



ICAO

RECONNECTING THE WORLD



Introduction to CORSIA Annex 16, Volume IV

ICAO Secretariat

The CORSIA logo, featuring a green globe with a white airplane icon flying over it, followed by the word "CORSIA" in large blue letters.

CORSIA





- Two main parts to this presentation:
 - Overview of CORSIA
 - Introduction to Annex 16, Volume IV
- Objective:
 - Provide an overarching presentation of CORSIA and the CORSIA SARPs that Trainers could also use for the on-site training
 - Highlight key elements of CORSIA and Annex 16, Volume IV
 - Incorporate information from Frequently Asked Questions (FAQs) published on the CORSIA website



PART 1: OVERVIEW OF CORSIA

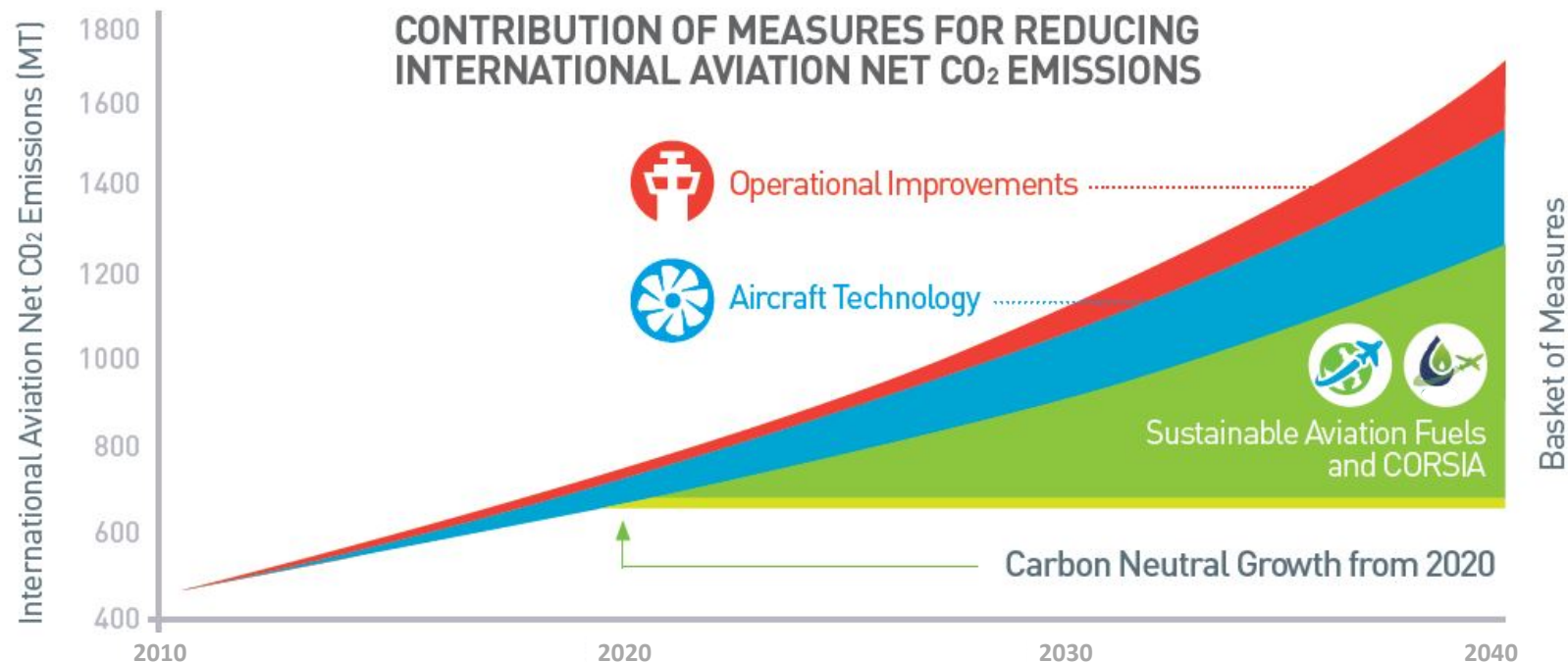


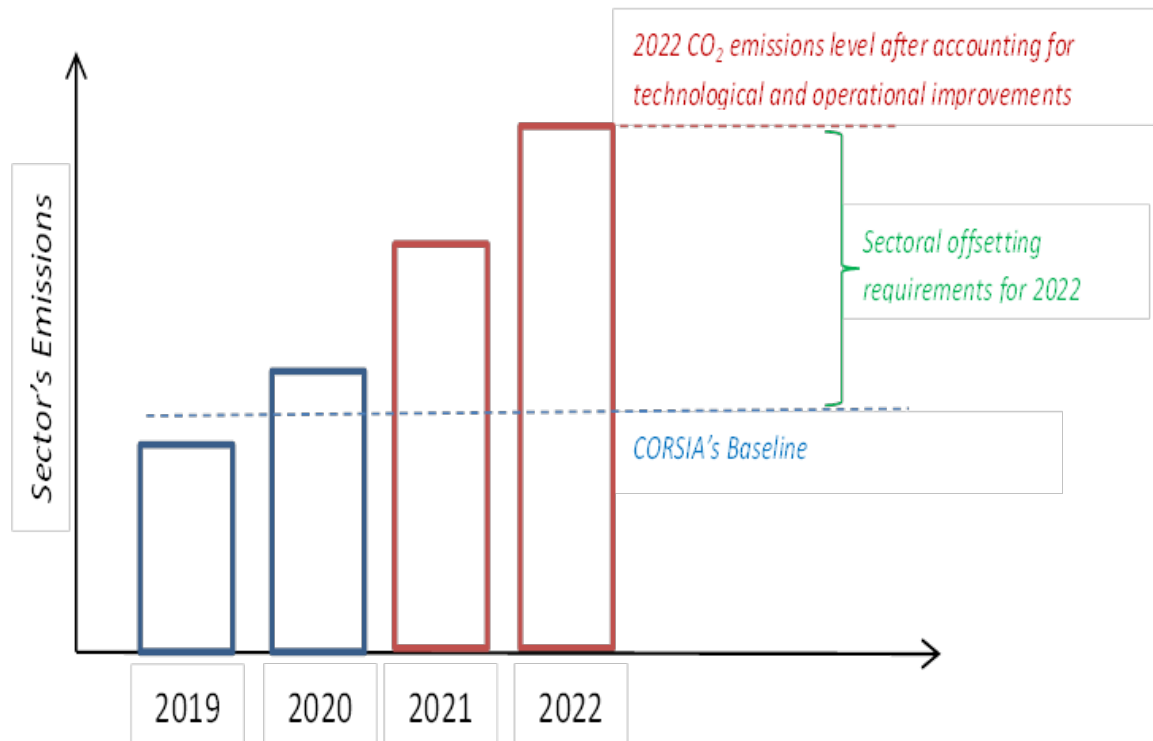
Adopted through Assembly Resolution 39-3

The **first global MBM scheme** for any industry sector

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**





The approach for CORSIA is based on comparing the total CO₂ emissions for a year (from 2021 onwards) against a baseline level of CO₂ emissions, which is defined as the average of CO₂ emissions from international aviation covered by the CORSIA for the years 2019 and 2020.



- Key design features of CORSIA:
 - Phased implementation (paragraph 9)
 - Emissions coverage: route-based approach (paragraph 10)
 - Offsetting requirements (paragraph 11)
 - New entrants (paragraph 12)
 - Technical exemptions (paragraph 13)
 - Review mechanism (paragraphs 9g and 18)
- CORSIA implementation features:
 - Monitoring, Reporting and Verification (paragraphs 15, 20a and 20b)



Second phase participation criteria:

- 90% of global RTK
- 0.5% of RTK

Exemptions:

