



ICAO

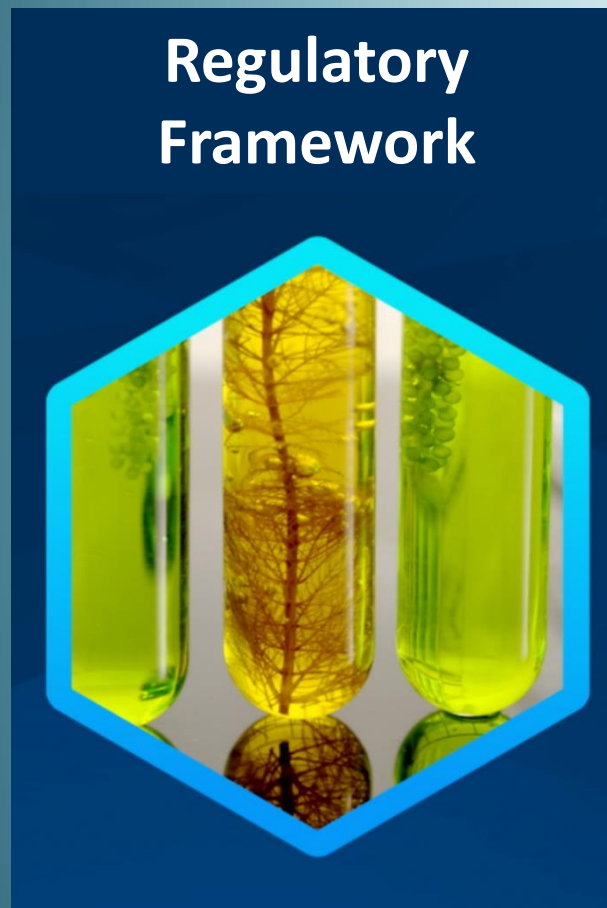
ENVIRONMENT

ICAO Secretariat

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## Session 2 – Regulatory Framework (CORSA)

# Agenda



## Session 2 : Regulatory Framework (CORSlA)

### ➤ CAAF/3 Global Framework: Building Block 2

- Introduction to Building Block 2 on Regulatory Framework
- CORSlA Implementation of CORSlA
- Eligibility of SAF, LCAF and other aviation cleaner energies

### ➤ Regional update on implementation of CORSlA

### ➤ Q&A Session

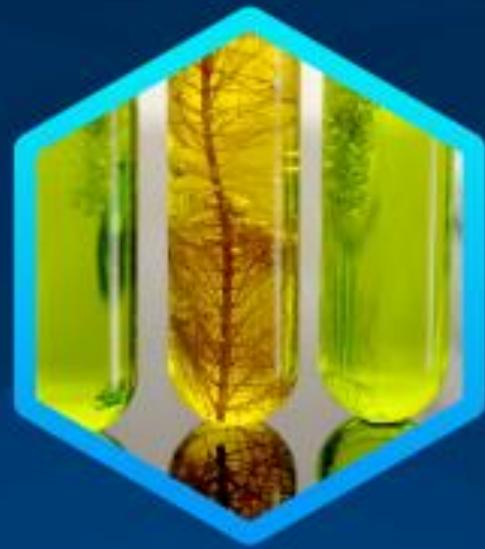


# ICAO Global Framework on SAF, LCAF and other Aviation Cleaner Energies

## Policy and Planning



## Regulatory Framework



## Implementation Support



## Financing



- Supports global scale up of aviation cleaner energies – Collective Vision to reduce 5% CO<sub>2</sub> by 2030
- Provides clarity, consistency and predictability to all stakeholders on 1) policy and planning, 2) regulatory framework, 3) implementation support, and 4) financing – 4 Building Blocks
- Monitors the implementation progress on emissions reductions and means of implementation
- Aspiring to have cleaner energy production facilities in all regions by CAAF/4 (no later than 2028)
- To update the Vision at CAAF/4 on the basis of market developments

# CAAF/3 Global Framework – 4 Building Blocks

## 1. Policy and Planning

- Global aspirational **Vision** to reduce international aviation CO<sub>2</sub> emissions by **5% by 2030**
- Each State's **special circumstances and respective capabilities**
- **CAAF/4** no later than 2028, with a view to update Vision
- **Collaborative effort** across different stakeholders, and encourage **State policies, action plans and roadmaps**
- Implementation **monitored** and periodically **reviewed**

## 2. Regulatory Framework

- **CORSIA eligibility framework as accepted basis** for SAF, LCAF and other aviation cleaner energies
- Increase the **number of SCS, additional fuel production pathways / life-cycle values**
- Parameters for **fuel accounting methodologies**, leveraging on CORSIA MRV system
- **Study of fuel accounting systems** to determine any possible ICAO role

## 3. Implementation Support

- **Robust, targeted and tailored** capacity -building and implementation support
- **Building on ACT-CORSIA and ACT-SAF programmes**
- Facilitate **partnerships**, and exchange of best practices
- Develop **policy toolkit/guidance** and support **State Action Plans**
- Support **feasibility studies, pilot projects**, which may facilitate access to investment
- Support **access to technology**

## 4. Financing

- **Advocacy and outreach** for greater investment in aviation cleaner energy projects, including UN and international financial community
- Welcome and request for **operationalization of ICAO Finvest Hub** to facilitate better access to public fund / private investment, to respond to Resolution A41-21, para 18. a)
- Expedite work to **consider the establishment of a climate finance initiative or funding mechanism under ICAO**, to respond to A41-21, para 18. b)

# Building Block 2 – Regulatory Framework



## 2. Regulatory Framework

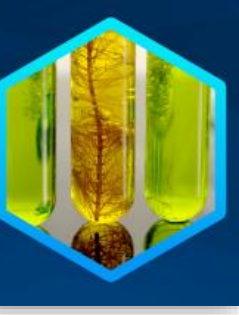
- **CORSIA eligibility framework as accepted basis** for SAF, LCAF and other aviation cleaner energies
- Increase the **number of SCS**, additional fuel production pathways / life-cycle values
- Parameters for **fuel accounting methodologies**, leveraging on CORSIA MRV system
- **Study of fuel accounting systems** to determine any possible ICAO role

### *Building Block 2 – Regulatory Framework:*

12. In the interests of providing regulatory transparency, certainty, stability and assurances of environmental integrity to feedstock producers, fuels producers and financial institutions, the CORSIA sustainability criteria, sustainability certification, and the methodology for the assessment of life cycle emissions used for 'CORSIA eligible fuels', should be used as the accepted basis for the eligibility of SAF, LCAF and other aviation cleaner energies used in international aviation.
13. ICAO, States and industry are encouraged to enhance efforts to increase the number of ICAO approved Sustainability Certification Schemes, in all regions, to accelerate the sustainability certification of qualifying SAF, LCAF and other aviation cleaner energies in line with the CORSIA requirements, without excluding any particular fuel source, pathway, feedstock or technology. In this regard, ICAO, with technical and neutral contributions of CAEP, is encouraged to accelerate the development and approval of new Sustainability Certification Schemes for SAF, LCAF and other aviation cleaner energies and to accelerate the analysis and approval of life cycle values for new fuel sources and pathways.
14. ICAO, States, industry and other relevant stakeholders are encouraged to work with fuel standards bodies, such as ASTM, to accelerate the certification of additional fuel production pathways, with a view to maximizing the number of certified sources of SAF, LCAF and other aviation cleaner energies.
15. Accounting methodologies on the use of SAF, LCAF and other aviation cleaner energies for international aviation, such as the CORSIA MRV, provides confidence in the use of such fuels and the claim of their environmental benefits by aeroplane operators, noting that such accounting methodologies could help support the monitoring of progress towards the achievement of the LTAG. Accounting methodologies and the associated reporting frameworks should take into account the following parameters, which seek to promote transparency, accuracy, consistency, comparability and completeness:
  - a) ensure the global coverage of emissions from international civil aviation, as part of the monitoring of the LTAG;
  - b) support consistent application of methodologies amongst States, in a transparent manner;
  - c) enable accurate emissions reporting, including the use of cleaner energy for international civil aviation;
  - d) ensure environmental integrity through the avoidance of double-counting, including between domestic and international civil aviation;
  - e) use verified emissions information, supported with other information for the verification or validation of reported emissions;
  - f) promote cost-effectiveness by using simple accounting and reporting methodologies and procedures;
  - g) avoid excessive administrative burden on States and aeroplane operators; and
  - h) leverage, to the extent possible, existing methodologies and procedures under the CORSIA MRV.
16. ICAO should, with technical contributions of CAEP, undertake a study of fuel accounting systems for international aviation currently used in the open market. This study would include preliminary exploration of the so-called 'book and claim' concept to assess its relevancy and applicability, and taking into account relevant developments in other UN bodies, including the Article 6 of the Paris Agreement. The intent of the study would be to better understand these accounting systems and concepts and identify potential areas for further investigation. This work can help determine what, if any, role ICAO could have in supporting these systems to facilitate access to environmental benefits of SAF, LCAF and other aviation cleaner energies for international aviation and ensure environmental integrity, with a view to fostering without disincentivising the global production of such fuels, in particular in developing countries.

