



ICAO

INTERNATIONAL CIVIL AVIATION ORGANIZATION

A UN SPECIALIZED AGENCY





ICAO

ENVIRONMENT

CORSIA's Monitoring, Reporting and Verification system and related tools





1 Overview of the CORSIA MRV system

2 MRV of CO₂ emissions in CORSIA

3 CORSIA Central Registry



1

Overview of the CORSIA MRV system



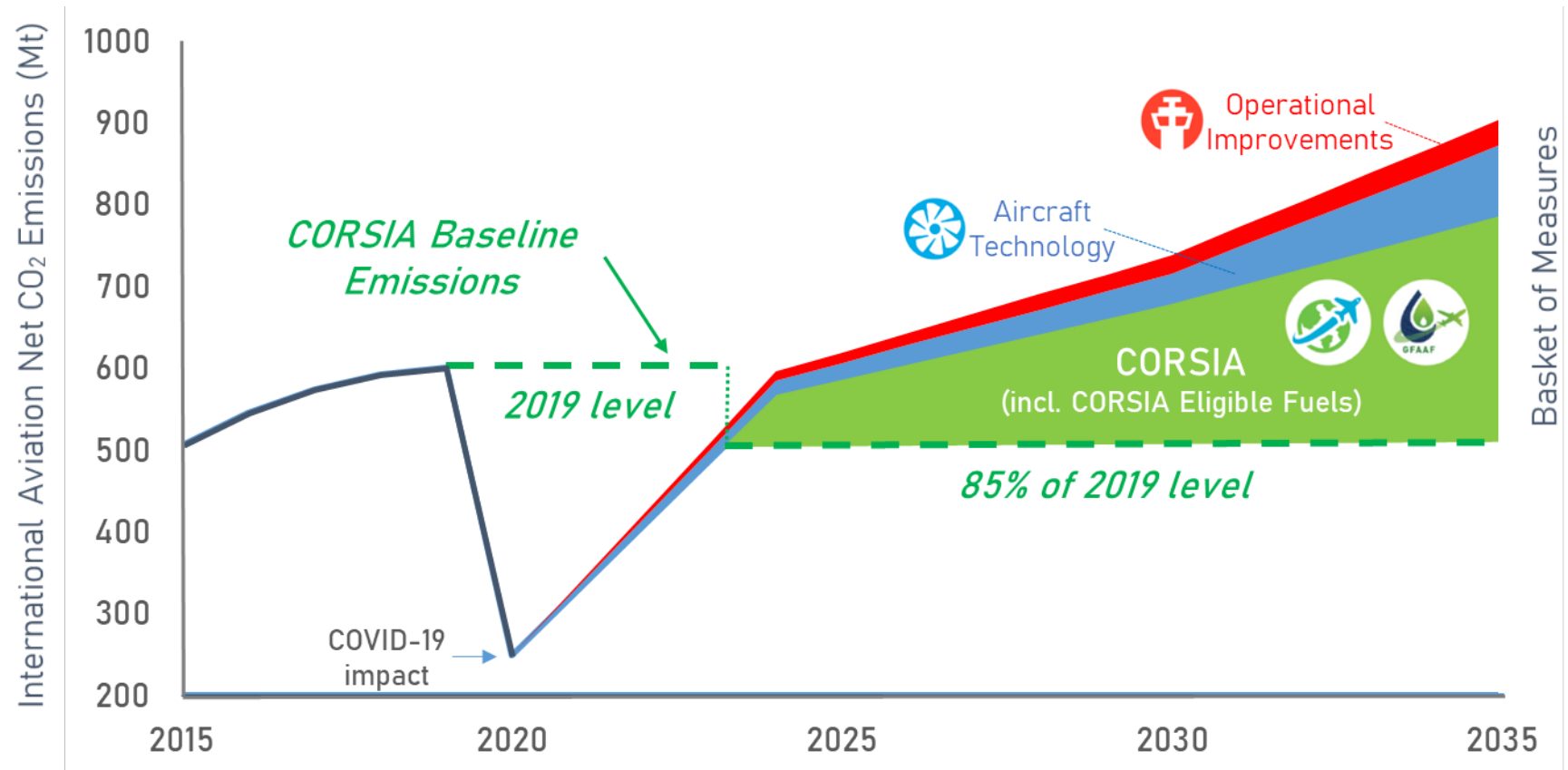
- A monitoring, reporting and verification (MRV) system is a key component of CORSIA implementation
 - Implementation of the MRV system from 1 January 2019 for all international flights is essential to establish CORSIA's baseline (to be used from 2021)
 - Purpose of MRV is to collect information on international aviation CO₂ emissions on an annual basis and compare emissions from 2021 against the baseline emissions



Definition of the CORSIA baseline

Based on the recommendations by the ICAO Council from the 2022 CORSIA review, the 41st Session of the ICAO Assembly adopted adjustments to the CORSIA baseline:

- For pilot phase (2021 – 2023):
2019 CO₂ emissions
- From 2024 onwards:
85% of 2019 CO₂ emissions



**Monitoring**

Monitoring of CO₂ emissions is either based on a Fuel Use Monitoring Method, or the use of the ICAO CORSIA CERT

Reporting

CO₂ emissions will be reported from aeroplane operators to their State Authority, and from States to ICAO

Verification

CO₂ emissions information is accurate and free of errors



From 1 January 2019...

