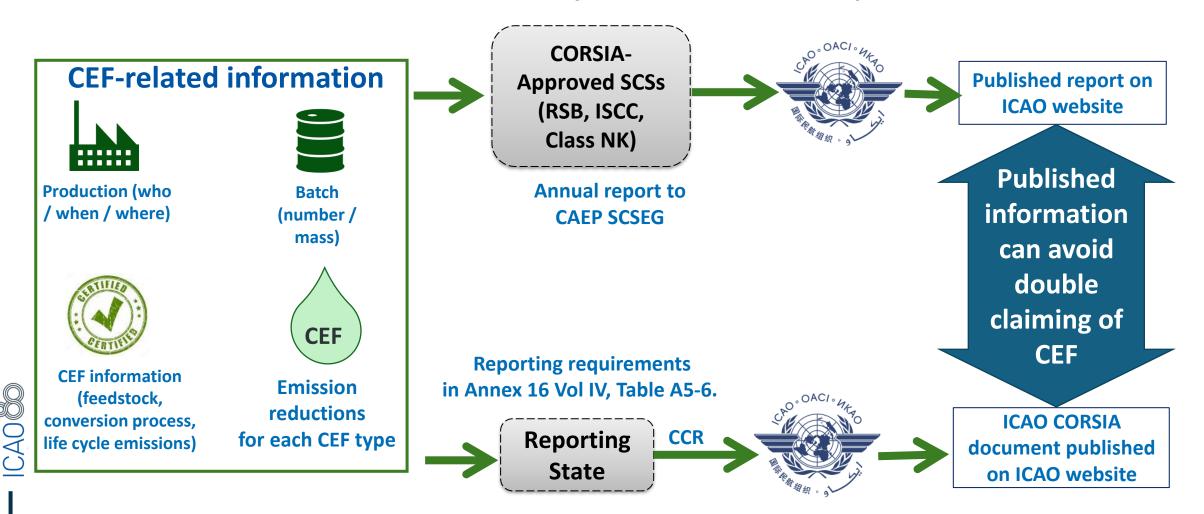
All ICAO CORSIA documents related to CORSIA Eligible Fuels are available on the website, after the Council approval.





## **State and SCSs reporting CEF to ICAO**

#### **CEF** information will be reported to ICAO and published



## **CORSIA Implementation**

COSIA Monitoring,
Reporting and
Verification (MRV) of
CO<sub>2</sub> Emissions



Use of CORSIA Eligible Fuels (CEF)



Use of CORSIA Eligible Emissions Units (CEU)

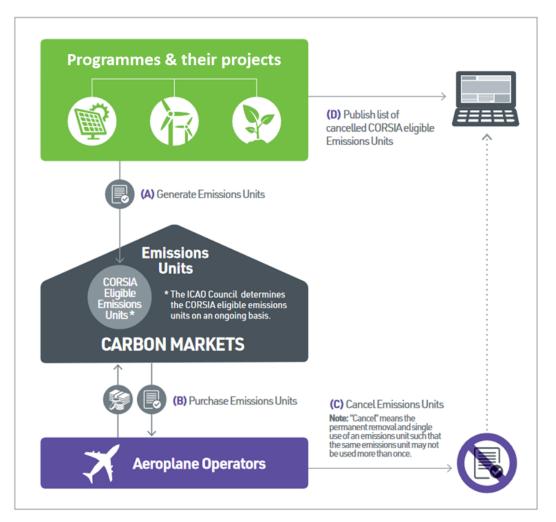
CORSIA offsetting requirements (until 2035) could be complied by CEF or CEU



## **CORSIA Eligible Emissions Units**

To fulfil its CORSIA offsetting requirements for a compliance period, an aeroplane operator must **purchase** and cancel CORSIA eligible emissions units (CEUs) equivalent to its total final CO<sub>2</sub> offsetting requirements:

- CEUs are generated by eligible CEU programmes that meet the CORSIA eligibility criteria (A)
- Operators purchase CEUs from the international carbon market (B)
- The cancellation of CEUs takes place within a registry designated by an eligible CEU programme (C)
- For transparency, cancellations are to be published on the registry's public website (D)





#### **CORSIA Eligible Emissions Units – First Phase**

The ICAO Council considered the TAB recommendations and approved 6 Emissions Unit Programmes to supply CORSIA Eligible Emissions Units for the first phase (2024-2026 compliance period):

1) American Carbon Registry



2) Architecture for REDD+ Transactions



3)Climate Action Reserve CLIMATE ACTION



4) Global Carbon Council



5)The Gold Standard



6) Verified Carbon Standard VCS CARBERT



#### Note:

Not all units from these programmes are eligible for use in CORSIA.

Certain emissions units from these programmes are not eligible.

Each programme's Scope of Eligibility is described in the ICAO document: **CORSIA Eligible Emissions Units** 

https://www.icao.int/environmentalprotection/CORSIA/Pages/CORSIA-Emissions-Units.aspx

The eligible emissions units from these programmes are:

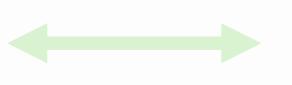
from projects/activities that started their first crediting period from 1 January 2016, and generated in respect of reductions/removals ('vintages') from 2021 to 2026.