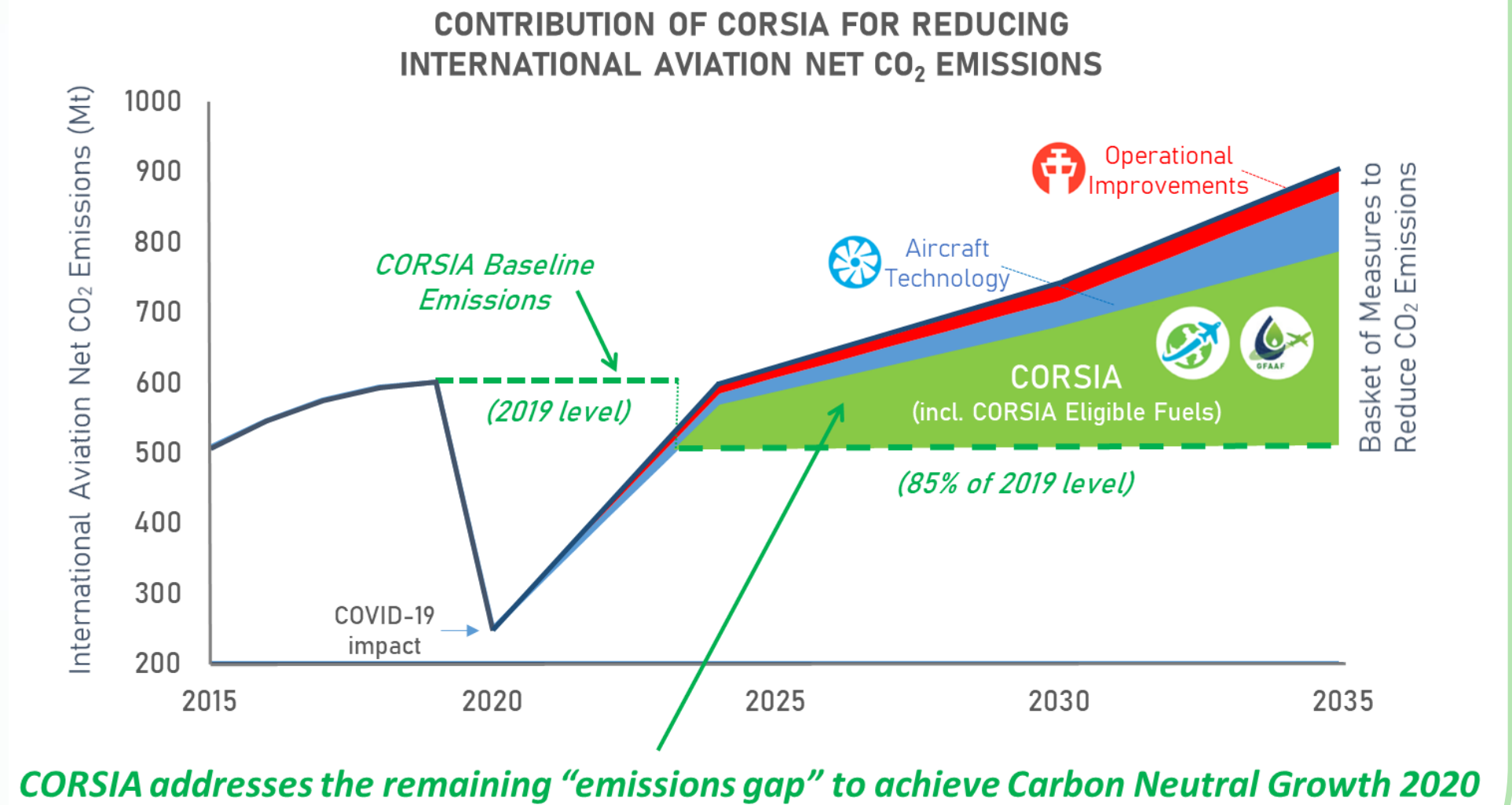


# ICAO Regulatory Frameworks: CORSA Implementation



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**

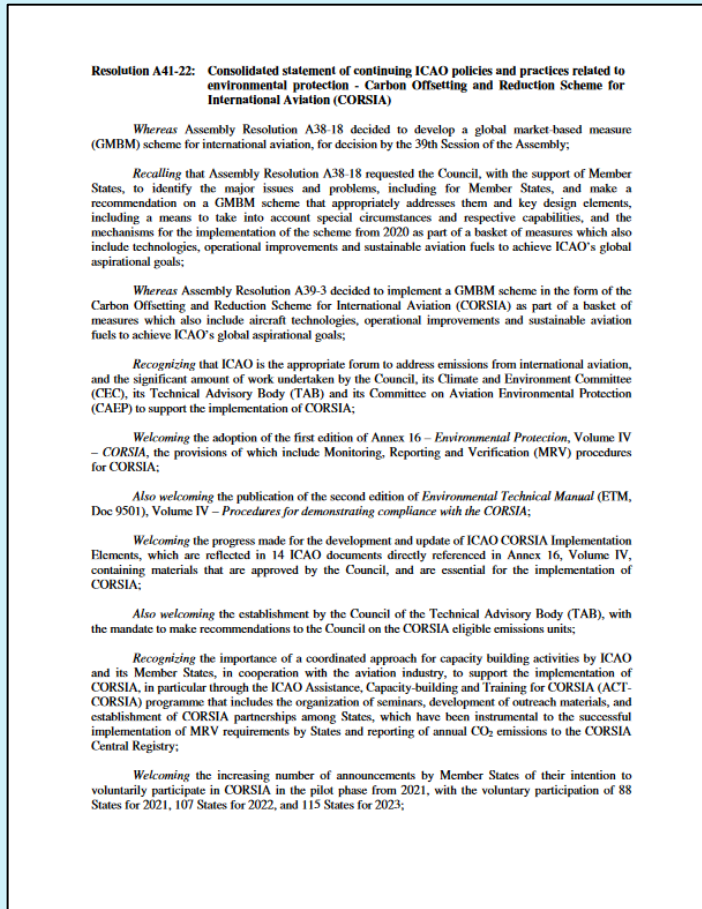


# ICAO Regulatory Framework for CORSIA Implementation



## Assembly Resolutions in force (A41-22)

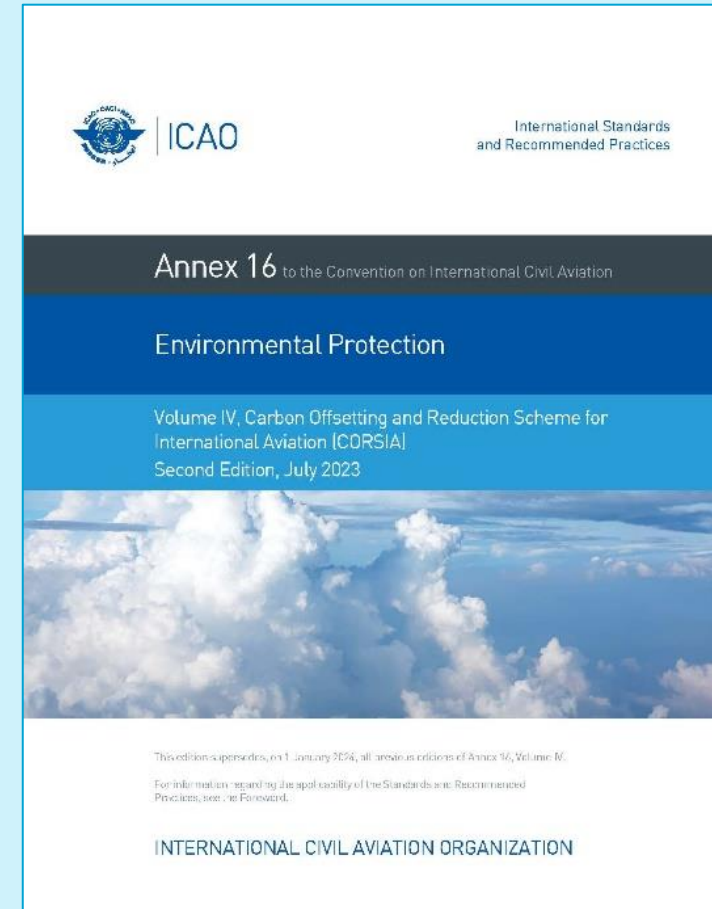
Adopted by 2022 Assembly



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

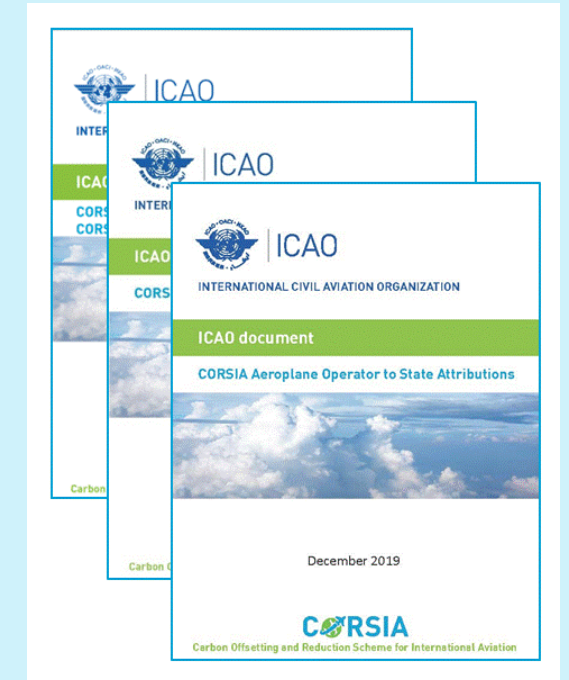
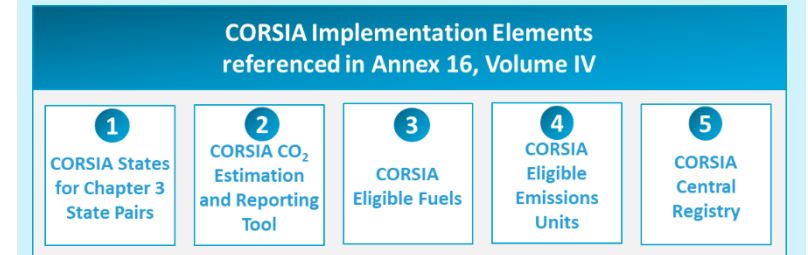
3rd Edition to support 2nd Edition of Annex 16, Volume IV



Overall ICAO policy on CORSIA

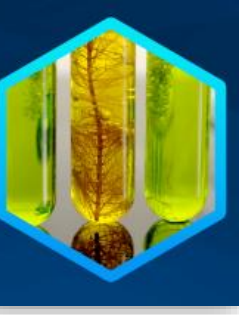
## CORSIA Implementation Elements and ICAO CORSIA documents

Regularly updated/approved by Council



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

# CORSIA Phased Implementation



## Second phase participation criteria:

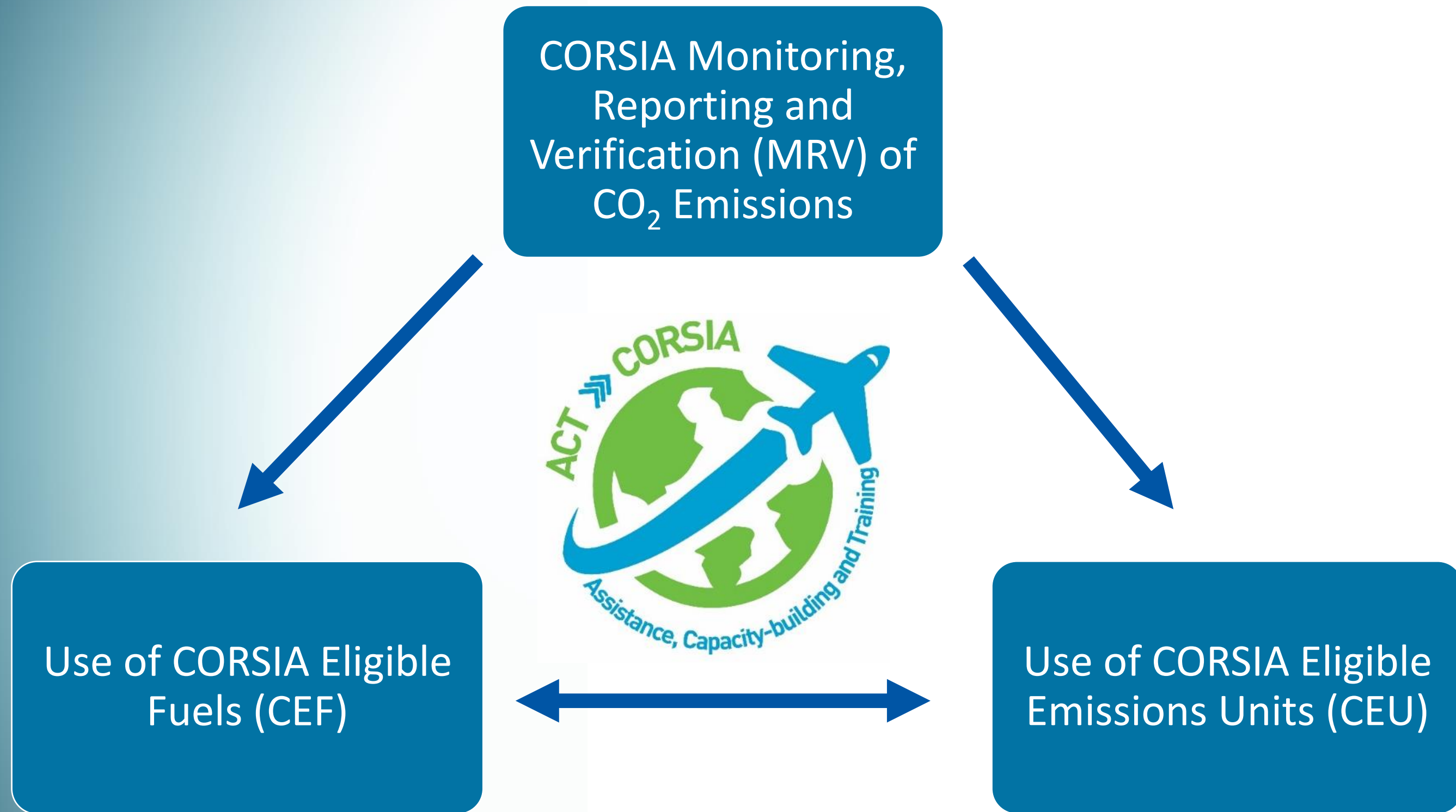
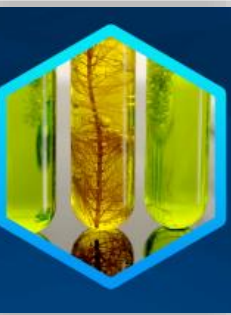
- Cumulative 90% of global 2018 RTK
- Individual 0.5% of 2018 RTK
- Voluntary participation

## Exemptions:

- LDCs, LLDCs, SIDS



# CORSIA Implementation



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



# CORSIA Implementation



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

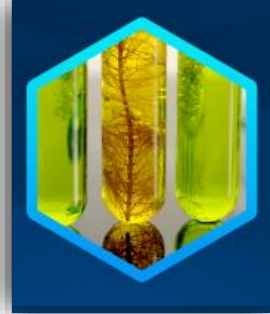
Use of CORSIA Eligible Fuels (CEF)

Use of CORSIA Eligible Emissions Units (CEU)



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



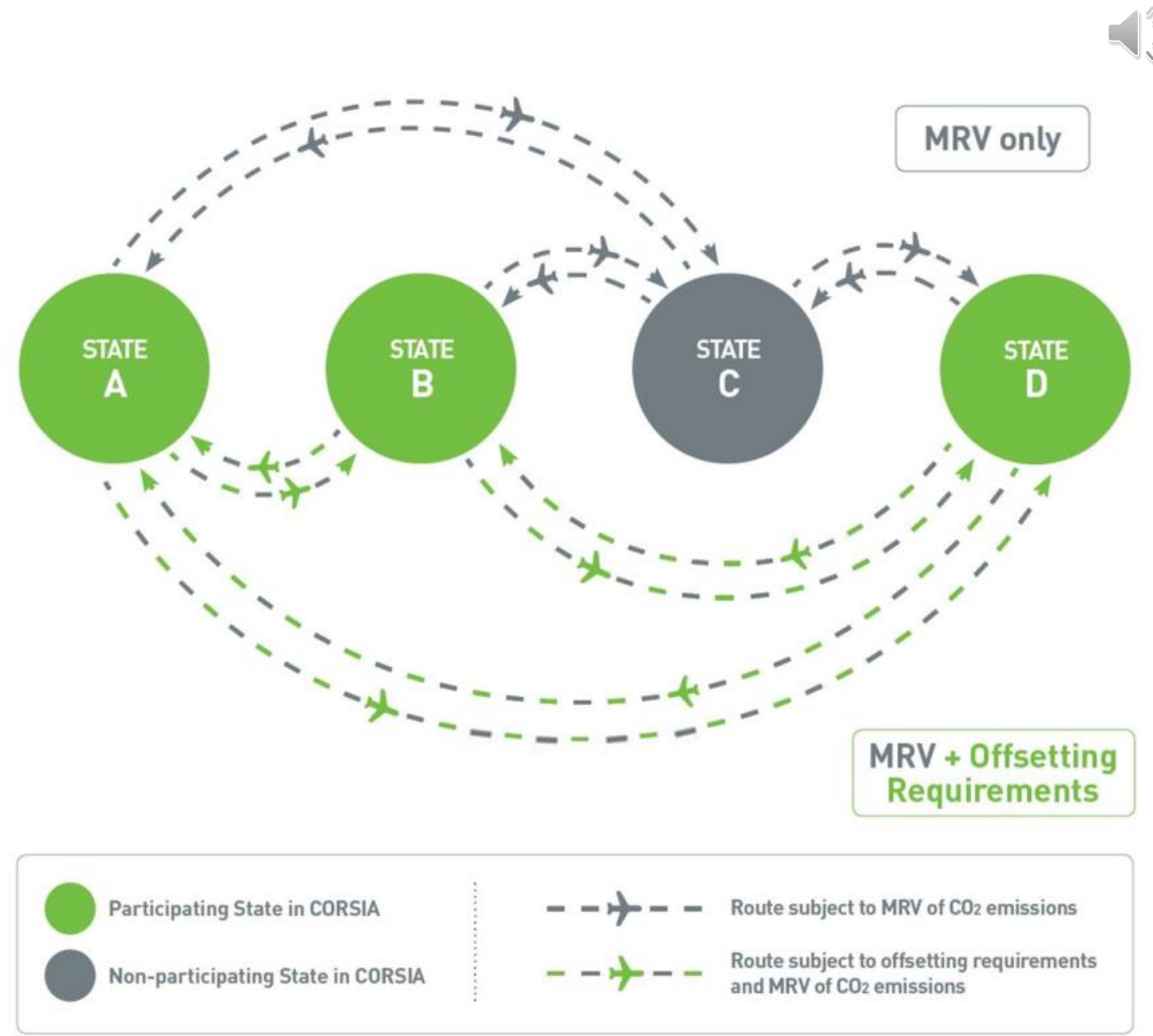


# CORSIA CO2 MRV Requirements

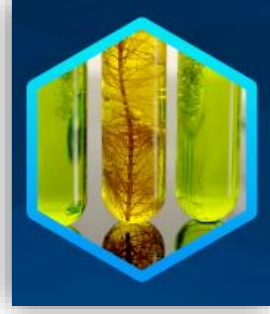
From 1 January 2019, all operators performing international flights have to monitor CO2 emissions, annually reporting verified CO2 emissions to State, and States to report ICAO CORSIA Central Registry (CCR)

Purpose of CO2 MRV is to collect information on international aviation CO2 emissions on an annual basis and compare these emissions against the baseline emissions, to calculate CORSIA offsetting requirements