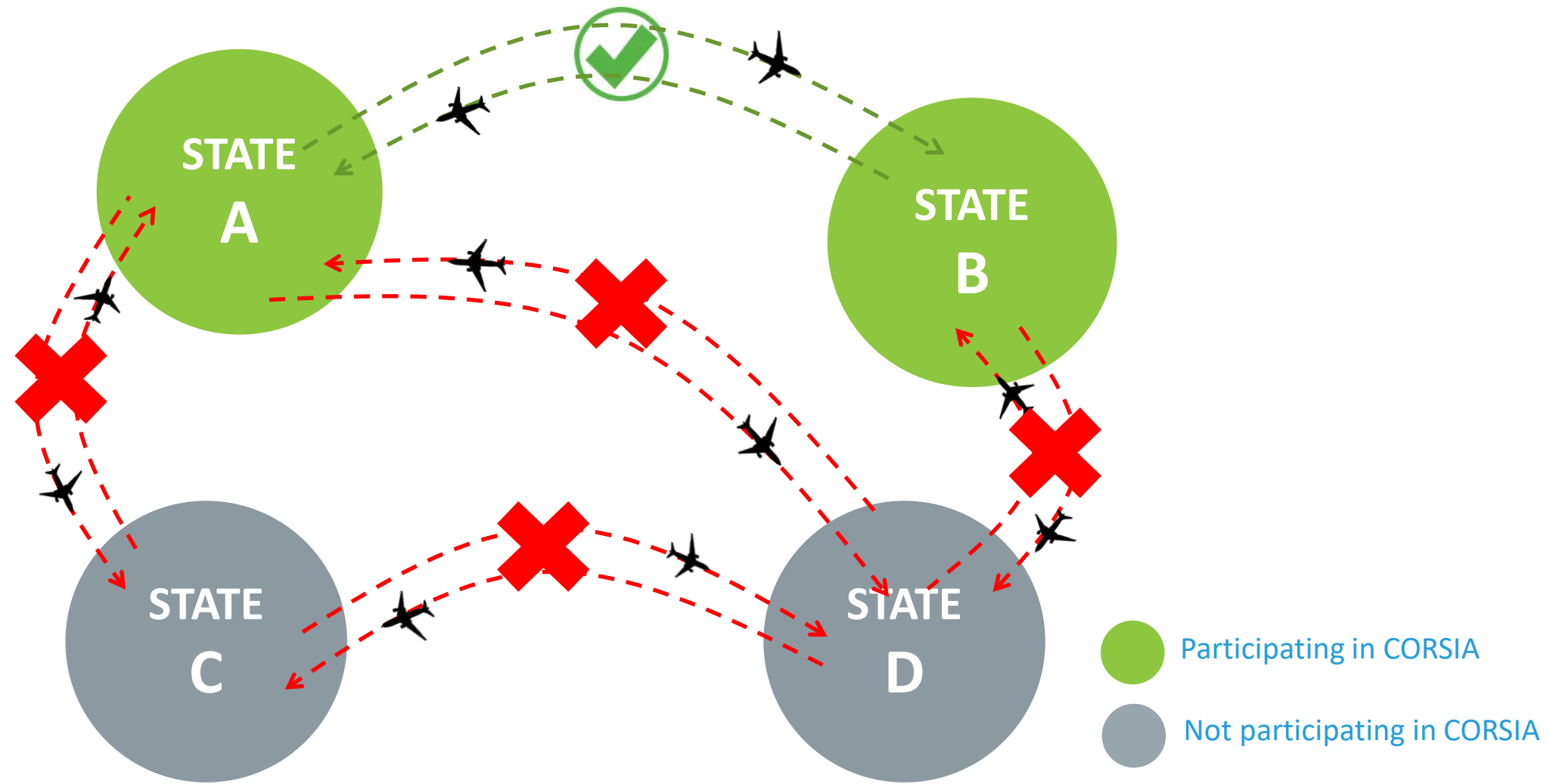
- LDCs, LLDCs, SIDS

All Member States are encouraged to participate in the pilot and first phase of the CORSIA



What is the difference between the pilot and the first phase?

- The requirements for the two phases are identical except for how the aircraft operator's offsetting requirements are determined by the State. Specifically:
 - For the pilot phase, States have two options to determine the basis of an aircraft operator's offsetting requirements:
 - Option 1: Use the aircraft operator's emissions covered by CORSIA in a given year (i.e. 2021, 2022 and 2023)
 - Option 2: Use the aircraft operator's emissions for the year 2020.
 - For the first phase, the calculation to determine an aircraft operator's offsetting requirements is based on the emissions in a given year (i.e. 2024, 2025 and 2026).



