



| ICAO ENVIRONMENT



CORSIA

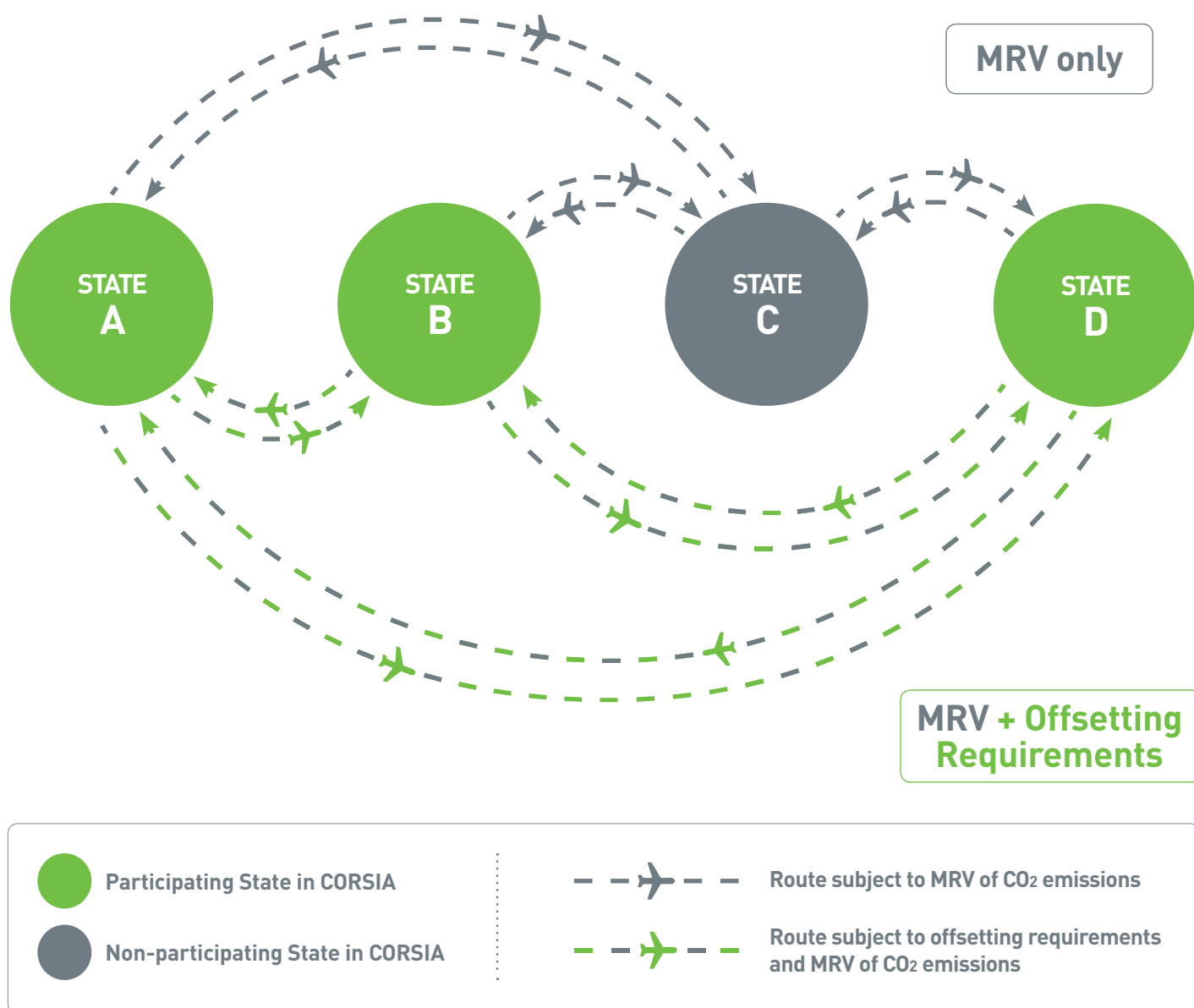
**CARBON OFFSETTING AND REDUCTION
SCHEME FOR INTERNATIONAL AVIATION
IMPLEMENTATION PLAN**

ALL ICAO MEMBER STATES with aeroplane operators conducting international flights are required to monitor, report and verify (MRV) CO₂ emissions from these flights every year from 2019, independent of their participation in CORSIA.