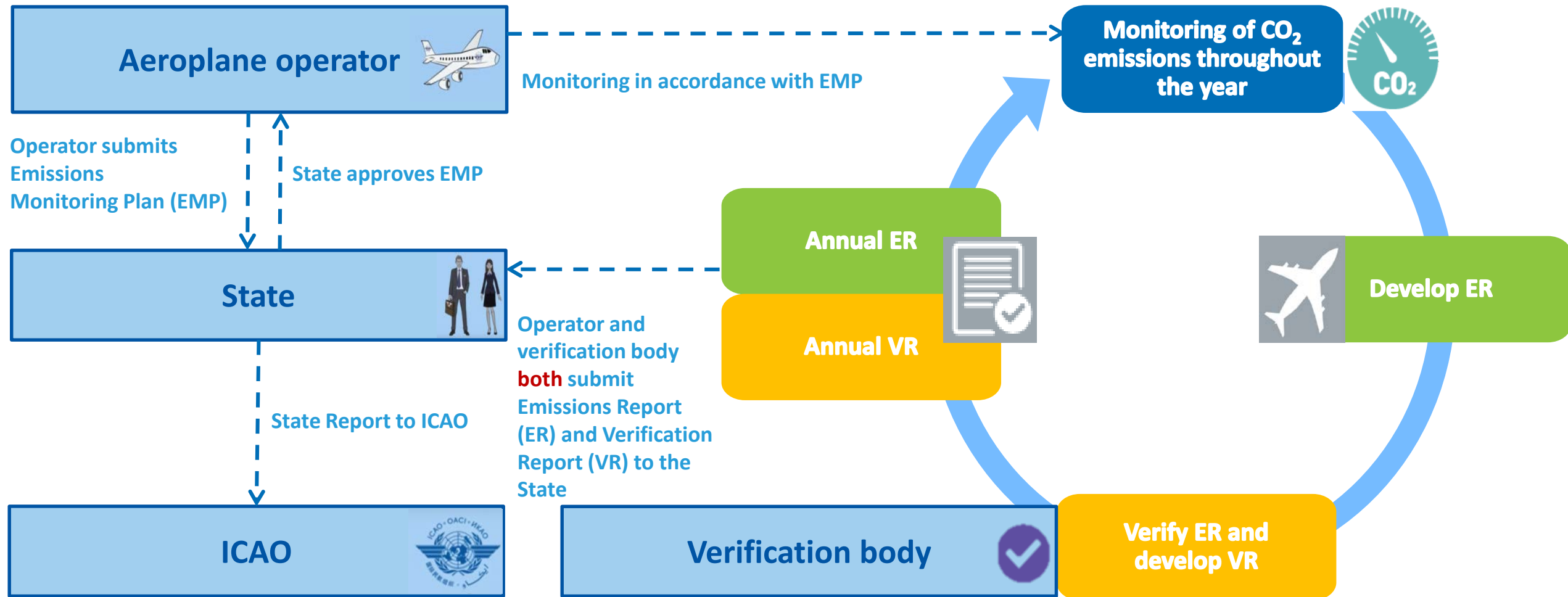
All aeroplane operators conducting international flights are required to monitor CO₂ emissions from these flights – operators with more than 10,000 tonnes of CO₂ per year have additional **verification and reporting requirements**

All States with operators performing international flights have to establish the monitoring, reporting and verification (MRV) system for CO₂ emissions



2

MRV of CO₂ emissions in CORSIA





MRV Applicability (examples)

✈ Round trip

✈ Everyday (365)

**CO₂ emissions
10,000+ tonnes**

Embraer ERJ (E190)