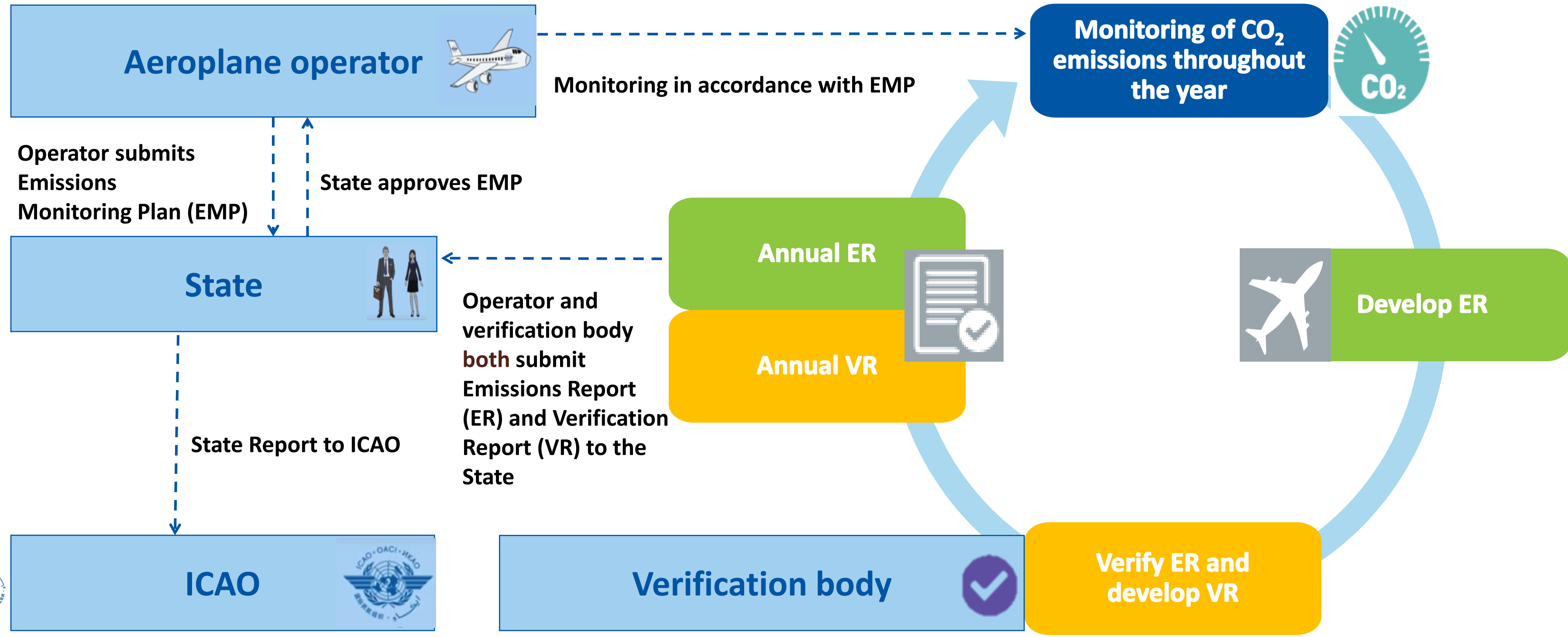
All operators performing international flights between States participating in CORSIA have to comply with the CORSIA offsetting requirements

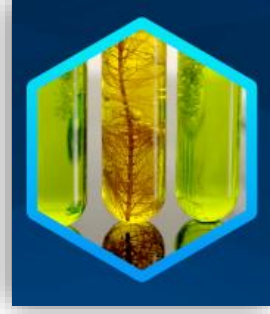


# CORSIA CO<sub>2</sub> MRV Annual Cycle



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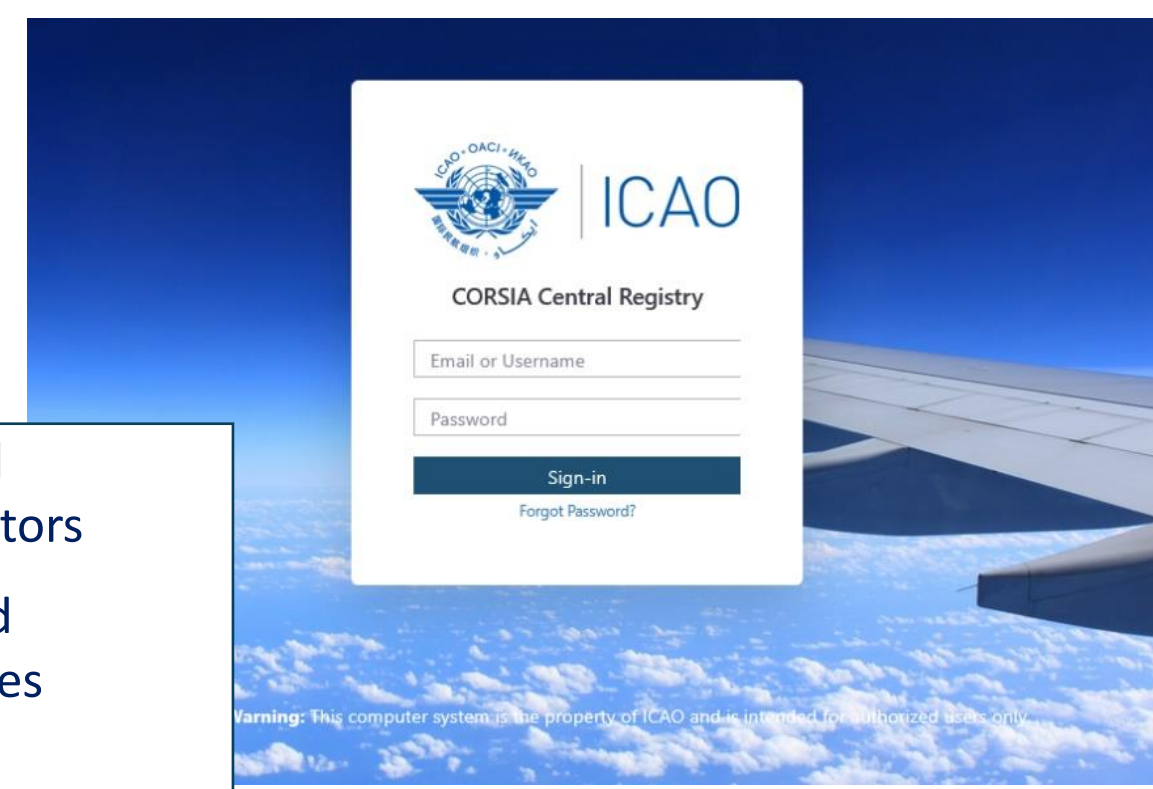





# CORSIA Central Registry (CCR)

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

Consolidated CCR data published on ICAO CORSIA website



-  List of attributed aeroplane operators
-  List of accredited verification bodies
-  CO<sub>2</sub> emissions
-  CORSIA eligible fuels
-  Cancelled emissions units

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

## CORSIA Central Registry (CCR)

The CORSIA Central Registry (CCR) is a database that is used by States to submit information and data to ICAO in accordance with the provisions of Annex 16, Volume IV and Appendix 1.

This ICAO CORSIA Implementation Element is reflected in the following five ICAC are referenced in Annex 16, Volume IV.

### ICAO document "CORSIA Central Registry: Information and Data for the Implementation of CORSIA"

This an umbrella document for the following three ICAO documents, which contain information that supports the implementation of CORSIA. These ICAO documents are approved by the ICAO Council.

#### CORSIA Aeroplane Operator to State Attributions

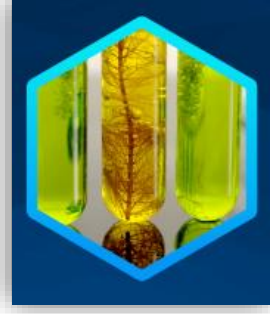
<i>Description</i>	This ICAO document contains a list of aeroplane operators and the State to which they are attributed.
<i>Current edition</i>	Eighth edition (December 2023) – <a href="#">click here</a> .  <a href="#">Click here</a> for a searchable list of the aeroplane operators included in this ICAO document.
<i>Past editions</i>	Previous editions of this ICAO document are available <a href="#">here</a> .



#### CORSIA 2020 Emissions

<i>Description</i>	This ICAO document contains the international aviation CO <sub>2</sub> emissions that are used to determine a new entrant.
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# CORSIA on track – Measuring success by numbers

Successful CORSIA MRV implementation relies on the continued support of States under ACT-CORSIA Programme

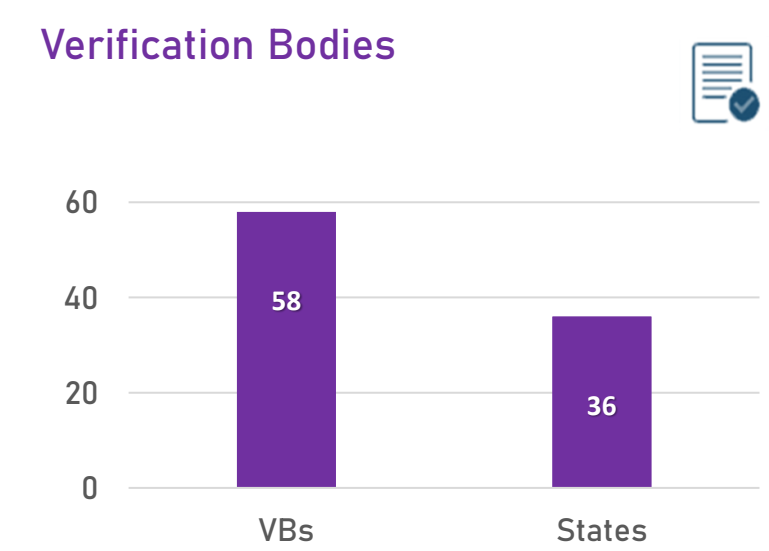
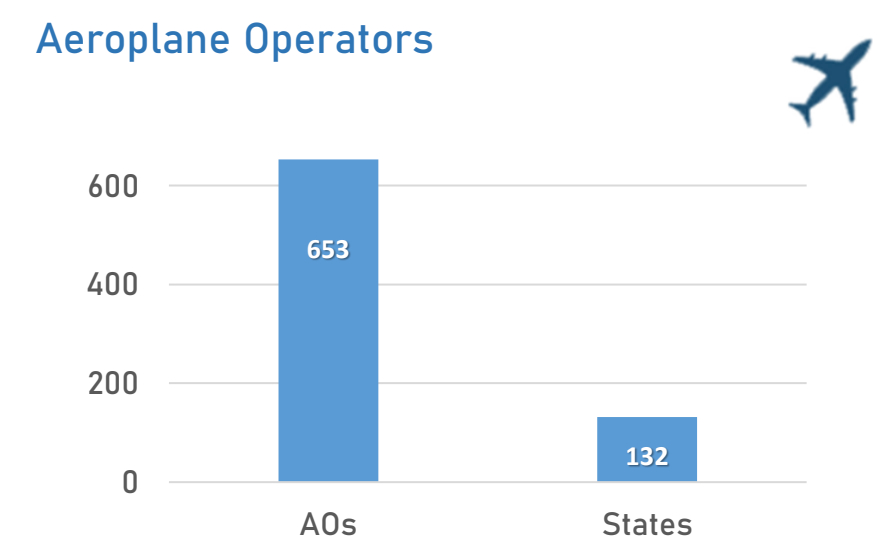


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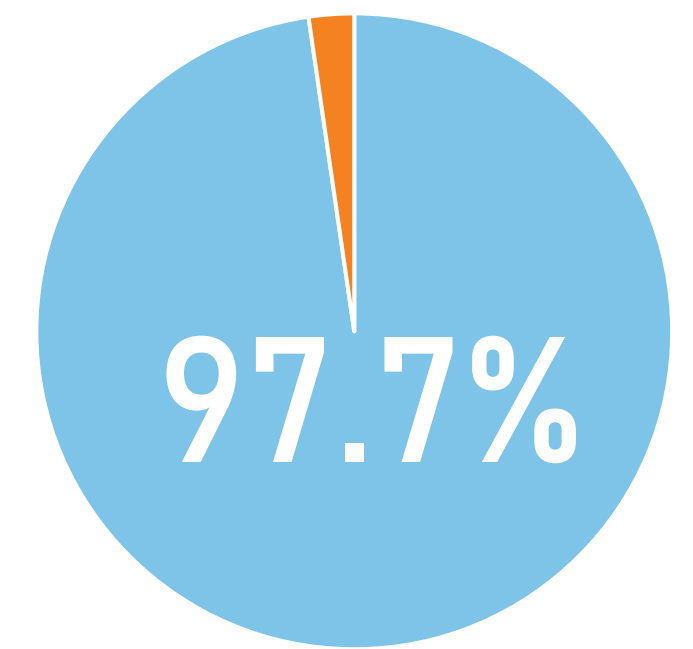
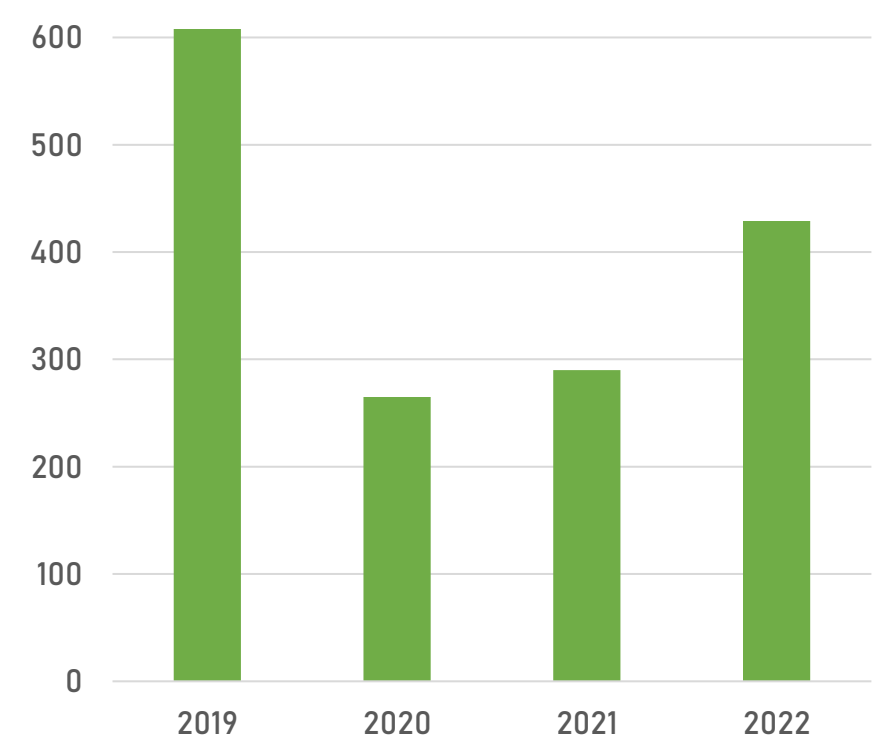


**179**  
States have access to CCR

**286**  
CCR Users Accounts



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

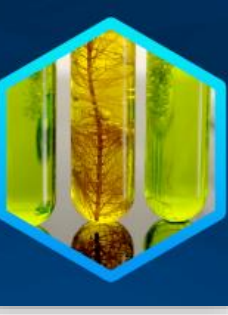


Submitted through the CCR | Gap-filling

**0**  
2021 Sector Growth Factor due to COVID-19

*\*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*

Summary of CCR Data - As of March 2024



# Key Deadlines to report 2023 CORSIA-related Data

In accordance with Appendix 1 to Annex 16, Volume IV, States are required to report annual CORSIA-related information and data through the CORSIA Central Registry (CCR). These are the upcoming CORSIA implementation deadlines for States:

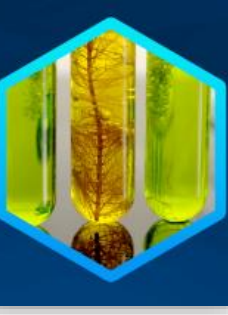
## by 31 July 2024

States perform an order of magnitude check of the 2023 CO<sub>2</sub> emissions, including any filling of data gaps necessary, and use the CORSIA Central Registry (CCR) to report to **ICAO aggregated 2023 CO<sub>2</sub> emission data** and, if applicable, information on CORSIA eligible fuels.



## by 30 November 2024

States use the 2023 SGF, obtained from the ICAO document “CORSIA Annual Sector’s Growth Factor (SGF)”, to calculate the 2023 offsetting requirements for the aeroplane operators and consequently, the States inform the aeroplane operators about their respective 2023 offsetting requirements.