## **ICAO ACT-CORSIA Programme**

COSIA Monitoring, Reporting and Verification (MRV) of CO<sub>2</sub> Emissions



Use of CORSIA Eligible Fuels (CEF)



Use of CORSIA
Eligible Emissions
Units (CEU)

CORSIA offsetting requirements (until 2035) could be complied by CEF or CEU



#### **ICAO ACT-CORSIA Programme**

- ICAO Assistance, Capacity-building and Training on CORSIA (ACT-CORSIA) was launched in July 2018, to provide Sates with the CORSIA implementation support.
- ACT CORSIA is designed to support a coordinated approach to harmonize and promote coherence to all capacity building efforts for implementation of CORSIA Annex 16, Volume IV (Resolution A41-22, paragraph 21).
- ACT-CORSIA also allows to monitor the global progress on CORSIA implementation and enhance transparency.



www.icao.int/corsia

# ICAO

## **ACT-CORSIA Buddy Partnerships**

- ACT-CORSIA includes the organization of **seminars and training sessionns**, development of **outreach materials** (e.g., brochure, leaflets, videos, newsletters) and establishment of **CORSIA buddy partnerships among States**, which have been instrumental to the successful implementation of MRV requirements.
- Under ACT-CORSIA buddy partnerships, technical experts from **supporting States** are working together with CORSIA Focal Points of support-**requesting States** to provide on-site / remote training and follow-up on the required actions, in close coordination with the Secretariat (HQ and ROs).









## **ACT-CORSIA Buddy Partnerships**

## Different phases with specific focus areas in order to support necessary actions by States with different timelines

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

CO2 Emissions reporting and verification

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

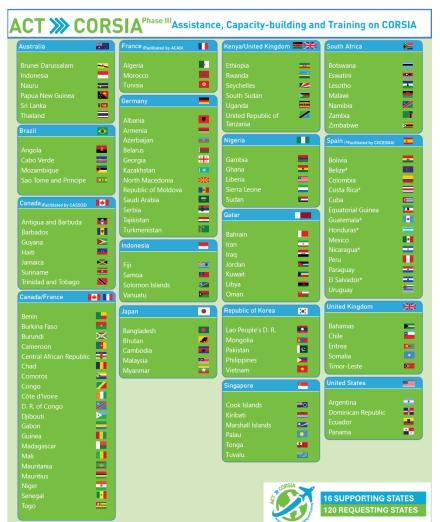
Use of the CORSIA Central Registry (CCR)

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

Lessons learned and improved support to MRV

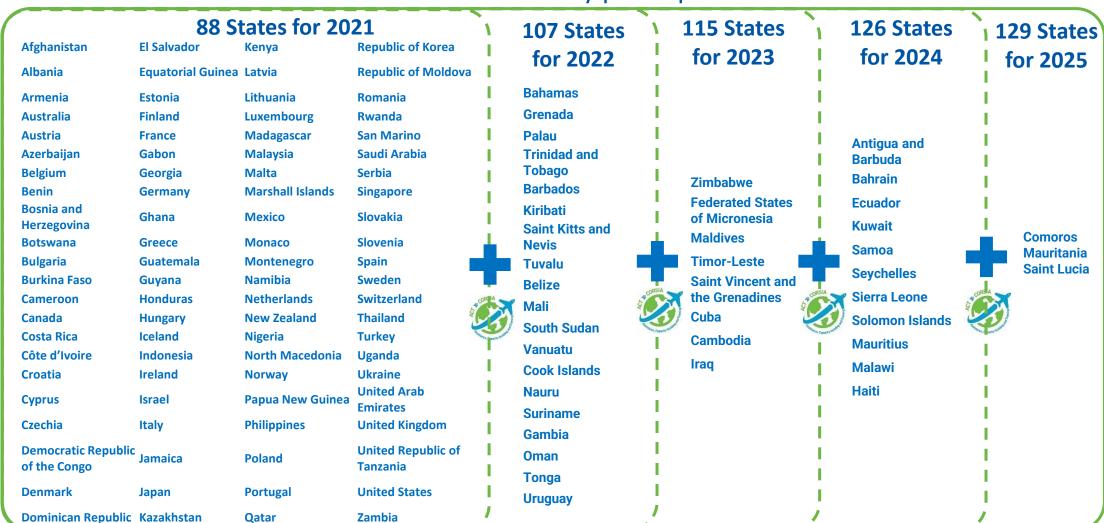


The focus areas of each Phase can form the basis for checklist to assess the progress made and milestones achieved in order to determine the need for a tailored approach to training.



#### **CORSIA Volunteer States**

#### ACT- CORSIA contributes to facilitate the voluntary participation of additional States in CORSIA





Benefits for CORSIA Participation: <a href="https://www.icao.int/environmental-protection/Pages/A39">https://www.icao.int/environmental-protection/Pages/A39</a> CORSIA FAQ5.aspx