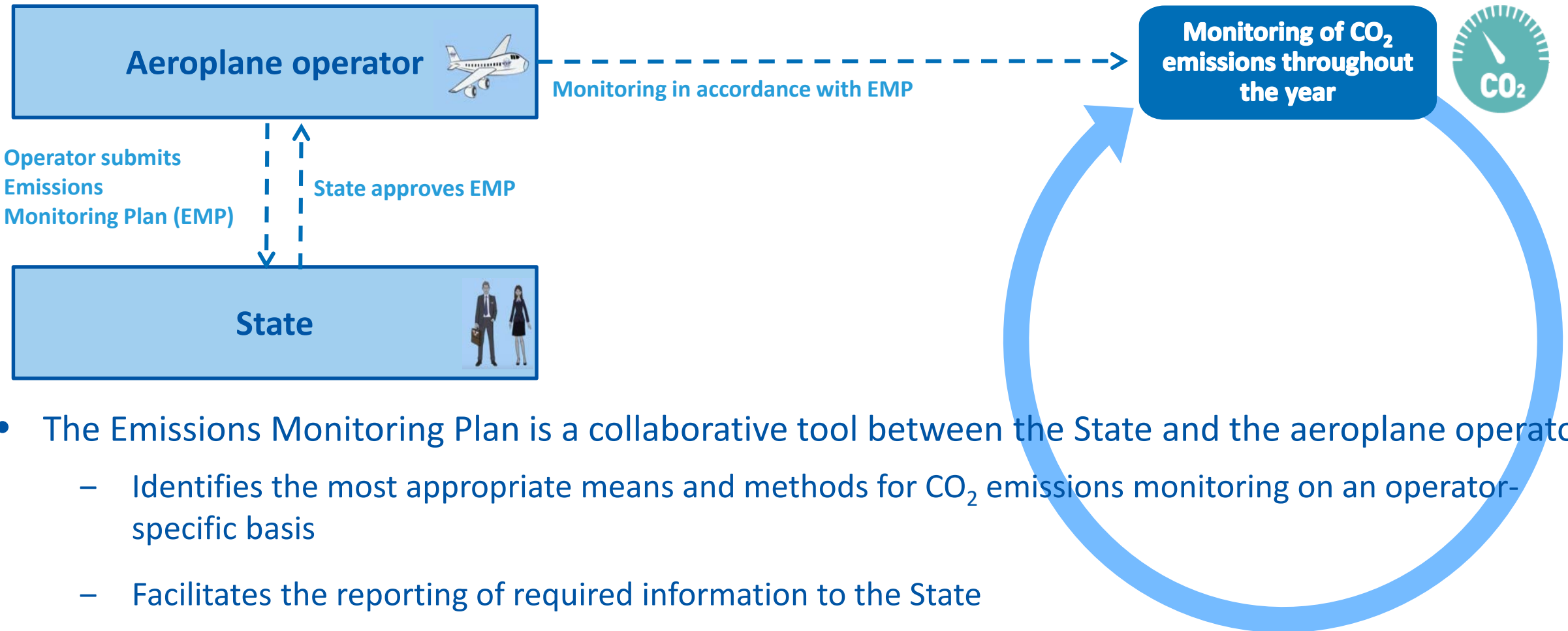


From	To	Annual CO ₂ emissions, tonnes*
Singapore (WSSS)	Manila (RPLL)	17,032
Luanda (FNLU)	Windhoek (FYMH)	13,120
Montreal (CYUL)	Atlanta (KATL)	11,026
Rome (LIRF)	London (EGLL)	10,163
Mexico City (MMMX)	Havana (MUHA)	12,892
Buenos Aires (SABE)	Sao Paulo (SBGR)	11,546
Muscat (OOMS)	Baghdad (ORBI)	11,816

* Note: estimated with the 2022 version of the ICAO CORSIA CERT

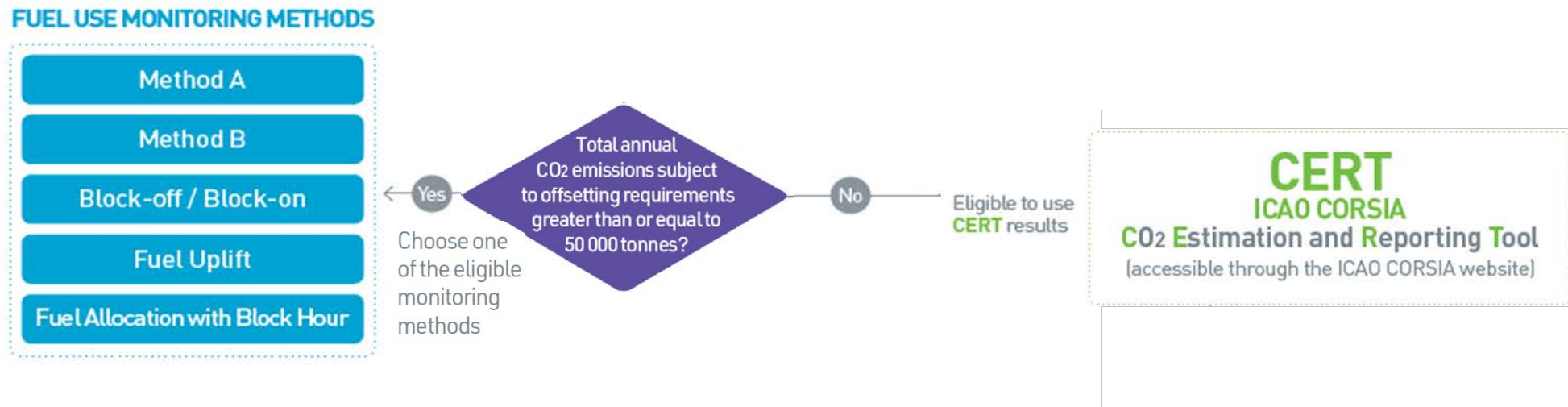


Monitoring of CO₂ emissions





- An aeroplane operator shall monitor and record its fuel use from international flights in accordance with an eligible monitoring method



- The ICAO CORSIA CERT is a tool to help aeroplane operators estimate and report their international aviation emissions:
 - All operators can use the tool for a preliminary CO₂ assessment, and for filling in possible data gaps
 - Only eligible operators can use the tool for preparing their annual Emissions Report