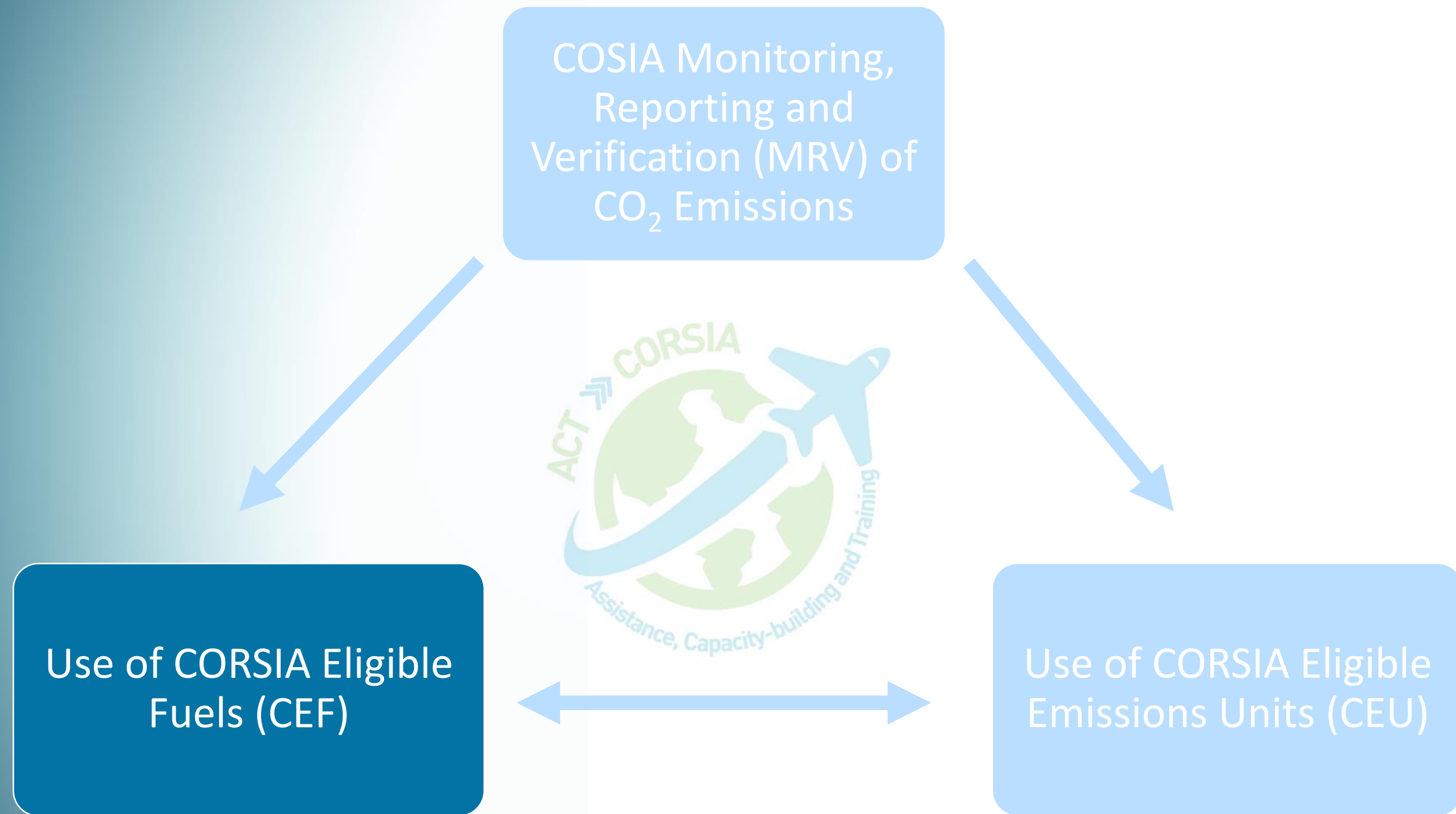
## 2023 CORSIA-related Data – Next Steps



- In accordance with Annex 16, Volume IV, the Secretariat will **fill the CO<sub>2</sub> emissions gap** for States that do not submit data through the CCR in accordance with the CORSIA submission deadlines.
- The Secretariat will compile the **2023 CO<sub>2</sub> emissions and any 2023 CEF-related data in Part III and Part IV, respectively, of the CORSIA document “CORSIA Central Registry (CCR): Information and Data for Transparency.”** The documents will be published on the ICAO website by **31 October 2024**.
- By **31 October 2024**, the ICAO Secretariat will publish **the ICAO document “CORSIA Annual Sector’s Growth Factor (SGF)”**, which will contain the **2023 SGF value**. States will use the 2023 SGF value **to calculate the 2023 offsetting requirements** of aeroplane operators attributed to them.

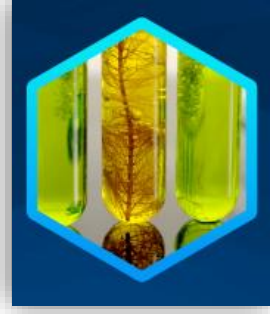


# CORSIA Implementation



**CORSIA offsetting requirements (until 2035) could be met 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



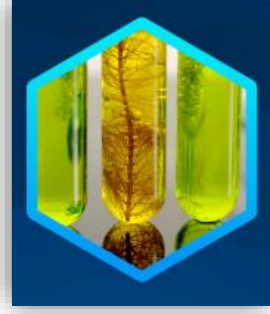
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From 2021 to 2032: 100% sectoral and 0% individual



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





# CORSIA Eligible Fuels and Offsetting Requirements

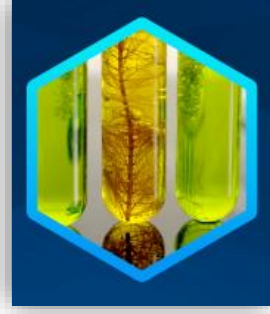
- **CORSIA eligible fuel (CEF) is CORSIA sustainable aviation fuel (SAF) and CORSIA lower carbon aviation fuel (LCAF), which an operator may use to reduce its offsetting requirements.**
- **CEF needs to be certified based on the CORSIA Sustainability Criteria, including its life-cycle emissions values,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



<b>CORSIA Eligibility Framework and Requirements for Sustainability Certification Schemes Third Edition, March 2024</b>	<b>CORSIA Approved Sustainability Certification Schemes* Second Edition, June 2023</b>	<b>CORSIA Sustainability Criteria for CORSIA Eligible Fuels** Third Edition, November 2022</b>	<b>CORSIA Default Life Cycle Emissions Values for CORSIA Eligible Fuels*** Fifth Edition, March 2024</b>	<b>CORSIA Methodology for Calculating Actual Life Cycle Emissions Values Fourth Edition, March 2024</b>

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





# CORSIA Eligible Fuels and Offsetting Requirements

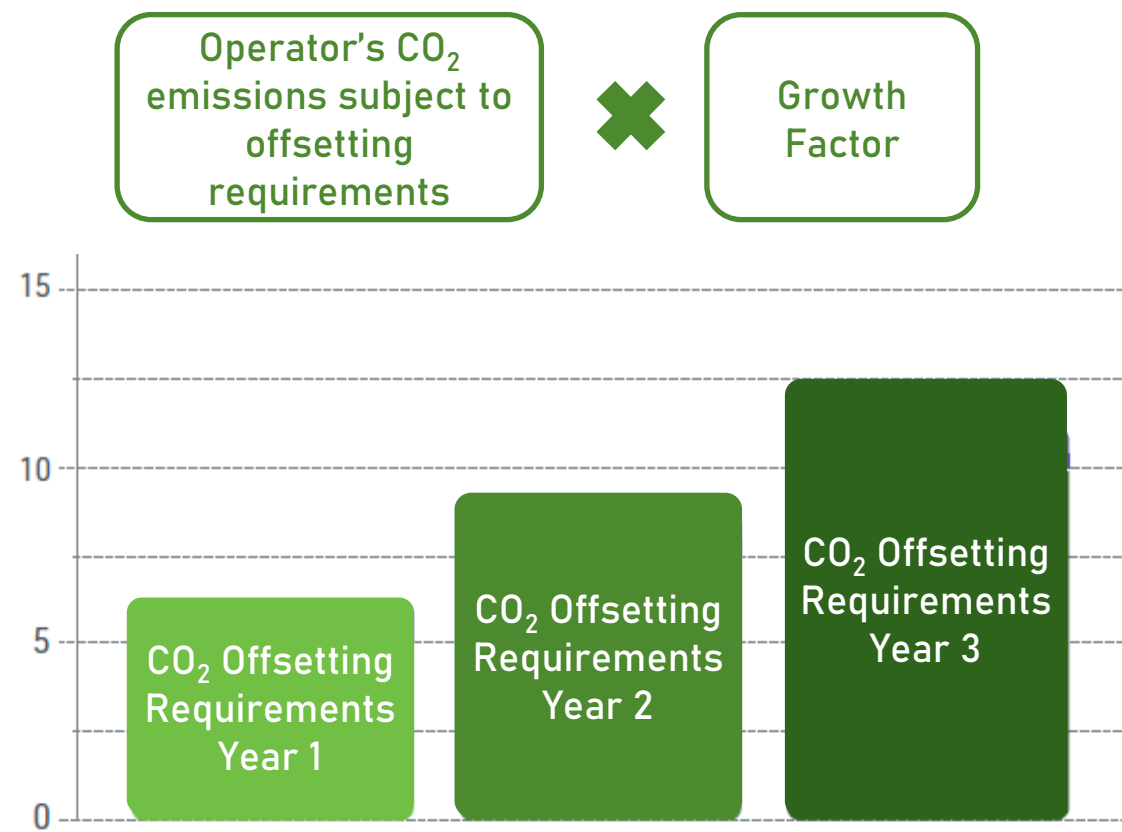
An aeroplane operator can reduce its CORSIA offsetting requirements by claiming emissions reductions from the use of CORSIA Eligible Fuels (CEF)



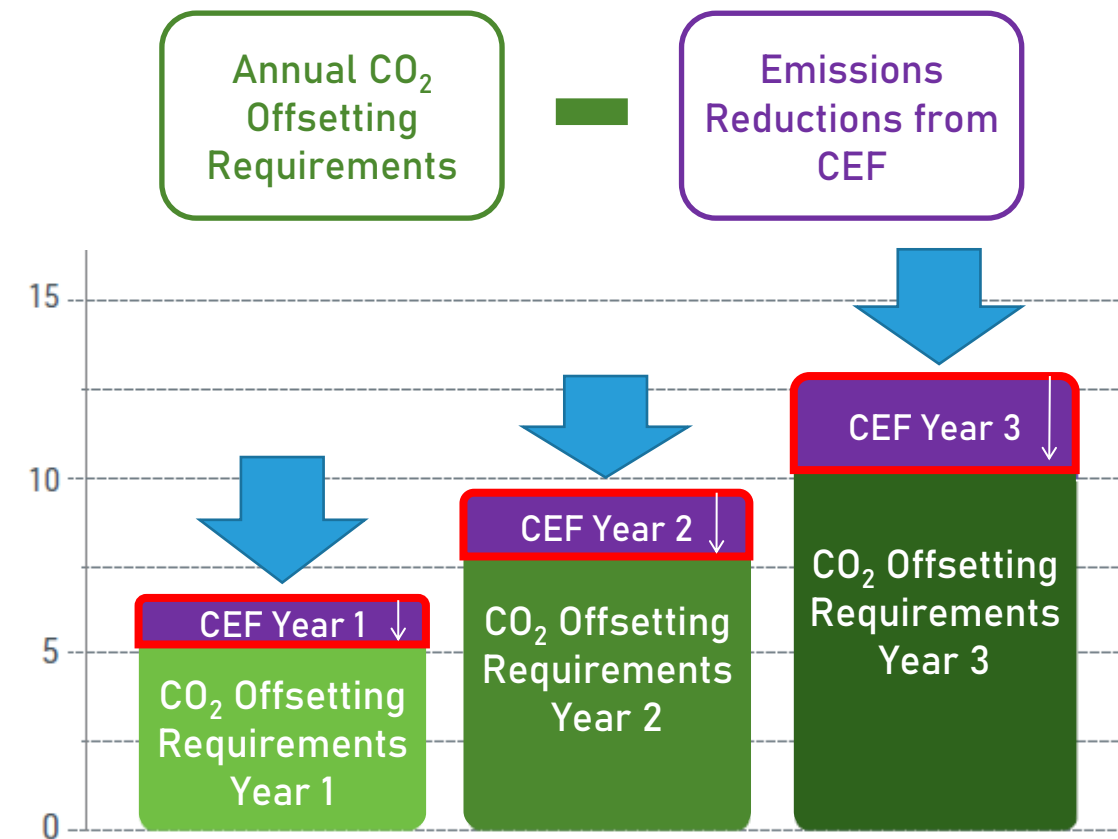
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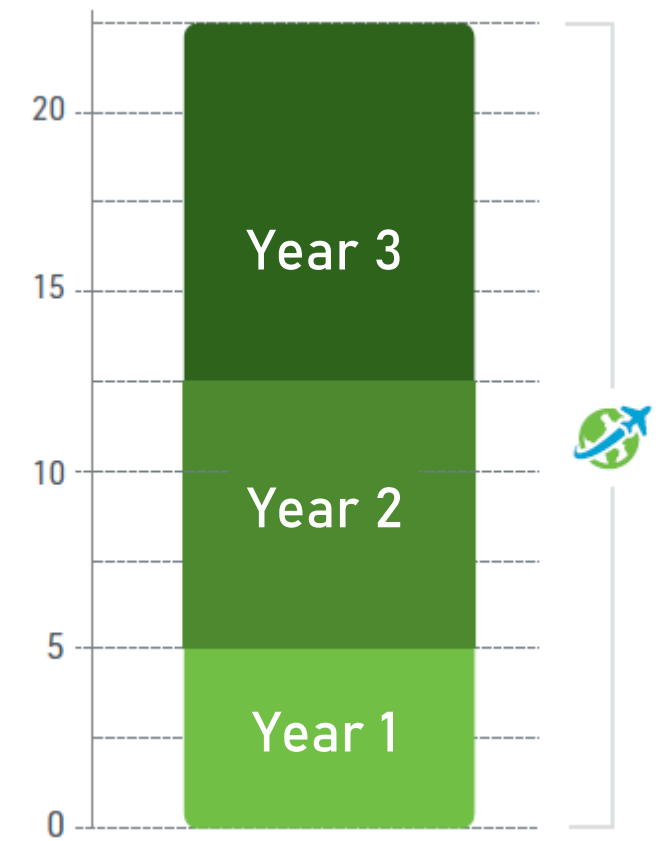
① **CO<sub>2</sub> Offsetting Requirements** calculated by the State for each year