HOW DOES AN AEROPLANE OPERATOR MONITOR CO₂ EMISSIONS?

- An aeroplane operator shall monitor and record its fuel use from international flights in accordance with an eligible monitoring method approved by the State to which it is attributed, and shall use the same eligible monitoring method for the entire 3-year compliance period.
- An aeroplane operator can choose from five different eligible methods for fuel use monitoring. The methods are equivalent, there is no hierarchy for selecting a method.
- An aeroplane operator may choose to use the **ICAO CORSIA CO₂ Estimation and Reporting Tool (CERT)**, accessible through the ICAO CORSIA website.

CORSIA ROUTE-BASED APPROACH



ICAO MEMBER STATES PARTICIPATING IN CORSIA need to ensure that their aeroplane operators comply with the CORSIA offsetting requirements every three years, in addition to annual CO₂ MRV.

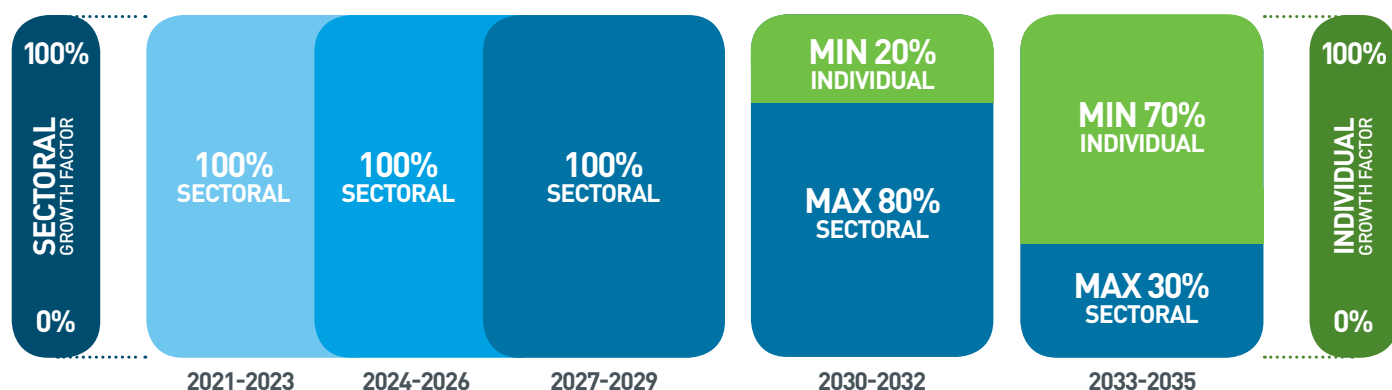


- Participation of States in the pilot phase (2021 to 2023) and first phase (2024 to 2026) is voluntary.
- For the second phase from 2027, all States with an individual share of international aviation activity in year 2018 above 0.5% of total activity or whose cumulative share reaches 90% of total activity, are included. Least Developed Countries, Small Island Developing States and Landlocked Developing Countries are exempt unless they volunteer to participate.

HOW TO CALCULATE CO₂ OFFSET REQUIREMENTS?

Operator's annual emissions X Growth Factor = CO₂ offset requirements

The Growth Factor changes every year taking into account both the sectoral and the individual operator's emissions growth. The Growth Factor is the percent increase in the amount of emissions from the baseline to a given future year, and is calculated by ICAO.