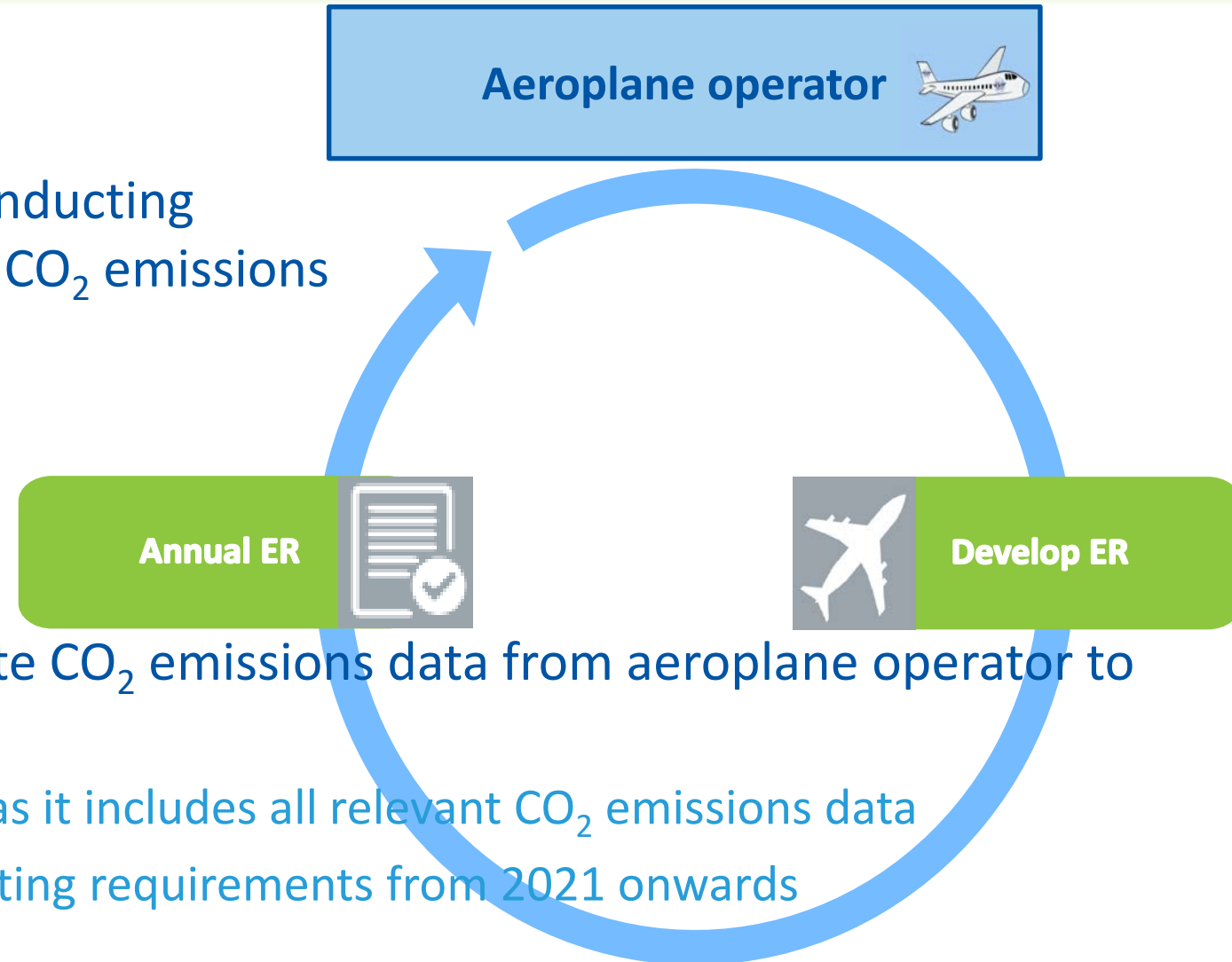
Reporting of CO₂ emissions

- CORSIA requires aeroplane operators conducting international flights to report on related CO₂ emissions

- Frequency of reporting: annual
- Reporting format: Emissions Report
- Reporting recipient: State

- Emissions Report: means to communicate CO₂ emissions data from aeroplane operator to State

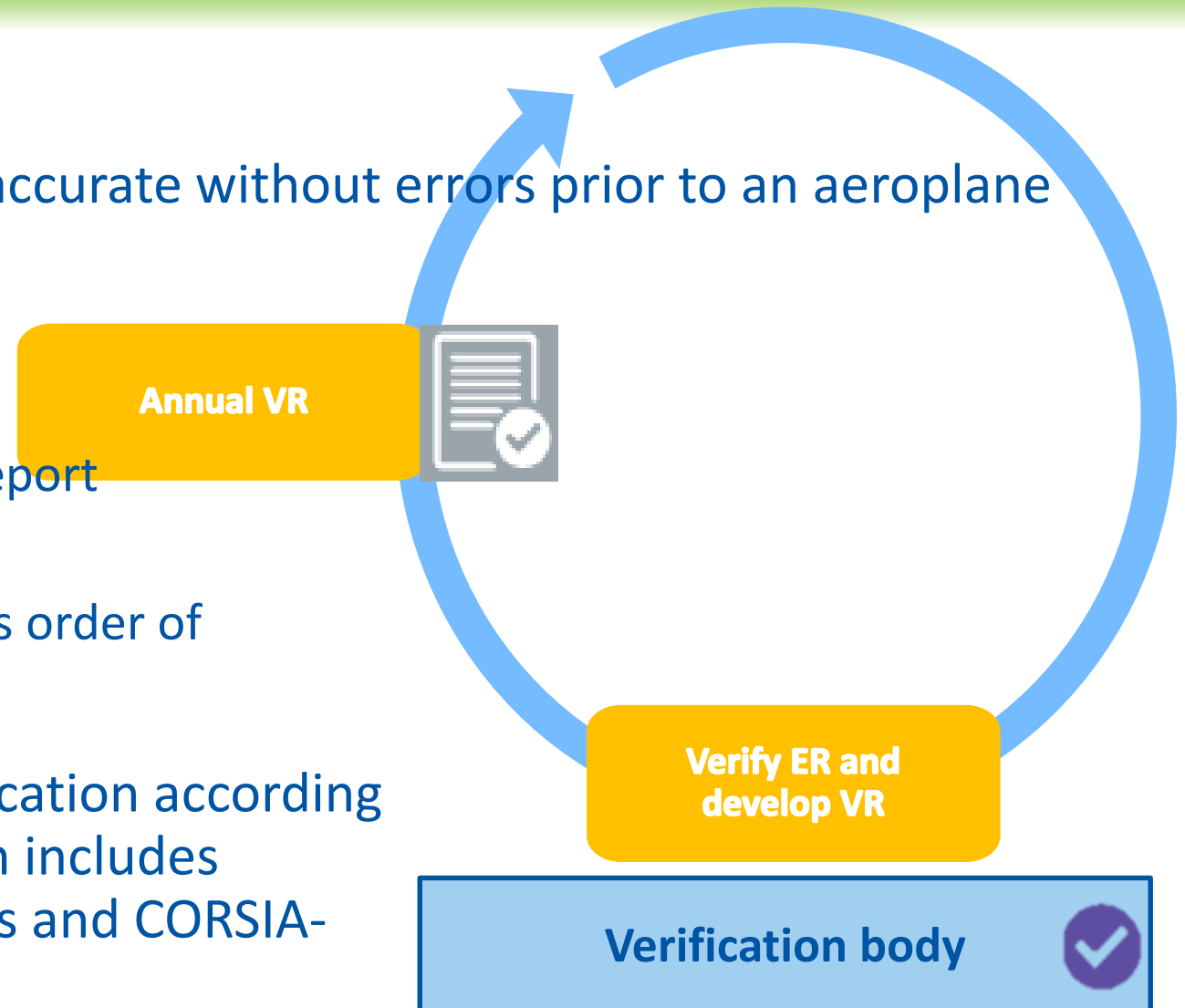
- Key document within the CORSIA MRV as it includes all relevant CO₂ emissions data
- Basis for calculation of operator's offsetting requirements from 2021 onwards