② **Emissions reductions claimed from the use of CORSIA Eligible Fuels (CEF)**

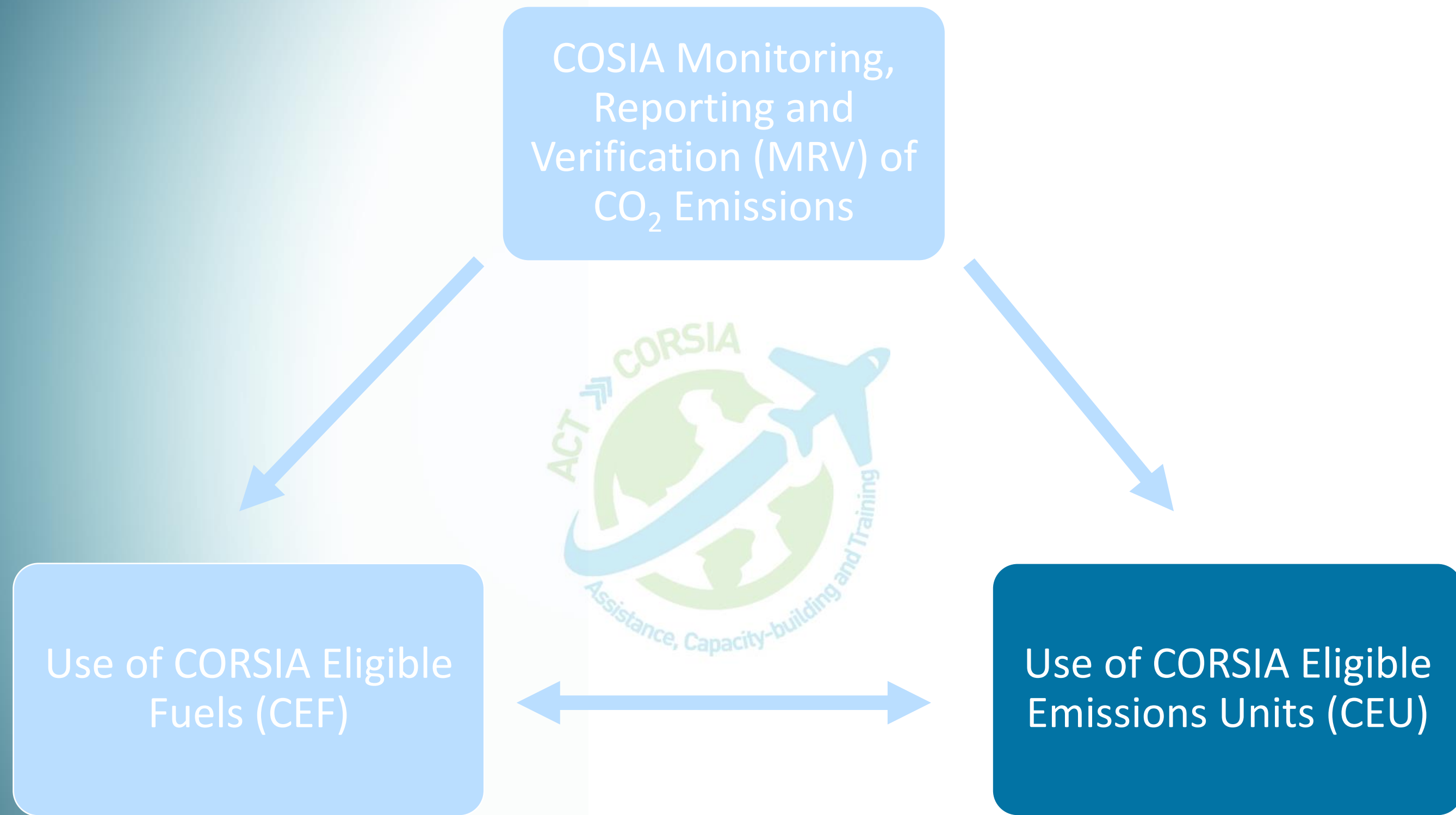
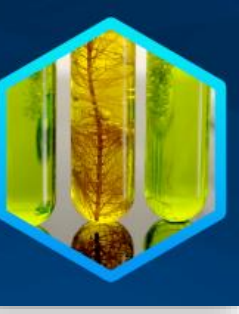


③ **Total Final CO<sub>2</sub> Offsetting Requirements for a 3-year Compliance Period**



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

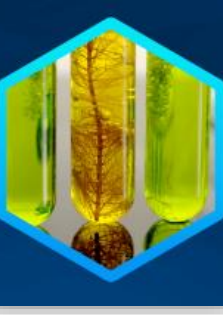
# CORSIA Implementation



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

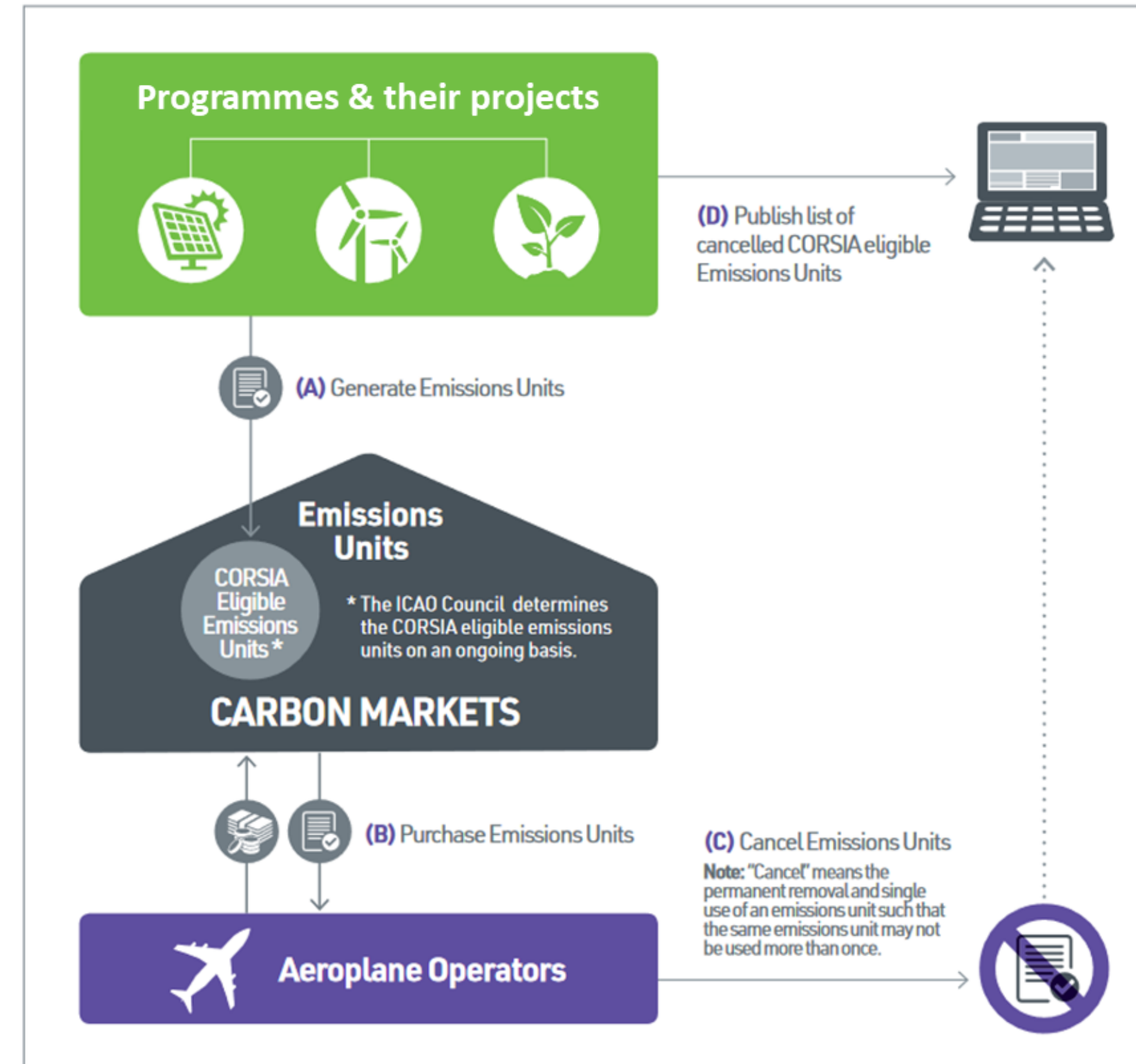


# CORSIA Eligible Emissions Units



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



Emissions Unit Programmes to supply CORSIA Eligible Emissions Units  
(as approved by Council, as of March 2024)

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## For the pilot phase (2021-2023 period):

- 1) American Carbon Registry 
- 2) Architecture for REDD+ Transactions 
- 3) Biocarbon Fund Initiative for Sustainable Forest Landscapes 
- 4) China GHG Voluntary Emission Reduction Program 
- 5) Clean Development Mechanism 
- 6) Climate Action Reserve 
- 7) Forest Carbon Partnership Facility Program 
- 8) Global Carbon Council 
- 9) Socialcarbon 
- 10) The Gold Standard 
- 11) Verified Carbon Standard 

## For the first phase (2024-2026 period):

- 1) American Carbon Registry 
- 2) Architecture for REDD+ Transactions 

**Additional 8 programmes as conditionally-approved, to be further assessed together with new applicants**

**Note:**  
*Not all units from these programmes are eligible for use in CORSIA. Each Programme's Scope of Eligibility is described in the Council-approved ICAO document: CORSIA Eligible Emissions Units*



# 2024 TAB Assessment Timeline

- The call for applications for the 2024 TAB assessment cycle on CORSIA eligible emissions units for the first phase opened in **February 2024. ICAO received eleven applications.**
- In April 2024 , **eight conditional programmes** submitted material changes to ICAO.
- The **results of the 2024 TAB assessment** cycle and its recommendations are expected for consideration by the 233<sup>rd</sup> session of the Council in **Oct/Nov 2024.** It is expected that more programmes become eligible for the CORSIA first phase at the end of the 2024 cycle.

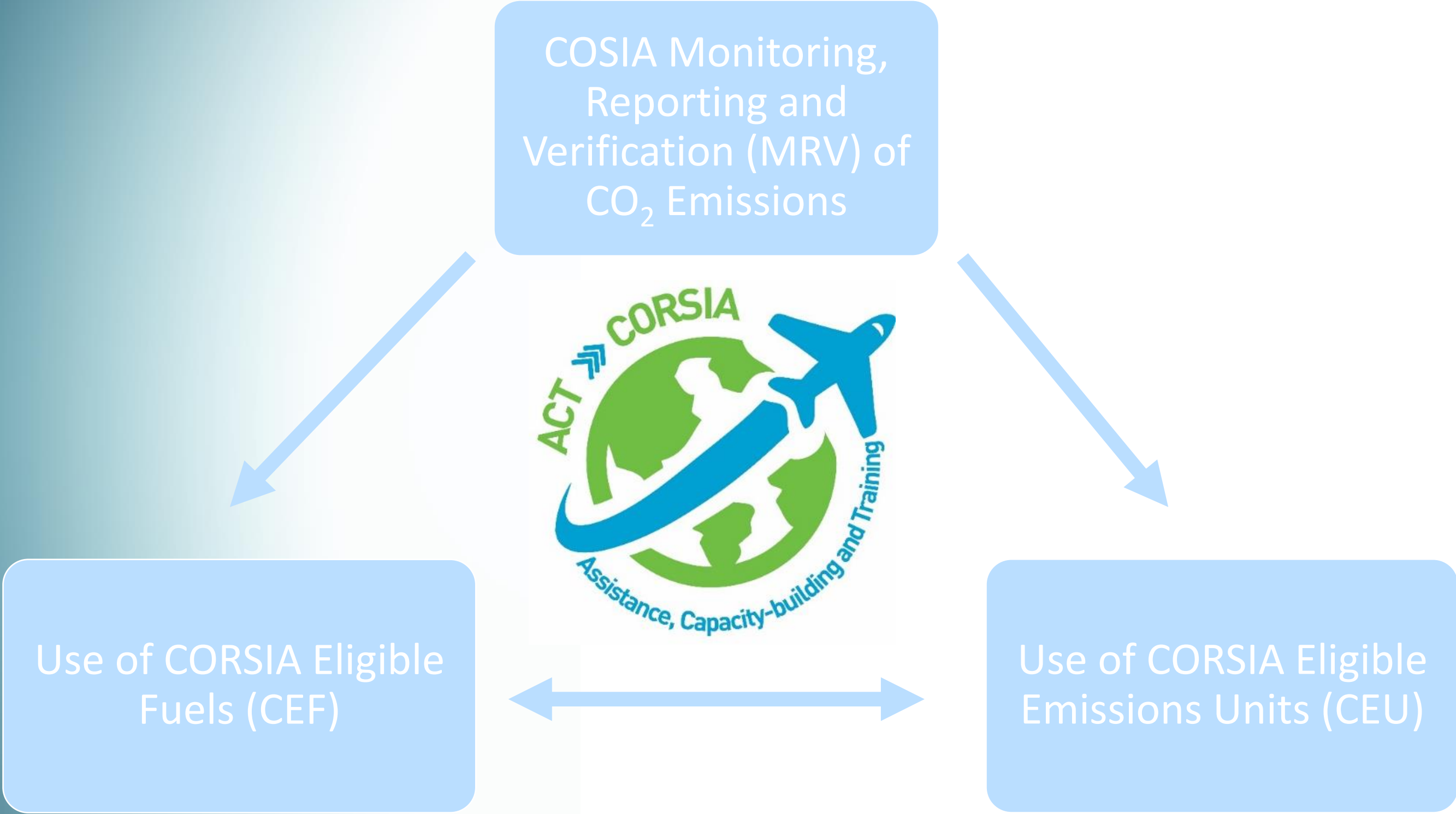
2024 TAB Work Programme

Activities	2024																																																			
	January				February				March				April				May				June				July				August				September				October				November				December							
	Jan-01	Jan-08	Jan-15	Jan-22	Jan-29	Feb-05	Feb-12	Feb-19	Feb-26	Mar-04	Mar-11	Mar-18	Mar-25	Apr-01	Apr-08	Apr-15	Apr-22	Apr-29	May-06	May-13	May-20	May-27	Jun-03	Jun-10	Jun-17	Jun-24	Jul-01	Jul-08	Jul-15	Jul-22	Jul-29	Aug-05	Aug-12	Aug-19	Aug-26	Sep-02	Sep-09	Sep-16	Sep-23	Sep-30	Oct-07	Oct-14	Oct-21	Oct-28	Nov-04	Nov-11	Nov-18	Nov-25	Dec-02	Dec-09	Dec-16	Dec-23
<b>1st Quarter 2024</b>																																																				
1.1 Call for applications - 2024 assessment cycle (5 February - 4 March 2024)																																																				
1.2 ICAO webinar for 2024 applications (9 Feb 2024)																																																				
1.3 2024 TAB Assessment cycle																																																				
1.4 231 <sup>st</sup> Council Session: Consideration of TAB recommendations - Fall 2023 assessment																																																				
<b>2nd Quarter 2024</b>																																																				
2.1 Call for public comments - 2024 assessment cycle																																																				
2.2 Deadline (15 April 2024) for programme change notification forms to be considered at 233 <sup>rd</sup> Council Session (September 2024)																																																				
<b>3rd Quarter 2024</b>																																																				
3.1 Deadline (15 August 2024) for programme change notification forms to be considered at 234 <sup>th</sup> Council Session (March 2025)																																																				
<b>4th Quarter 2024</b>																																																				
4.1 233 <sup>rd</sup> Council Session: Consideration of TAB recommendations on programmes submitting programme change notification forms (submitted April 2024) and 2024 assessment cycle applications																																																				

Note 1: The above TAB Work Programme and Timeline is subject to further changes.  
 Note 2: The call for applications for the 2024 assessment cycle, for the first phase of CORSIA, will open in the first quarter of 2024

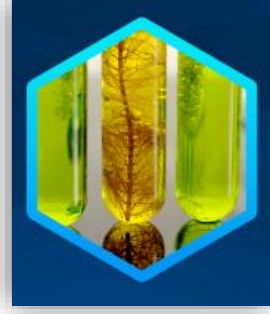


# ICAO ACT-CORSIA Programme



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





# ICAO ACT-CORSIA Programme

- Annex 16, Volume IV was adopted in June 2018, with the applicability date of 1 January 2019 and associated challenges for States to prepare for timely implementation of CORSIA.
- **ICAO Assistance, Capacity-building and Training on CORSIA (ACT-CORSIA)** was launched in July 2018, to provide States 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.