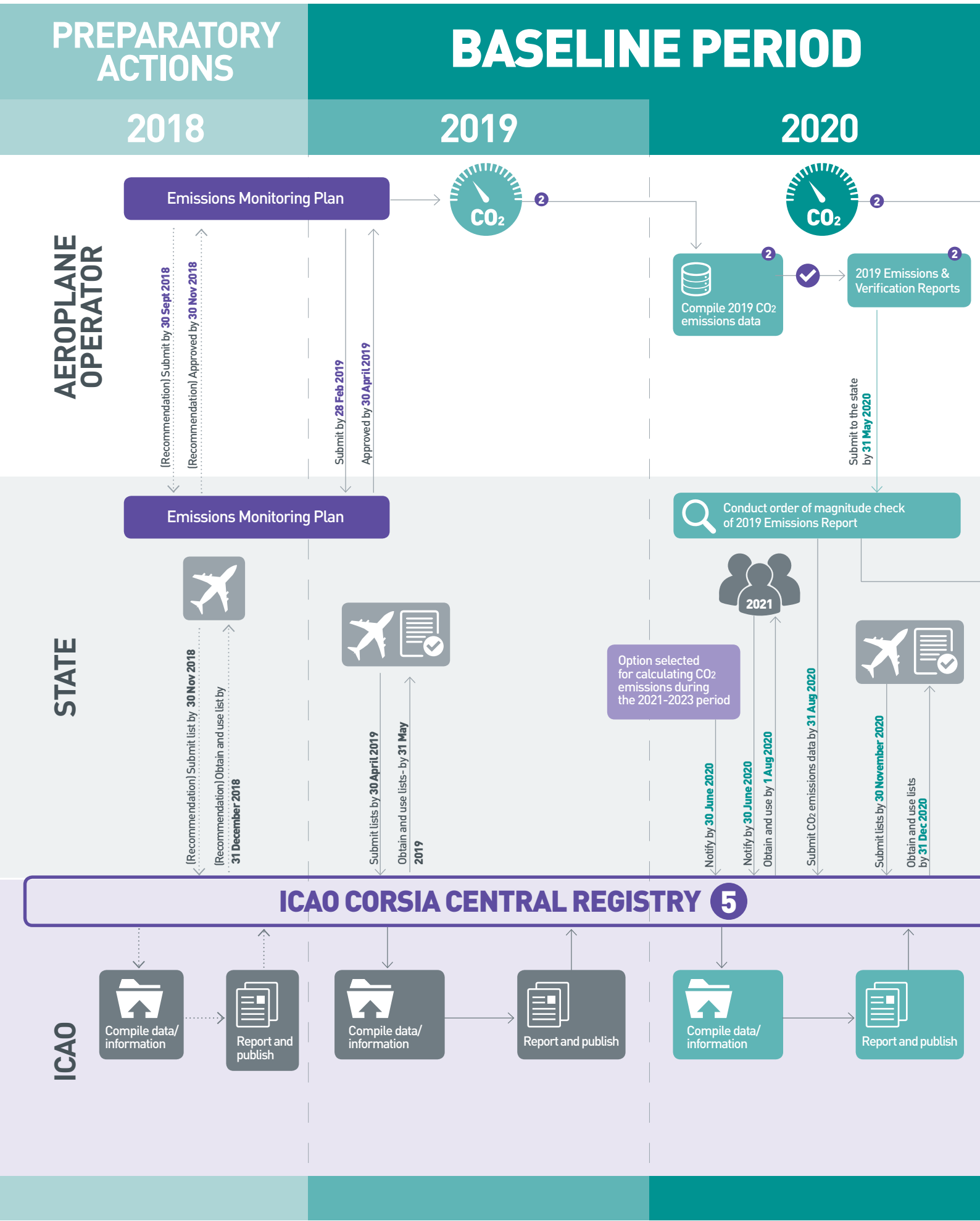


HOW OFFSETTING REQUIREMENTS UNDER CORSIA ARE MET

After the calculation of the offsetting requirements to be attributed to an aeroplane operator (see above):

- The operator reports the use of sustainable aviation fuels for the compliance period.
- The State deducts the benefits from the use of sustainable aviation fuels and informs the operator's final offsetting requirements for the 3-year compliance period.
- The operator purchases and cancels eligible emissions units equivalent to its final offsetting requirements for the compliance period.
- The operator provides a validated Emissions Units Cancellation Report to the State, who checks the Report and informs ICAO.