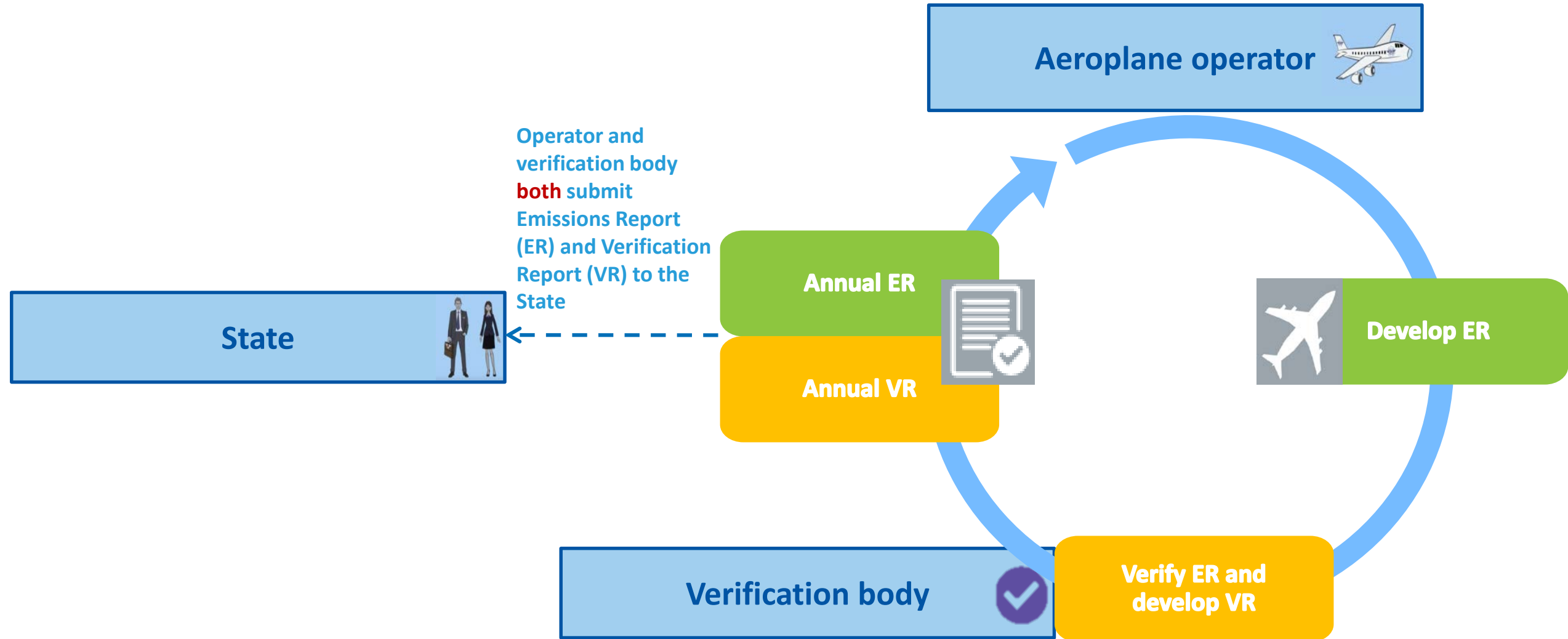




Verification of CO₂ emissions

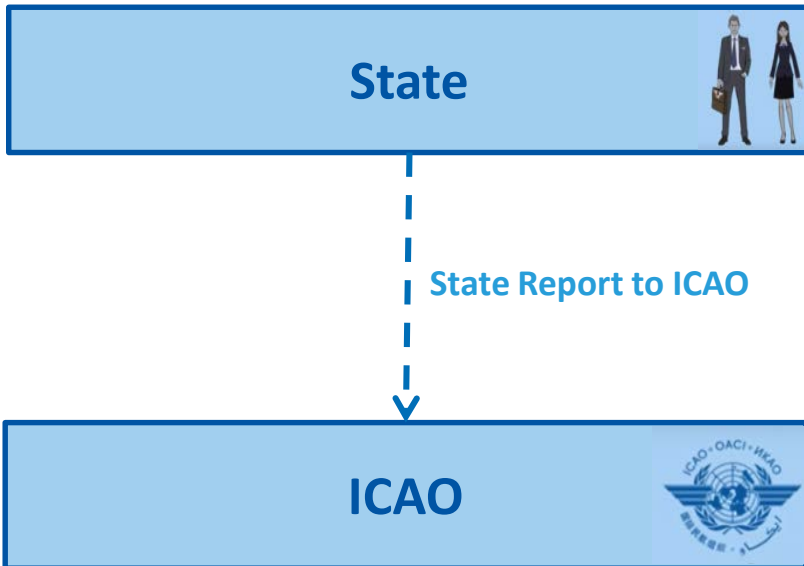
- Process to ensure that the information is accurate without errors prior to an aeroplane operator's reporting to State
- Scope of CO₂ emissions verification:
 - Aeroplane operator's annual Emissions Report is subject to third-party verification
 - State reporting to ICAO is subject to State's order of magnitude check
- A verification body shall conduct the verification according to Annex 16, Volume IV, Appendix 6, which includes provisions based on relevant ISO Standards and CORSIA-specific requirements







- CORSIA requires States with aeroplane operators conducting international flights to report on related CO₂ emissions information:



- Frequency of reporting: annual
- Reporting recipient: ICAO
- Reporting through the [CORSIA Central Registry \(CCR\)](#)



3

CORSIA Central Registry (CCR)