### CORSIA»» IMPLEMENTATION

- Assembly Resolution A41-22  
(EN) (FR) (SP) (RU) (AR) (ZH)
- Reservation to Resolution A41-22
- SARPs - Annex 16 Volume IV
- Environmental Technical Manual - Volume IV
  - » Templates
- ICAO CORSIA Implementation Elements
  - » CORSIA States for Chapter 3 State Pairs
  - » ICAO CORSIA CO<sub>2</sub> Estimation and Reporting Tool (CERT)
  - » CORSIA Eligible Fuels
  - » CORSIA Eligible Emissions Units
  - » CORSIA Central Registry (CCR)

Additional Material for CORSIA Implementation  
Status of CORSIA Implementation

## CORSIA

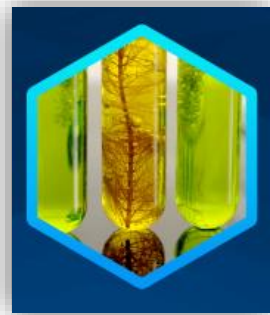
### ACT »» CORSIA

- CORSIA Buddy Partnerships
- Examples of Good Practice
  - » Model regulations
  - » CO<sub>2</sub> Aggregation
- Frequently Asked Questions
- Brochure and Leaflets
- Videos (Navigating CORSIA)
- Seminars
- Background Information



[www.icao.int/corsia](http://www.icao.int/corsia)





# ACT-CORSIA Buddy Partnerships



- ACT-CORSIA includes the organization of **seminars and training sessions**, 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

ACT-CORSIA rolled out in different phases with specific focus areas 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**

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

**Phase III (Apr 2020 - ongoing): 17 supporting States and 119 requesting States**

- CO<sub>2</sub> Emissions reporting and verification
- Use of the CORSIA Central Registry
- CORSIA Eligible Fuels (CEF) and Eligible Emissions Units (CEU)

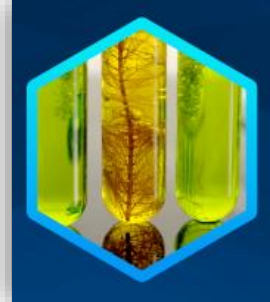
**Annual Training of Trainers (e.g. 6 and 7 March 2024) to supporting States to ensure the coordinated / harmonized approach for providing support to requesting States under ACT-CORSIA Buddy Partnerships, in close coordination with ICAO Secretariat.**



ACT >>> CORSIA <sup>Phase III</sup> Assistance, Capacity-building and Training on CORSIA	
<b>AUSTRALIA</b> 1. BRUNEI DARUSSALAM 2. INDONESIA 3. NAURU 4. PAPUA NEW GUINEA 5. SRI LANKA 6. THAILAND	<b>KENYA / UNITED KINGDOM</b> 1. ETHIOPIA 2. RWANDA 3. SEYCHELLES 4. SOUTH SUDAN 5. UGANDA 6. UNITED REPUBLIC OF TANZANIA
<b>BRAZIL</b> 1. ANGOLA 2. CABO VERDE 3. MOZAMBIQUE 4. SAO TOME AND PRINCIPE	<b>NEW ZEALAND</b> 1. FIJI 2. SAMOA 3. SOLOMON ISLANDS 4. VANUATU
<b>CANADA</b> (Facilitated by CASSOS) 1. ANTIGUA AND BARBUDA 2. BARBADOS 3. GUYANA 4. HAITI 5. JAMAICA 6. SURINAME 7. TRINIDAD AND TOBAGO	<b>NIGERIA</b> 1. GAMBIA 2. GHANA 3. LIBERIA 4. SIERRA LEONE 5. SUDAN
<b>CANADA / FRANCE</b> 1. BENIN 2. BURKINA FASO 3. BURUNDI 4. CAMEROON 5. CENTRAL AFRICAN REPUBLIC 6. CHAD 7. COMOROS 8. CONGO 9. CÔTE D'IVOIRE 10. DJIBOUTI 11. D. R. OF CONGO 12. GABON 13. GUINEA 14. MADAGASCAR 15. MALI 16. MAURITANIA 17. MAURITIUS 18. NIGER 19. SENEGAL 20. TOGO	<b>REPUBLIC OF KOREA</b> 1. LAO PEOPLE'S D. R. 2. MONGOLIA 3. PAKISTAN 4. PHILIPPINES 5. VIETNAM
<b>FRANCE</b> (Facilitated by ACAO) 1. ALGERIA 2. MOROCCO 3. TUNISIA	<b>QATAR</b> 1. SAUDI ARABIA 2. IRAQ 3. JORDAN 4. KUWAIT 5. LIBYA 6. OMAN
<b>GERMANY</b> 1. ALBANIA 2. ARMENIA 3. AZERBAIJAN 4. BELARUS 5. GEORGIA 6. KAZAKHSTAN 7. NORTH MACEDONIA 8. REPUBLIC OF MOLDOVA 9. SAUDI ARABIA 10. SERBIA 11. TAJIKISTAN 12. TURKMENISTAN	<b>SINGAPORE</b> 1. COOK ISLANDS 2. KIRIBATI 3. MARSHALL ISLANDS 4. PALAU 5. TONGA 6. TUVALU
<b>ITALY / UNITED KINGDOM</b> 1. BAHAMAS 2. ERITREA 3. SOMALIA	<b>SOUTH AFRICA</b> 1. BOTSWANA 2. ESWATINI 3. LESOTHO 4. MALAWI 5. NAMIBIA 6. ZAMBIA 7. ZIMBABWE
<b>JAPAN</b> 1. AFGHANISTAN 2. BANGLADESH 3. BHUTAN 4. CAMBODIA 5. MALAYSIA 6. MYANMAR	<b>SPAIN</b> (* Facilitated by COCESNA) 1. BELIZE * 2. BOLIVIA 3. COLOMBIA 4. COSTA RICA * 5. CUBA 6. EL SALVADOR * 7. EQUATORIAL GUINEA 8. GUATEMALA * 9. HONDURAS * 10. MEXICO 11. NICARAGUA * 12. PARAGUAY 13. PERU 14. URUGUAY
	<b>USA</b> 1. ARGENTINA 2. DOMINICAN REPUBLIC 3. ECUADOR 4. PANAMA



17 SUPPORTING STATES  
119 REQUESTING STATES



# CORSIA Volunteer States

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

ICAO 2024 Regional Seminar on Environment

## 88 States for 2021

- Afghanistan
- Albania
- Armenia
- Australia
- Austria
- Azerbaijan
- Belgium
- Benin
- Bosnia and Herzegovina
- Botswana
- Bulgaria
- Burkina Faso
- Cameroon
- Canada
- Costa Rica
- Côte d'Ivoire
- Croatia
- Cyprus
- Czechia
- Democratic Republic of the Congo
- Denmark
- Dominican Republic
- El Salvador
- Equatorial Guinea
- Estonia
- Finland
- France
- Gabon
- Georgia
- Germany
- Ghana
- Greece
- Guatemala
- Guyana
- Honduras
- Hungary
- Iceland
- Indonesia
- Ireland
- Israel
- Italy
- Jamaica
- Japan
- Kazakhstan
- Kenya
- Latvia
- Lithuania
- Luxembourg
- Madagascar
- Malaysia
- Malta
- Marshall Islands
- Mexico
- Monaco
- Montenegro
- Namibia
- Netherlands
- New Zealand
- Nigeria
- North Macedonia
- Norway
- Papua New Guinea
- Philippines
- Poland
- Portugal
- Qatar
- Republic of Korea
- Republic of Moldova
- Romania
- Rwanda
- San Marino
- Saudi Arabia
- Serbia
- Singapore
- Slovakia
- Slovenia
- Spain
- Sweden
- Switzerland
- Thailand
- Turkey
- Uganda
- Ukraine
- United Arab Emirates
- United Kingdom
- United Republic of Tanzania
- United States
- Zambia

## 107 States for 2022

- Bahamas
- Grenada
- Palau
- Trinidad and Tobago
- Barbados
- Kiribati
- Saint Kitts and Nevis
- Tuvalu
- Belize
- Mali
- South Sudan
- Vanuatu
- Cook Islands
- Nauru
- Suriname
- Gambia
- Oman
- Tonga
- Uruguay



## 115 States for 2023

- Zimbabwe
- Federated States of Micronesia
- Maldives
- Timor-Leste
- Saint Vincent and the Grenadines
- Cuba
- Cambodia
- Iraq



## 126 States for 2024

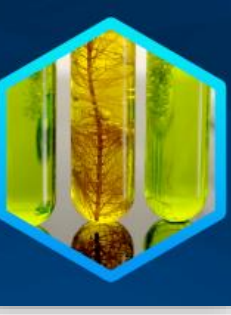
- Antigua and Barbuda
- Bahrain
- Ecuador
- Kuwait
- Samoa
- Seychelles
- Sierra Leone
- Solomon Islands
- Mauritius
- Malawi
- Haiti



## 128 States for 2025

- Mauritania
- Saint Lucia





# CORSIA Frequently Asked Questions (FAQs)


The ICAO Secretariat has updated the **CORSIA FAQs** to reflect the amendment of the second edition of Annex 16, Volume IV and the third edition of the Environmental Technical Manual (Doc 9501) as well as detailed information on provisions relating to CORSIA eligible emissions units and CORSIA eligible fuels.



**CORSIA Newsletter**

**ACT » CORSIA**

- CORSIA Buddy Partnerships
- Examples of Good Practice
  - » Model regulations
  - » CO<sub>2</sub> Aggregation
- Frequently Asked Questions
- Brochure and Leaflets
- Videos (Navigating CORSIA)
- Seminars
- Background Information



FAQ Category:

Search:

- General questions about a market-based measure (MBM) and CORSIA**
  - 1.1 What is a market-based measure (MBM)?
  - 1.2 What is the contribution of aviation to global greenhouse gas emissions?
  - 1.3 Why does the Paris Agreement not include international aviation emissions?
  - 1.4 Why did ICAO decide to develop a global MBM scheme for international aviation?
  - 1.5 What ICAO process was followed to develop CORSIA?
  - 1.6 What is CORSIA and how does it work, in general?
- Questions about CORSIA's key design elements**

Key design element 1: Phased implementation of CORSIA

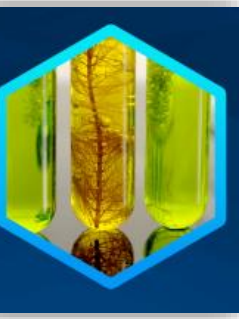
  - 2.1 What is the rationale for the phased implementation of CORSIA?
  - 2.2 What are the different phases?
  - 2.3 What is the difference between the pilot phase (from 2021 through 2023) and the first phase (from 2024 through 2026)?
  - 2.4 Which criteria determine the participation or exemption of States from CORSIA offsetting in its second phase from 2027 to 2035?





# Further details on ICAO Regulatory Frameworks for CORSIA Eligible Fuels

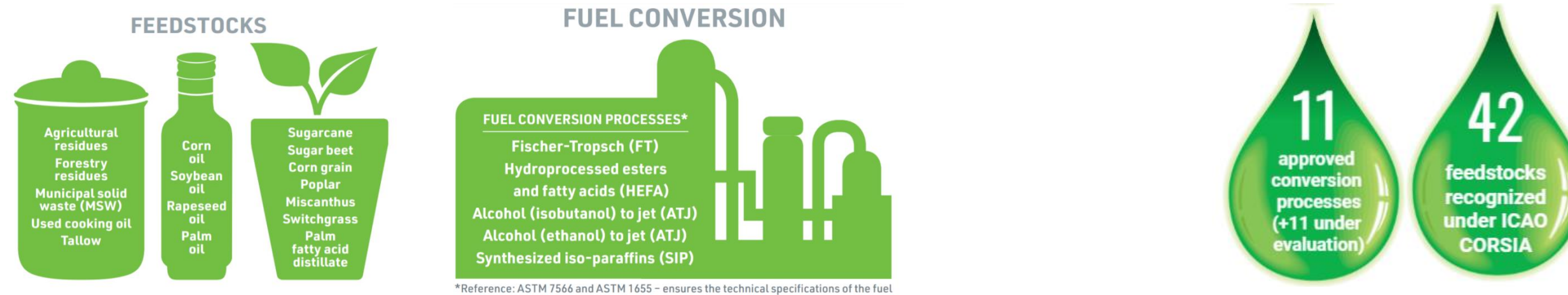




# What are CORSIA Eligible Fuels?

- CORSIA eligible fuel (CEF) is CORSIA sustainable aviation fuel (SAF) or CORSIA lower carbon aviation fuel (LCAF), which an operator may use to reduce its offsetting requirements
  - SAF is defined as a **renewable or waste-derived aviation fuel** that meets the CORSIA Sustainability Criteria
  - LCAF is defined as a **fossil-based aviation fuel** that meets the CORSIA Sustainability Criteria
- CEF needs to be certified based on the CORSIA Sustainability Criteria, including its life-cycle emissions values, by an approved Sustainability Certification Scheme (SCS)

## How can CORSIA Eligible Fuels be produced today?

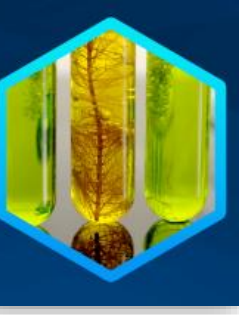


- More feedstocks and conversion processes will become available as the industry evolves.
- Up-to-date information is available on the ICAO website



[https://www.icao.int/environmental-protection/Pages/SAF\\_Feedstocks.aspx](https://www.icao.int/environmental-protection/Pages/SAF_Feedstocks.aspx)  
<https://www.icao.int/environmental-protection/GFAAF/Pages/Conversion-processes.aspx>





# ICAO has published five key documents containing all relevant requirements and procedures regarding CORSIA eligible fuels

ICAO CORSIA Implementation Elements	ICAO documents
CORSIA States for Chapter 3 State Pairs	1. CORSIA States for Chapter 3 State Pairs
ICAO CORSIA CO <sub>2</sub> Estimation and Reporting Tool (CERT)	2. ICAO CORSIA CO <sub>2</sub> Estimation and Reporting Tool
CORSIA Eligible Fuels	3. CORSIA Eligibility Framework and Requirements for Sustainability Certification Schemes 4. CORSIA Approved Sustainability Certification Schemes 5. CORSIA Sustainability Criteria for CORSIA Eligible Fuels 6. CORSIA Default Life Cycle Emissions Values for CORSIA Eligible Fuels 7. CORSIA Methodology for Calculating Actual Life Cycle Emissions Values
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 Eligibility Framework and Requirements for Sustainability Certification Schemes Third Edition, March 2024	CORSIA Approved Sustainability Certification Schemes* Second Edition, June 2023	CORSIA Sustainability Criteria for CORSIA Eligible Fuels** Third Edition, November 2022	CORSIA Default Life Cycle Emissions Values for CORSIA Eligible Fuels*** Fifth Edition, March 2024	CORSIA Methodology for Calculating Actual Life Cycle Emissions Values Fourth Edition, March 2024