CORSIA PHASED IMPLEMENTATION DIAGRAM



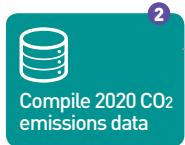
PILOT PHASE

(VOLUNTARY OFFSETTING PARTICIPATION)

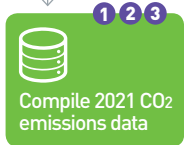
2021

2022

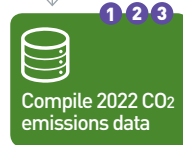
2023



2020 Emissions & Verification Reports



2021 Emissions & Verification Reports



2022 Emissions & Verification Reports

Submit by 31 May 2021

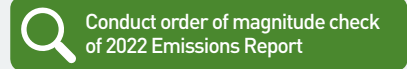
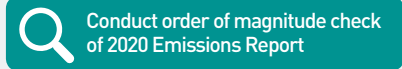
Inform AOs by 30 Sept 2021

Submit by 30 April 2022

Inform AOs by 30 Nov 2022

Submit by 30 April 2023

Inform AOs by 30 Nov 2023



Calculate average CO2 emissions 2019-2020

Calculate offsetting requirements for 2021

Calculate offsetting requirements for 2022



Obtain and use by 1 Aug 2021

Submit CO2 emissions data by 31 Aug 2021

Submit lists by 30 Nov 2021

Obtain and use list by 31 Dec 2021

Notify by 30 June 2022

Submit CO2 emissions data by 31 July 2022

Obtain and use by 1 Aug 2022

Obtain Sector's Growth Factor by 31 Oct 2022

Submit lists by 30 Nov 2022

Obtain and use lists by 31 Dec 2022

Notify by 30 June 2023

Submit CO2 emissions data by 31 July 2023

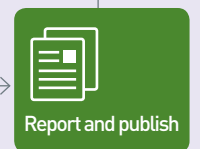
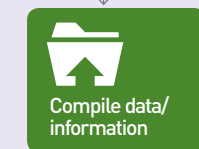
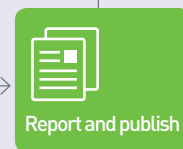
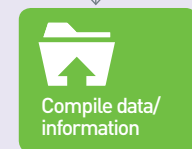
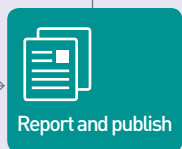
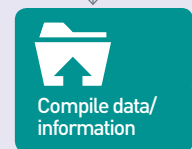
Obtain and use by 1 Aug 2023