- The CORSIA Central Registry (CCR) is essential for the collection and publication of data that are related to the implementation of CORSIA.
- The CCR allows:
 - States to submit information that is related to CORSIA, and
 - ICAO to compile information specific to the implementation and transparency of CORSIA.
- Consolidated data from the CCR is published on the ICAO CORSIA website for public access.



List of attributed aeroplane operators



List of accredited verification bodies



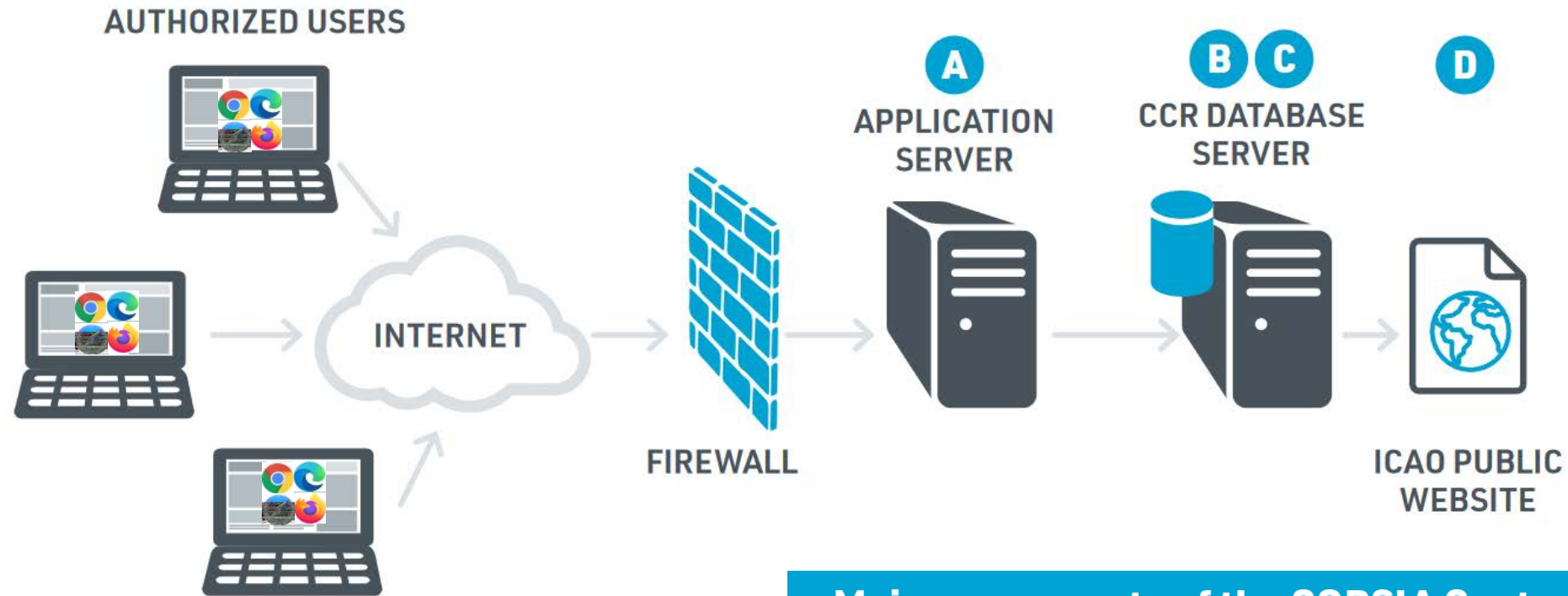
CO₂ emissions



CORSIA eligible fuels



Cancelled emissions units



Main components of the CORSIA Central Registry (CCR)

- A** Web interface with predefined forms and automated checks before data submission
- B** Data transfer and storage
- C** Administrative console to perform internal checks and manage data and users
- D** ICAO website for the publication of information



Officially Nominated Users

- Authorized users only (nominated by States)
- Access to data of State of nomination