## Definitions (reference: Annex 16 Vol IV)

**CORSIA Eligible Fuel:** A CORSIA Sustainable Aviation Fuel or a CORSIA Lower Carbon Aviation Fuel, which an operator may use to reduce their offsetting requirements



# The CORSIA Sustainability Criteria covers all major themes

First global approach to sustainability for an industry sector, applies to both SAF and LCAF



November 2022

**CORSIA**  
Carbon Offsetting and Reduction Scheme for International Aviation



For more details, please refer to [ICAO document - CORSIA Sustainability Criteria for CORSIA Eligible Fuels](#)

Sustainability themes	
1. Greenhouse Gases (GHG)	Carbon-reduction themes
2. Carbon Stock	
3. GHG emissions reduction permanence	Environmental themes
4. Water	
5. Soil	
6. Air	
7. Conservation	
8. Waste and chemicals	
9. Seismic and vibrational impacts (only for LCAF)	
10. Human and labour Rights	Socio-economic themes
11. Land Use Rights and Land Use	
12. Water use rights	
13. Local and social development	
14. Food security	

**Carbon-reduction themes**

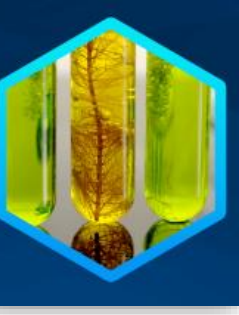
**Environmental themes**

**Socio-economic themes**

**Carbon reduction themes** applicable for batches of CEF produced by certified fuel producer **before 1 January 2024**

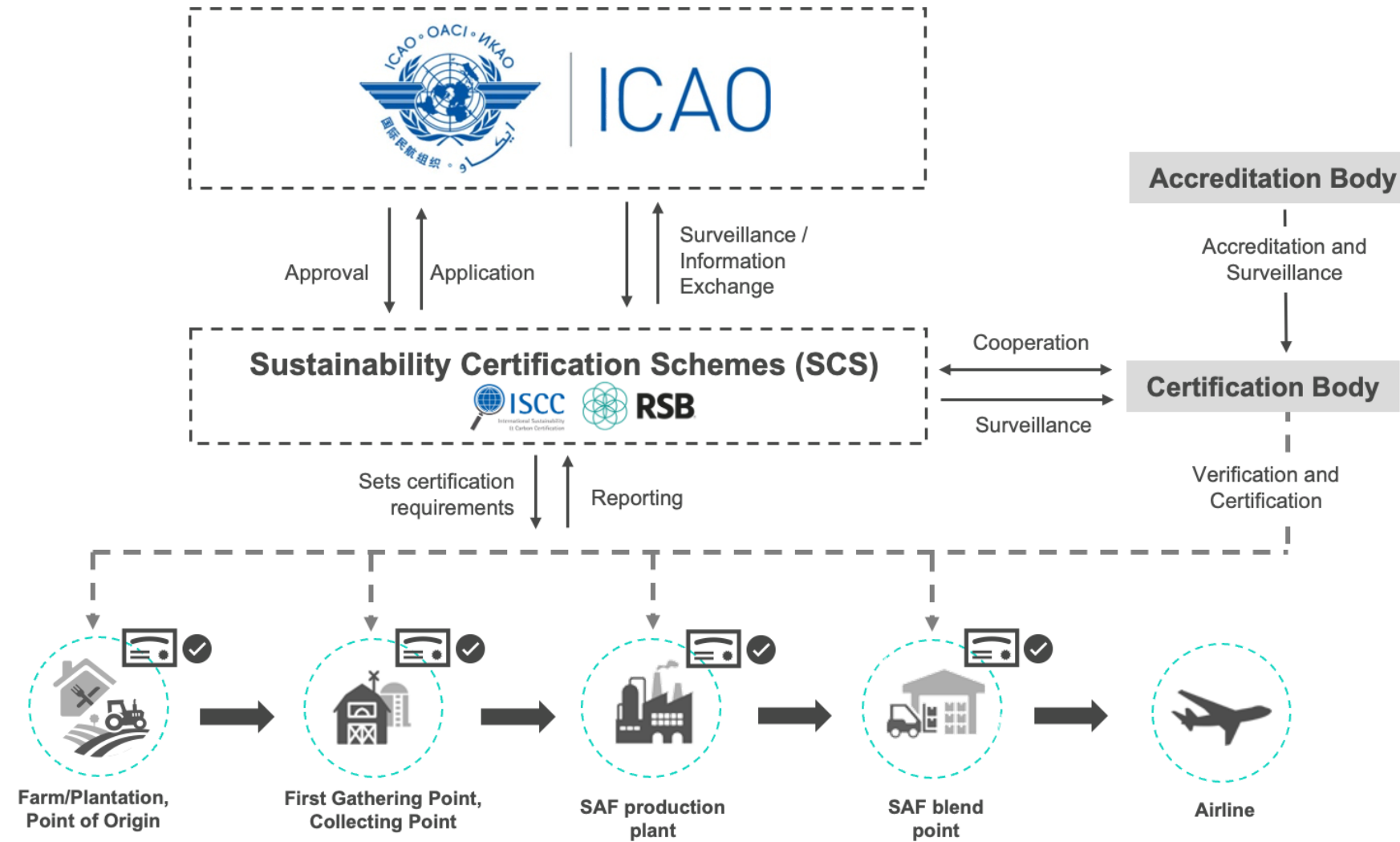
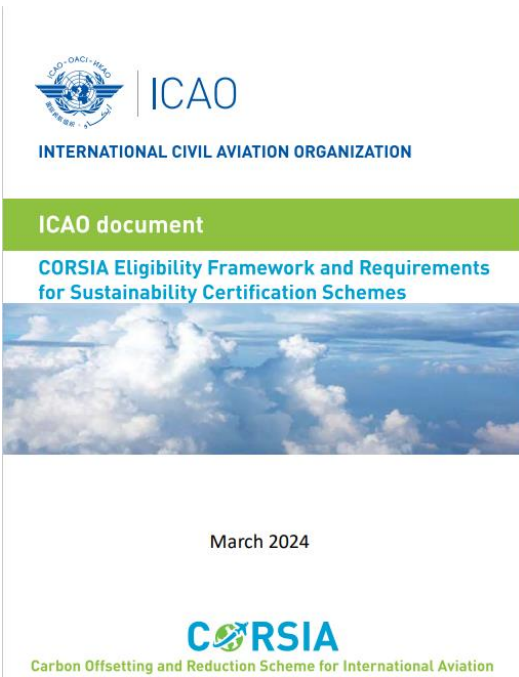
**All themes** applicable for batches of CEF produced by certified fuel producer **on or after 1 January 2024**





# The certification system for CORSIA Eligible Fuels

## CORSIA sets requirements that Sustainability Certification Schemes (SCS) must fulfil to become CORSIA-approved SCS, and certify CORSIA Eligible Fuels



Source: ISCC presentation – ACT-SAF Series #2



For more details, please refer to [CORSIA ELIGIBILITY FRAMEWORK AND REQUIREMENTS FOR SCS \(icao.int\)](https://www.icao.int/corsia-eligibility-framework)





# SCS currently approved by ICAO

## The ICAO Council approves SCS for certifying CORSIA eligible fuels



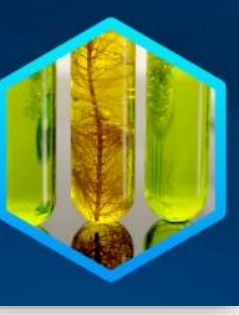
For more details, please refer to [ICAO document "CORSIA Approved Sustainability Certification Schemes"](#)



Name of the Sustainability Certification Scheme	Date of approval	Website	Scope of approval
International Sustainability and Carbon Certification (ISCC)	16 Jun. 2023	<a href="https://www.iscc-system.org/about/sustainable-aviation-fuels/corsia/">https://www.iscc-system.org/about/sustainable-aviation-fuels/corsia/</a>	Certification of CORSIA Sustainable Aviation Fuels economic operators covered by Chapters 1 and 2 of the ICAO document "CORSIA Sustainability Criteria for CORSIA eligible fuels"
Roundtable on Sustainable Biomaterials (RSB)	16 Jun. 2023	<a href="https://rsb.org/rsb-corsia-certification/">https://rsb.org/rsb-corsia-certification/</a>	Certification of CORSIA Sustainable Aviation Fuels economic operators covered by Chapters 1 and 2 of the ICAO document "CORSIA Sustainability Criteria for CORSIA eligible fuels"

**In May 2024, two new SCS applications have been received by ICAO, and are currently under evaluation**





# First certifications under CORSIA

## The CORSIA framework is ready to be used for SAF certification and accounting

First sustainable aviation fuel batches certified under CORSIA



**Montréal, 14 June 2023** – For the first time, sustainable aviation fuels (SAF) have been certified under the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

Making use of the two ICAO-approved Sustainability Certification Schemes designed for this purpose, the development marks a significant milestone for both SAF production and aviation climate action by States.

The nine batches, totalling 1,542 tonnes, were certified by ISCC and RSB and produced in China, the Netherlands, and the United States, by ECOCHEM, Neste, and WorldEnergy, respectively.



For more details, please refer [CORSIA Certified Fuels and Economic operators \(icao.int\)](https://www.icao.int/corsia-certified-fuels-and-economic-operators/)

## New website – CORSIA certified fuels

- Information on CORSIA-certified SAF and economic operators
- Based on annual reports from the approved SCS

### CORSIA Certified Fuels and Economic operators

Table 1 of the ICAO document "CORSIA Eligibility Framework and Requirements for Sustainability Certification Schemes" requires approved SCSs to submit an annual report to ICAO. This annual report includes information on the CORSIA-certified economic operators, and products they produce (including CORSIA eligible fuels).

The annual reports provided by the approved SCSs are below.

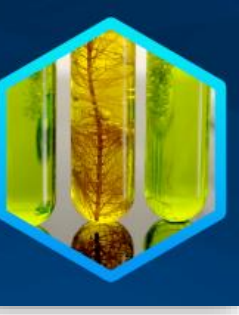
ISCC	RSB
<a href="#">2021 report</a>	<a href="#">2021 report</a>
<a href="#">2022 report</a>	<a href="#">2022 report</a>

The reports provide information on the certifications performed up to 31st December of the reporting year. For more up to date information, please refer to the websites of the ICAO-approved SCSs.

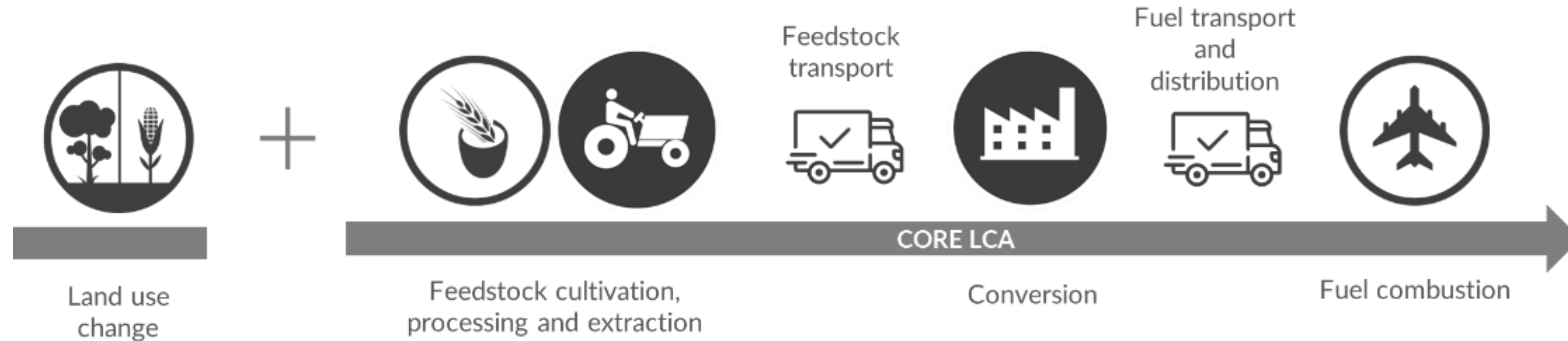
<https://www.iscc-system.org/markets/sustainable-aviation-fuels/>

<https://rsb.org/certification/certification-schemes/rsb-corsia-certification/>



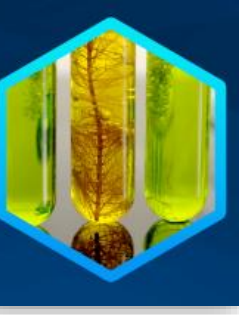


# CORSIA life cycle emissions methodology



- CORSIA Sustainability Criteria: **Theme 1 (Greenhouse Gases)**
  - Life cycle emissions **reductions of at least 10%** (Induced Land Use Change (ILUC) + Core LCA)
  - ILUC considers both Direct & Indirect Land Use Change
    - **ILUC value** determined on the basis of **default values**, unless ILUC is considered as a zero
  - **Core LCA value** can be determined either on the basis of **default values**, or calculated **actual LCA values**
- CORSIA Baseline: 89 g CO<sub>2</sub>e/MJ (jet fuel) and 95 g CO<sub>2</sub>e/MJ (AvGas)





# CORSIA life cycle emissions: Example

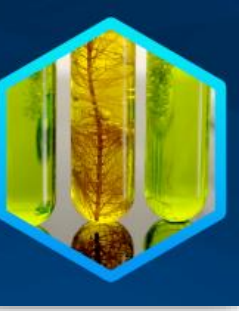
## Life cycle emissions of sugarcane ethanol ATJ in Brazil

Production step	Associated emissions (gCO <sub>2</sub> e/MJ)
Feedstock growth	-74
Feedstock cultivation	16.9
Feedstock processing, collection and recovery Feedstock processing and extraction	
Feedstock transportation to processing and fuel production facilities	1.6
Feedstock to fuel conversion	5.2
Fuel transportation and distribution	0.4
fuel combustion on aircraft engine	74
<b>Total core LCA value</b>	<b>24.1</b>
<b>Induced Land use Change (ILUC value)</b>	<b>8.7</b>
<b>SAF Life cycle emission value (L<sub>CEF</sub>) = core LCA + ILUC</b>	<b>32.8</b>



**63% emission reduction on a life cycle basis**  
(Compared with Baseline emission value of 89 gCO<sub>2</sub>e/MJ)



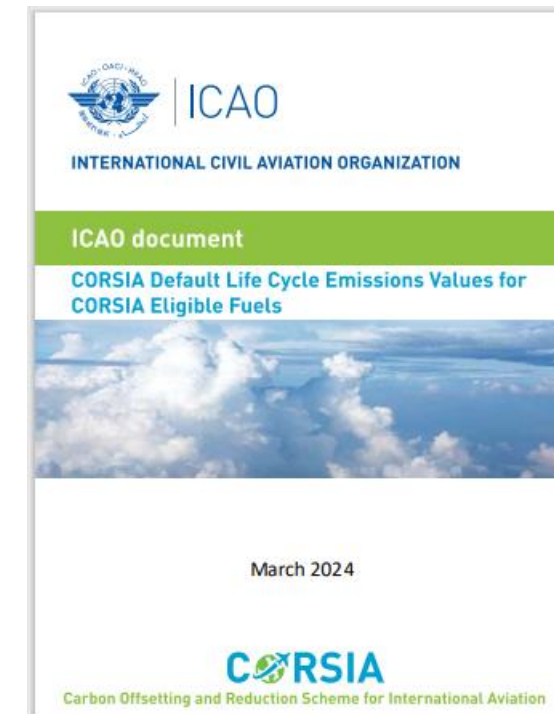


# Two options available to obtain life cycle emissions for CORSIA Eligible Fuels

## **DEFAULT** Life Cycle Emissions

### ICAO document “CORSIA Default Life Cycle Emissions Values for CORSIA Eligible Fuels”

Default emission values, as a function of the feedstocks and conversion processes.