Obtain Sector's Growth Factor by 31 Oct 2023

Submit lists by 30 Nov 2023

Obtain and use lists by 31 Dec 2023

ICAO CORSIA CENTRAL REGISTRY 5



Calculate the Sector's Growth Factor for 2021



Calculate the Sector's Growth Factor for 2022

CORSIA PERIODIC REVIEW

SECOND PHASE

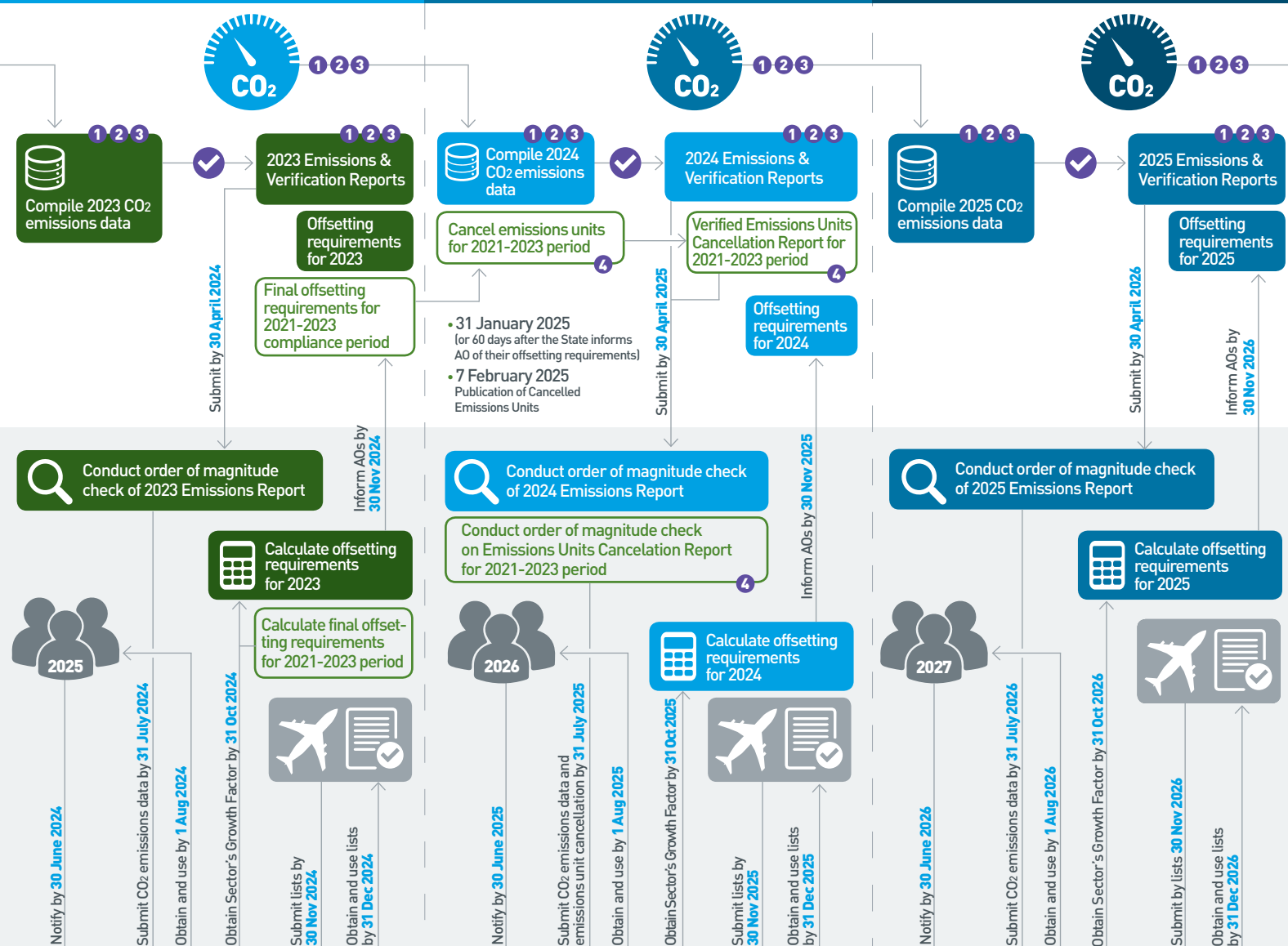
COMPLIANCE PERIODS
2027-2029 2030-2032
2033-2035

FIRST PHASE (VOLUNTARY OFFSETTING PARTICIPATION)