Secure Interface

- Unique user login credentials (username and password)
- Authentication protocol
- Cloud deployment


Simple Info/Data Entry and Data Integrity

- Data entry through predefined forms (manual and bulk upload)
- Business rules to ensure data integrity before submitting to ICAO

Traceability of Actions and Record Keeping


- Time-stamped and recorded actions (who, what, when)
- No deletion of previously submitted and processed data
- In case of re-submission, archive of previous version






ICAO State : Algeria
Role : CORSIA Focal Point

- Home
- Report Aeroplane Operators 2
- Report Verification Bodies 0
- Report CO2 Emissions 3
- Report CORSIA Eligible Fuels 1
- Report Cancelled Emissions Units 0
- Service Request 1



TestUserCCR 

Last Logged-In : 2023-04-13, 5:28:55 p.m.

Home

User Information

TestUserCCR

Test User CCR
testuser@gmail.com
Role : CORSIA Focal Point

ICAO State Information

- [View ICAO State](#)
- [View CCR User Profile](#)

My Favorites

No favorites available.

CORSIA-related Submission Deadlines for the year 2022

2022 Aeroplane Operators and Verification Bodies: 30 November 2022
See [Quick Guide B](#) and [Quick Guide C](#)

2022 CO2 Emissions and CORSIA Eligible Fuels: 31 July 2023
See [Quick Guide E](#) and [Quick Guide F](#)

[Click here](#) for all CCR-related materials

Report Aeroplane Operators 2

Q

View
Add

Report Verification Bodies 0

Q

View
Add

Report CO2 Emissions 3

Q

View
Add

Report CORSIA Eligible Fuels 1

Q

View
Add

Report Cancelled Emissions Units 0

Q

View
Add

Service Request 1

Q

View
Add

Property of ICAO | Email To: ccr@icao.int

[Terms of Use Agreement](#) | [Privacy Policy](#) | [Third-Party Licenses](#) | [Cookie Policy](#)



- ICAO Document “**CORSIA Central Registry (CCR): Information and Data for the Implementation of CORSIA**” is an umbrella document that contains:
 - ICAO Document “**CORSIA Aeroplane Operator to State Attributions**”
 - List of Aeroplane Operators and the State to which they are attributed
 - **Update:** Annual
 - ICAO Document “**CORSIA 2020 Emissions**”
 - Total 2019 CO₂ emissions to determine the first year in which a new entrant has offsetting requirements
 - **Update:** As needed
 - ICAO Document “**CORSIA Annual Sector’s Growth Factor**”
 - **Update:** Annual



- ICAO Document “*CORSIA Central Registry (CCR): Information and Data for Transparency*”:
 - Part I: List of verification bodies accredited in States
 - **Update:** Annual
 - Part II: Total CO₂ emissions for 2019 for all aeroplane operators on each State pair
 - **Update:** As needed
 - Part III: Total annual CO₂ emissions aggregated for all aeroplane operators on each State pair (with identification of State pairs subject to offsetting requirements); and CO₂ emissions for each aeroplane operator
 - **Update:** Annual
 - Part IV: Information and data on CORSIA eligible fuels claimed
 - **Update:** As data is submitted
 - Part V: Offsetting requirements and emissions units cancelled
 - **Update:** Triennial

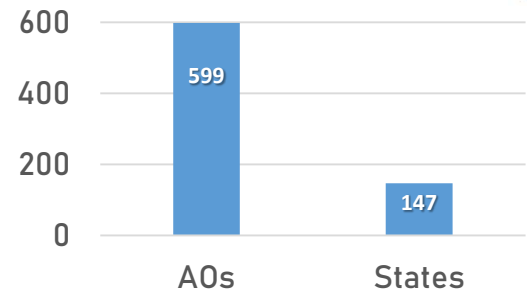


As of June 2023

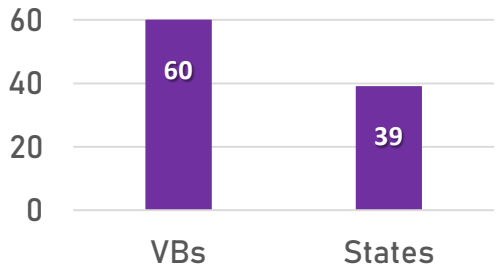
176
States have access to CCR

279
CCR Users Accounts

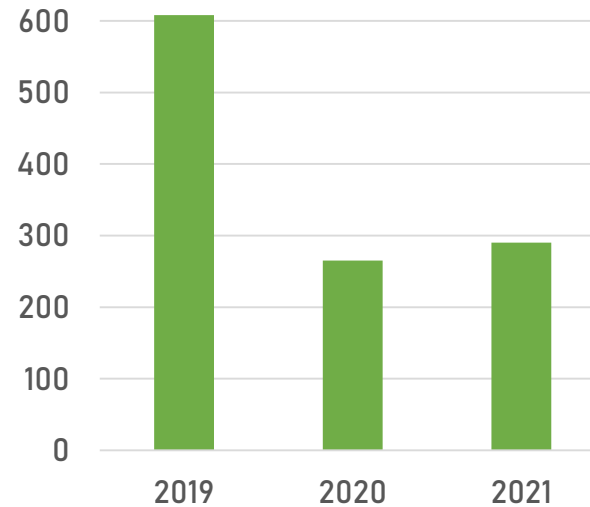
Aeroplane Operators



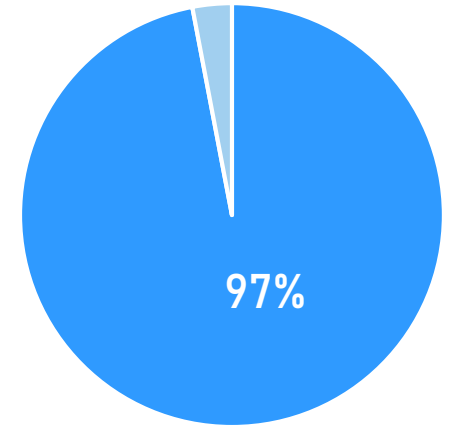
Verification Bodies



Total CO₂ Emissions (in Mtonnes)*



**Totals include CO₂ emissions submitted by States through the CORSIA Central Registry (CCR) and emissions provided by ICAO to fill the emissions gaps*