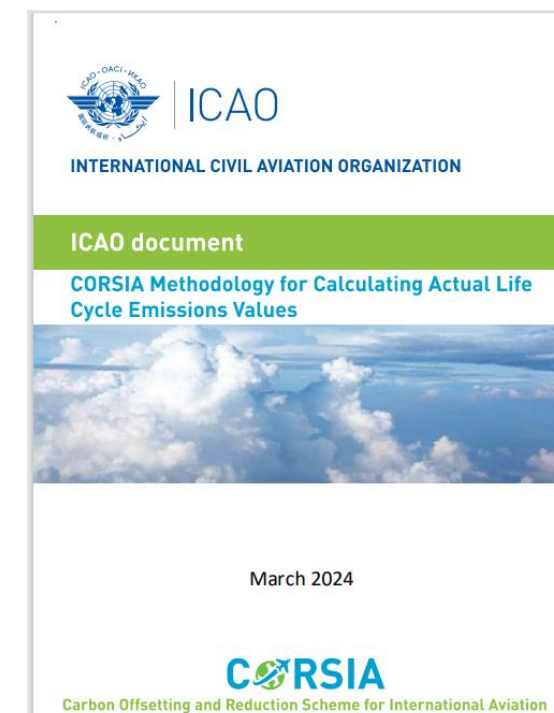


For more details, please refer to [ICAO document 06 - Default Life Cycle Emissions - March 2024.pdf](#)

## **ACTUAL** Life Cycle Emissions

### ICAO document “CORSIA Methodology for Calculating Actual Life Cycle Emissions Values”

Allows calculation of specific emissions values to a given SAF or LCAF



For more details, please refer to [ICAO document 07 - Methodology for Actual Life Cycle Emissions - March 2024.pdf](#)

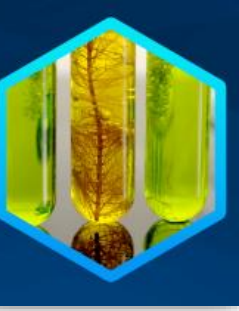




# ICAO Roadmap Building Block 2 – Regulatory Framework Planned Actions



# ICAO Roadmap Building Block 2 – Regulatory Framework (CORSA)



## Planned Actions

- To urgently accelerate the analysis and approval of **life cycle values for new fuel sources and pathways** as CORSIA eligible fuels, while ensuring environmental integrity in line with CORSIA requirements
- To urgently accelerate the development and approval of **new Sustainability Certification Schemes (SCS)** on the use of CORSIA eligible fuels in all regions, while ensuring environmental integrity in line with CORSIA requirements
- To undertake a **study of fuel accounting systems for international aviation**, which can help determine **any possible ICAO role**
- To develop and/or update necessary **ICAO regulatory frameworks**, as appropriate, based on the study of fuel accounting systems and the LTAG monitoring and reporting (LMR) methodologies
- To develop a **possible ICAO IT platform** to integrate the monitoring of the Global Framework LTAG implementation, as appropriate

# CORSIA



Study on fuel accounting systems

Necessary ICAO regulatory frameworks

Possible ICAO IT platform





# Regulatory Framework

## Q&A Session

# 2024 ICAO REGIONAL SEMINAR ON ENVIRONMENT



- 7-8 August 2024 for APAC  
Bangkok, Thailand
- 12-13 August 2024 for MID  
Cairo, Egypt
- 20-21 August 2024 for NACC/SAM  
Asuncion, Paraguay
- 10-11 September 2024 for EUR-NAT  
Samarkand, Uzbekistan
- 15-16 October 2024 for  
ESAF/WACAF Dakar, Senegal



2024 ICAO REGIONAL SEMINARS ON ENVIRONMENT

August - September 2024



# SAM Region activities on CORSIA Implementation

Jorge Armoa  
AIM/MET Regional Officer



August, 2024

# CORSIA volunteer States for 2025 (XX Region)

## CORSIA

### Current status:

1.# States volunteer in CORSIA: **04 (30%)**

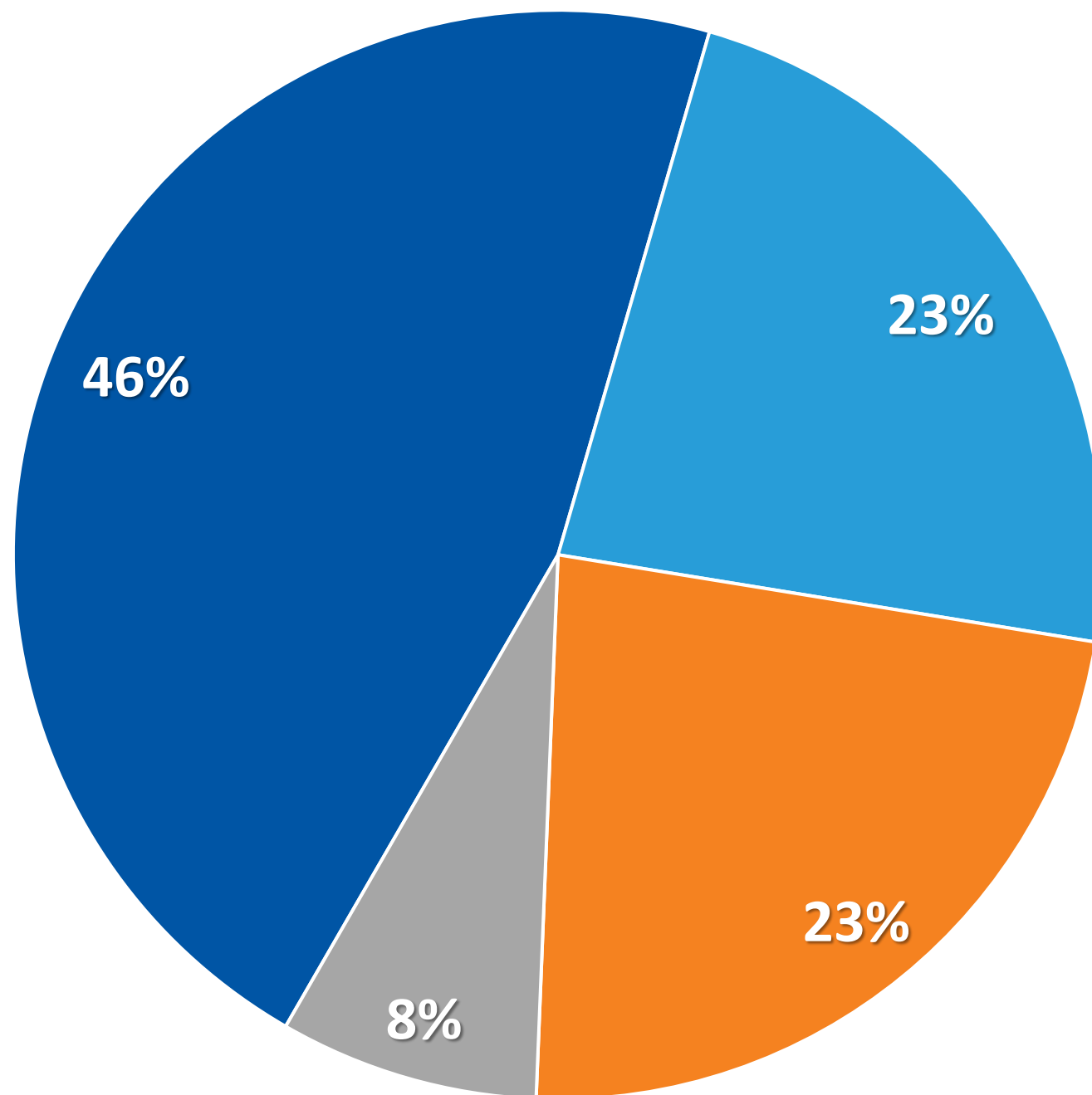
*Ecuador, Guyana, Suriname, Uruguay*

2.# States not yet volunteer in CORSIA: **09(70%)**

*Argentina, Bolivia, Brasil, Chile, Colombia, Panamá, Paraguay, Perú, Venezuela*

# CORSIA 2023 CO<sub>2</sub> Reporting (SAM)

2023 CO<sub>2</sub> Reports (updated: 19/Aug/2024)



- States submitted
- Under submission
- Report expected
- Not required

**States that have not submitted 2023 CO<sub>2</sub> Emissions data are requested to submit through the CCR.**

## Contact points:

- Answering questions and providing support:
  - [envoffice@icao.int](mailto:envoffice@icao.int)
- SAM Regional Office:
  - Jorge Armoa ([jarmoa@icao.int](mailto:jarmoa@icao.int))

# Thank You



# 2024 ICAO REGIONAL SEMINAR ON ENVIRONMENT



- 7-8 August 2024 for APAC  
Bangkok, Thailand
- 12-13 August 2024 for MID  
Cairo, Egypt
- 20-21 August 2024 for NACC/SAM  
Asuncion, Paraguay
- 10-11 September 2024 for EUR-NAT  
Samarkand, Uzbekistan
- 15-16 October 2024 for  
ESAF/WACAF Dakar, Senegal



2024 ICAO REGIONAL SEMINARS ON ENVIRONMENT

August - September 2024



ICAO

ENVIRONMENT



ACT SAF  
CORSA

2050



# NAM CAR Regions activities on CORSIA Implementation

Luis Raul Sanchez  
Regional Officer, Aeronautical  
Meteorology and Environment

CORSIA

August 2024

# CORSIA volunteer States for 2025 (XX Region)

## CORSIA

### Current status:

1.# States volunteer in CORSIA: **20 (91%)**

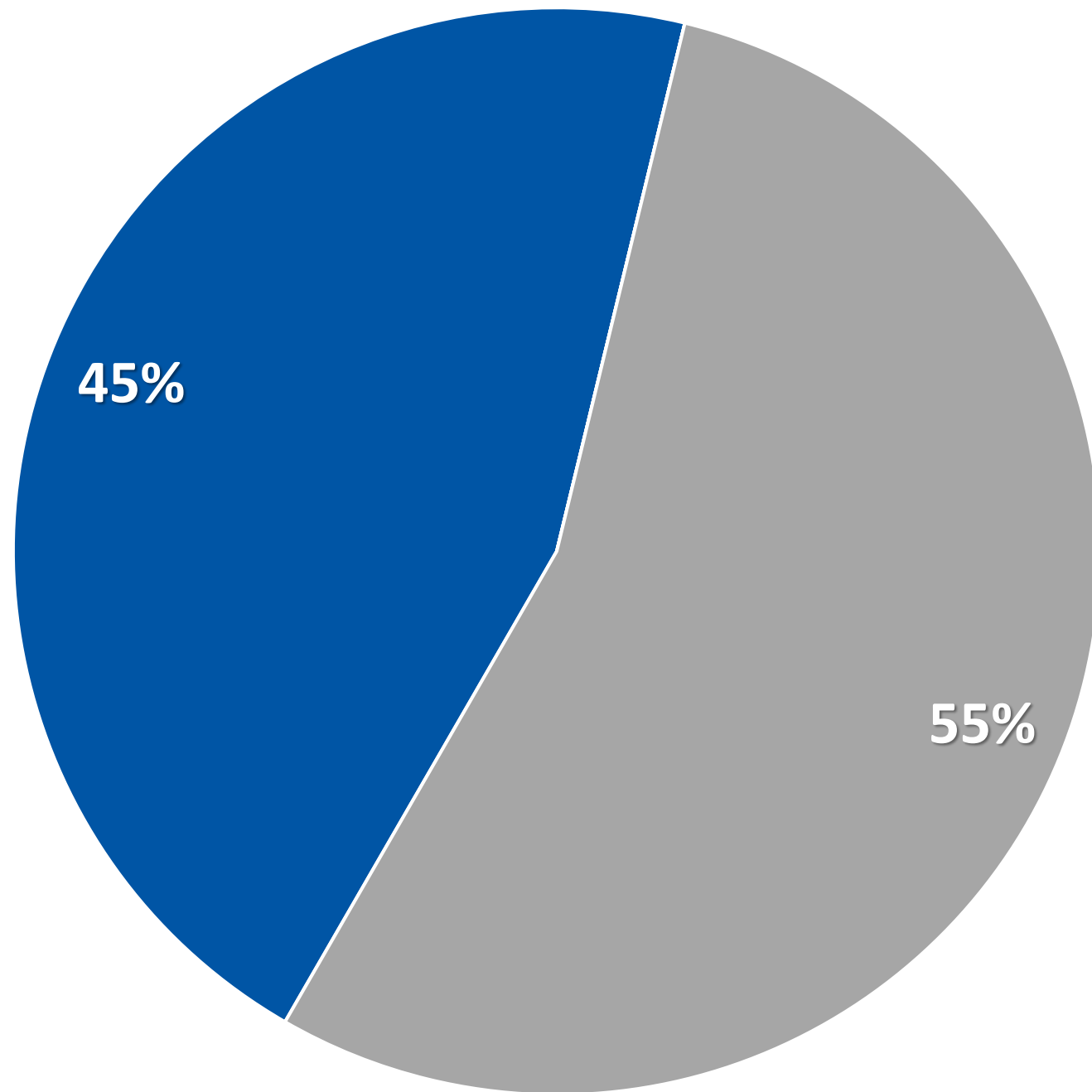
*Antigua and Barbuda, Bahamas, Barbados, Belize, Canada, Costa Rica, Cuba, Dominican Republic, El Salvador, Grenada, Guatemala, Haiti, Honduras, Jamaica, Mexico, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, United States*

2.# States not yet volunteer in CORSIA: **02 (9%)**

*Dominica, Nicaragua.*

# CORSIA 2023 CO<sub>2</sub> Reporting (NACC)

2023 CO<sub>2</sub> Reports (updated: 19/Aug/2024)



**States that have not submitted 2023 CO<sub>2</sub> Emissions data are requested to submit through the CCR.**

## Contact points:

- Answering questions and providing support:
  - [envoffice@icao.int](mailto:envoffice@icao.int)
- NACC Regional Office:
  - RO Luis Sánchez ([lsanchez@icao.int](mailto:lsanchez@icao.int))

# Thank You