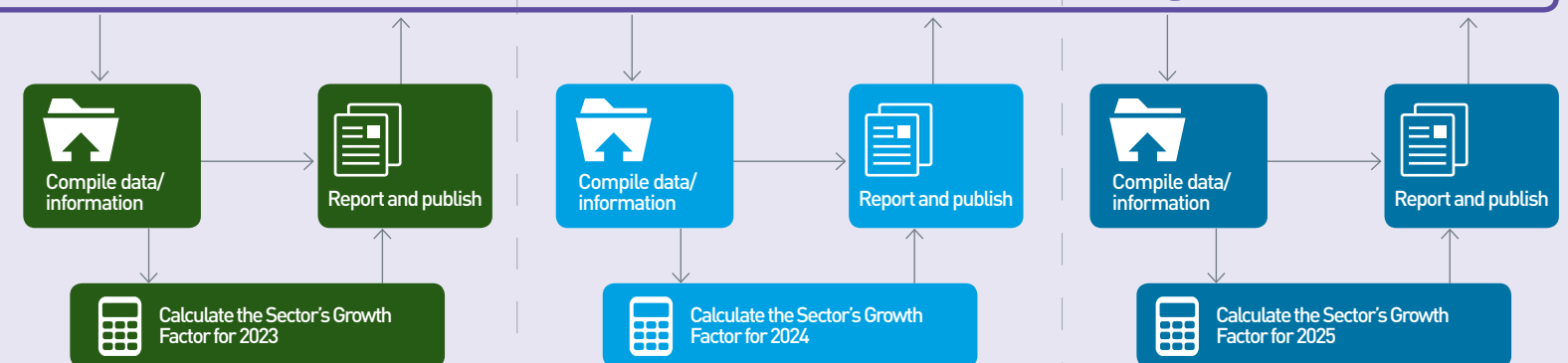
2024

2025

2026



ICAO CORSIA CENTRAL REGISTRY 5



CORSIA ACTION CHECKLIST FOR STATES

2018: RECOMMENDED PREPARATORY ACTIONS

TIMELINE FOR ACTION

● Designate a focal point for CORSIA implementation	February, 2018
● Participate in ICAO's CORSIA training and capacity building	March/April, 2018
● Coordinate necessary actions with focal points of aeroplane operators attributed to your State	May/June, 2018
● Approve the aeroplane operator's Emissions Monitoring Plan	30 November, 2018
● Send a list of aeroplane operators attributed to your State to ICAO	30 November, 2018
● Establish necessary national regulatory framework	December, 2018
● Obtain and use the ICAO document entitled "CORSIA Aeroplane Operator to State Attributions"	31 December, 2018






2019 - 2020: BASELINE PERIOD ACTIONS

TIMELINE FOR ACTION

● Approve the aeroplane operator's Emissions Monitoring Plan	30 April, 2019
● Submit lists of aeroplane operators attributed to your State and verification bodies accredited in your State to ICAO	30 April, 2019
● Obtain and use ICAO document entitled "CORSIA Aeroplane Operator to State Attributions"	31 May, 2019
● Conduct an order of magnitude check of the aeroplane operator's verified Emissions Report for 2019	1 June – 31 August, 2020
● Notify ICAO of your State's participation in CORSIA offsetting in year 2021	30 June, 2020
● Notify ICAO which option your State has selected for calculating the aeroplane operator's CO ₂ emissions during the 2021-2023 period	30 June, 2020
● Obtain and use the ICAO document entitled "CORSIA States for Chapter 3 State Pairs"	1 August, 2020
● Submit CO ₂ emissions data of 2019 to ICAO	31 August, 2020
● Submit updates to the list of aeroplane operators attributed to your State and updates to the verification bodies accredited in your State to ICAO	30 November, 2020
● Obtain and use the ICAO document entitled "CORSIA Aeroplane Operator to State Attributions"	31 December, 2020

CORSIA IMPLEMENTATION ELEMENTS

- 1 CORSIA Offsetting Participation State Pairs/Routes
- 2 ICAO CORSIA CO₂ Estimation and Reporting Tool (CERT)
- 3 CORSIA Sustainable Aviation Fuels
- 4 CORSIA Eligible Emissions Units
- 5 CORSIA Central Registry System

-  Monitor CO₂ Emissions from international flights
-  State Participation in CORSIA in year 20XX
-  Aeroplane operator attributed to the State
-  Verification body accredited in the State.
-  Verification

The information on actions for CORSIA implementation contained in this brochure is based on the proposal for the First Edition of Annex 16, Volume IV (Standards and Recommended Practices relating to CORSIA) and related materials, as made available to States by means of ICAO State letter AN 1/17.14 – 17/129. The proposed First Edition of Annex 16, Volume IV and related materials are expected to be considered for adoption by the ICAO Council in June 2018 and subject to any changes arising from this process. All reasonable efforts have been made to ensure accuracy, but ICAO makes no warranties in relation to the information contained herein and assumes no responsibility or liability arising in connection with its use or misuse.

CORSIA is a global market-based measure designed to offset international aviation CO₂ emissions in order to stabilize the levels of such emissions from 2020 onwards (CNG2020). Offsetting of CO₂ emissions will be achieved through the acquisition and cancelation of emissions units from the global carbon market by aeroplane operators.