Submitted through the CCR
Gap-filling

0
2021 Sector Growth Factor due to COVID-19



ICAO International Standards and Recommended Practices

Annex 16 to the Convention on International Civil Aviation

Environmental Protection

Volume IV, Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)
First Edition, October 2018

INTERNATIONAL CIVIL AVIATION ORGANIZATION

ICAO

Doc 9501

Environmental Technical Manual

Volume IV—Procedures for demonstrating compliance with the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)
First Edition, 2018

INTERNATIONAL CIVIL AVIATION ORGANIZATION



ICAO ENVIRONMENT

CORSIA AT A GLANCE SERIES

CORSIA IMPLEMENTATION COMPONENTS

1. **SRP: Back to 2019**

2. **ENV Volume IV (Doc 9501)**

ICAO ENVIRONMENT

CORSIA AT A GLANCE SERIES

CORSIA CENTRAL REGISTRY

1. **Key Numbers of the CCR**

ICAO ENVIRONMENT

CORSIA AT A GLANCE SERIES

EMISSIONS MONITORING PLAN

1. **Carbon of the Detailed Monitoring Plan Includes:**

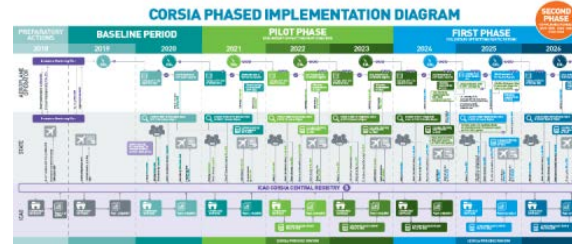
2. **PROVISIONAL ACTIONS: BASELINE PERIOD 2016-2019**

ICAO ENVIRONMENT

CORSIA AT A GLANCE SERIES

PUBLICATION OF INFORMATION AND DATA FROM CORSIA CENTRAL REGISTRY

1. **Key Numbers of the CCR**



ICAO ENVIRONMENT

CORSIA AT A GLANCE SERIES

EMISSIONS MONITORING OPTIONS

1. **ICAO CORSIA CO₂ ESTIMATION AND REPORTING TOOL (CERT)**

ICAO ENVIRONMENT

CORSIA AT A GLANCE SERIES

CORSIA VERIFICATION

1. **Key Numbers of the CCR**

ICAO ENVIRONMENT

CORSIA AT A GLANCE SERIES

CORSIA ELIGIBLE FUELS

1. **Key Numbers of the CCR**

ICAO ENVIRONMENT

CORSIA AT A GLANCE SERIES

CORSIA ELIGIBLE FUELS

1. **Key Numbers of the CCR**

ICAO ENVIRONMENT

CORSIA AT A GLANCE SERIES

CORSIA ELIGIBLE FUELS

1. **Key Numbers of the CCR**

ICAO ENVIRONMENT

CORSIA AT A GLANCE SERIES

CORSIA ELIGIBLE FUELS

1. **Key Numbers of the CCR**

ICAO ENVIRONMENT

CORSIA AT A GLANCE SERIES

CORSIA ELIGIBLE FUELS

1. **Key Numbers of the CCR**

ICAO ENVIRONMENT

CORSIA AT A GLANCE SERIES

CORSIA ELIGIBLE FUELS

1. **Key Numbers of the CCR**

Search: _____

- About ICAO
- Global Priorities
- Meetings and Events
- Information Resources
- Careers
- Subscribe

ICAO / Environmental Protection / CORSIA

- ENV Homepage
- CORSIA Homepage
- CORSIA IMPLEMENTATION
- ACT CORSIA

Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)

CORSIA News (click here to consult the complete list)

19-25 Jan 2019

Trinidad & Tobago and Jamaica received training under the ACT-CORSIA Buddy Partnership with Germany

Progress indicator: 10 dots, 10th dot filled.

CORSIA IMPLEMENTATION

- Assembly Resolution A39-3
- SARPs - Annex 16 Volume IV
- Environmental Technical Manual - Volume IV (New)
 - » Templates (New)
- ICAO CORSIA Implementation Elements
 - » CORSIA States for Chapter 3 State Pairs
 - » ICAO CORSIA CO₂ Estimation and Reporting Tool (CERT)
 - » CORSIA Eligible Fuels
 - » CORSIA Eligible Emissions Units
 - » CORSIA Central Registry (CCR)

Additional Material for CORSIA Implementation



ACT CORSIA

- CORSIA Buddy Partnerships
- Model Regulations
- Frequently Asked Questions
- Brochure and Leaflets
- Videos
- Seminars
- Online Tutorials
- Background Information



For more information, please visit our website: <http://www.icao.int/corsia>