WHY JOIN CORSIA?

The more States join CORSIA, and the earlier they join, the more emissions are covered, increasing the environmental integrity of the scheme.

The more emissions are covered, more units will be needed, thus increasing opportunities to invest in emissions reduction projects, particularly in developing States.

States that voluntarily participate in the pilot phase of CORSIA will be given priority for capacity building and assistance.

ICAO'S ASPIRATIONAL GOALS

ICAO has agreed on two aspirational goals for the international aviation sector:

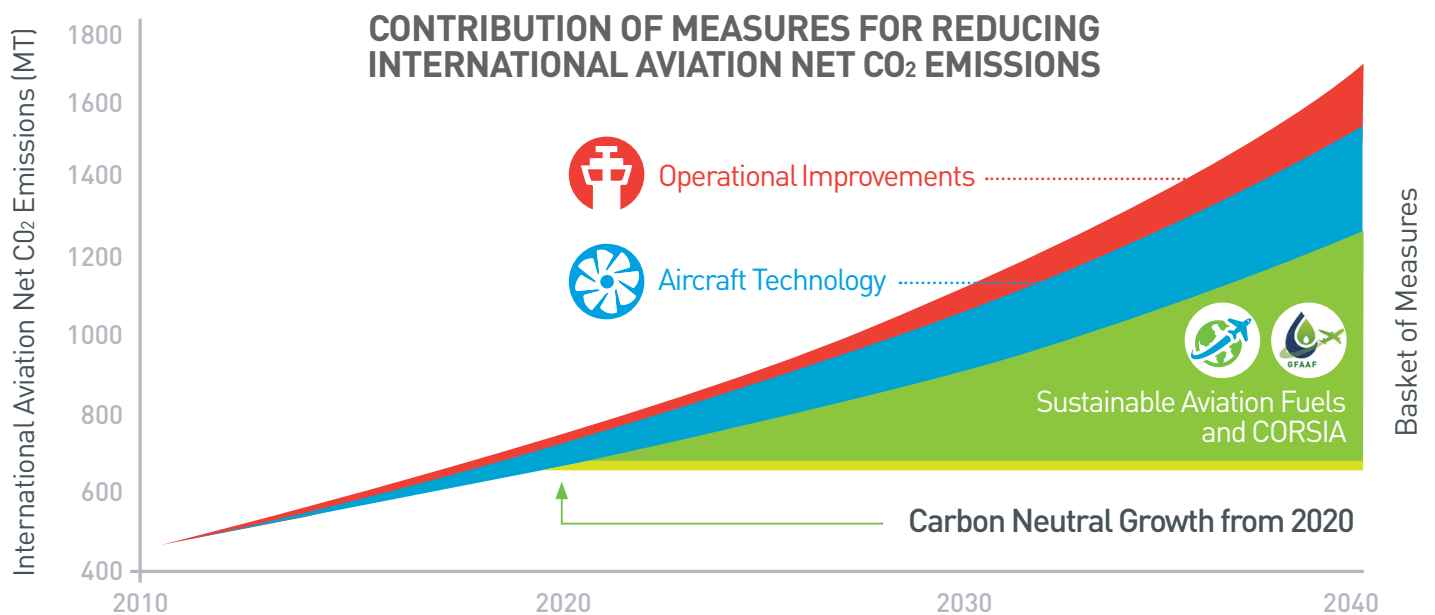
- 2% annual fuel efficiency improvement through 2050
- Carbon neutral growth from 2020 onwards (CNG 2020)

ICAO is also exploring a long-term goal.

ICAO'S BASKET OF MEASURES

ICAO has identified the following areas that can contribute to the attainment of the global aspirational goals:

- Aircraft related technology and standards
- Improved air traffic management and operational improvements
- Development and deployment of sustainable aviation fuel
- CORSIA



SUSTAINABLE DEVELOPMENT GOALS

ICAO's environmental work contributes to **14 out of the 17** United Nations SDGs



ICAO

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