Reference: Assembly Resolution A39-3, Paragraph 10



Can the “covered” or “not covered” routes change over time?

- Paragraph 10 of the Assembly Resolution A39-3 determines the characterization of a route as “covered” or “not covered” by the CORSIA offsetting requirements, on the basis of whether the States connecting the route participates in CORSIA offsetting.
 - The voluntary participation of States in different phases of the CORSIA will determine the overall coverage of the scheme
 - Deadline of 30 June every year for States to notify ICAO of their intention to voluntarily participate in the scheme, or discontinue their participation, from 1 January of the following year



Do States and AOs that do not participate in the CORSIA offsetting have any requirements?

- According to paragraph 20 of the Assembly Resolution A39-3, all States whose aircraft operator undertakes international flights need to develop a monitoring, reporting and verification (MRV) system for CO₂ emissions from international flights starting from 1 January 2019.
 - The requirement to monitor, report and verify CO₂ emissions from international aviation is independent from the offsetting requirement.
 - The data reported by States will be used for the calculation of the CORSIA baseline, which is the average of 2019 and 2020 CO₂ emissions, as well as for the basis of calculating the aeroplane operators' offsetting requirements, where applicable.



What would happen if an AO of a non-participating State flies on covered routes?

- Because of the CORSIA's route-based approach, all routes between participating States would be subject to the coverage of emissions offsetting requirements under the CORSIA.
 - An operator of a non-participating State would be subject to offsetting requirements if it had a flight between two participating States.



What if a State without an AO undertaking international flights decides to participate?

- States without an operator flying international flights are encouraged to participate in all phases of the CORSIA.
 - If such a State decides to participate, flights to and from that State to other participating States are additionally included for the CORSIA's offsetting requirements, due to the route-based approach
 - The total international emissions covered by CORSIA offsetting would ultimately increase



What is offsetting and how does it work?

- Offsetting through the purchase and cancellation of emissions units:
 - Different sources of emissions reductions (mechanisms, programmes, projects)
 - Buying and selling of eligible emissions units through the carbon market
 - Price of the emissions units influenced by law of supply and demand
- “Cancelling” means the permanent removal and single use of an emissions unit.
 - Done after an aeroplane operator has purchased emissions units from the carbon market



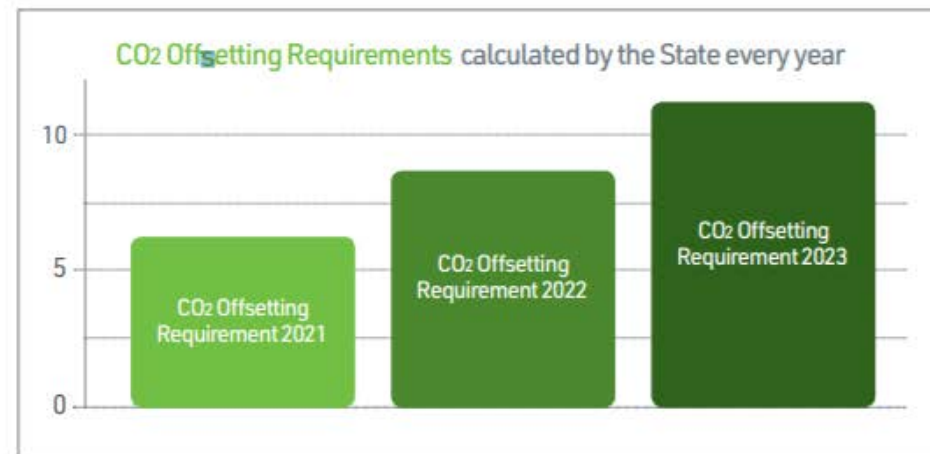
CORSIA OFFSETTING REQUIREMENT STEPS

- 1 The State calculates the offsetting requirements attributed to an aeroplane operator.

$$\text{Operator's annual emissions} \times \text{Growth Factor} = \text{CO}_2 \text{ offsetting requirements}$$

In a given year from 2021, the **Growth Factor** is the percent increase in the amount of emissions from the baseline, and is calculated by ICAO.

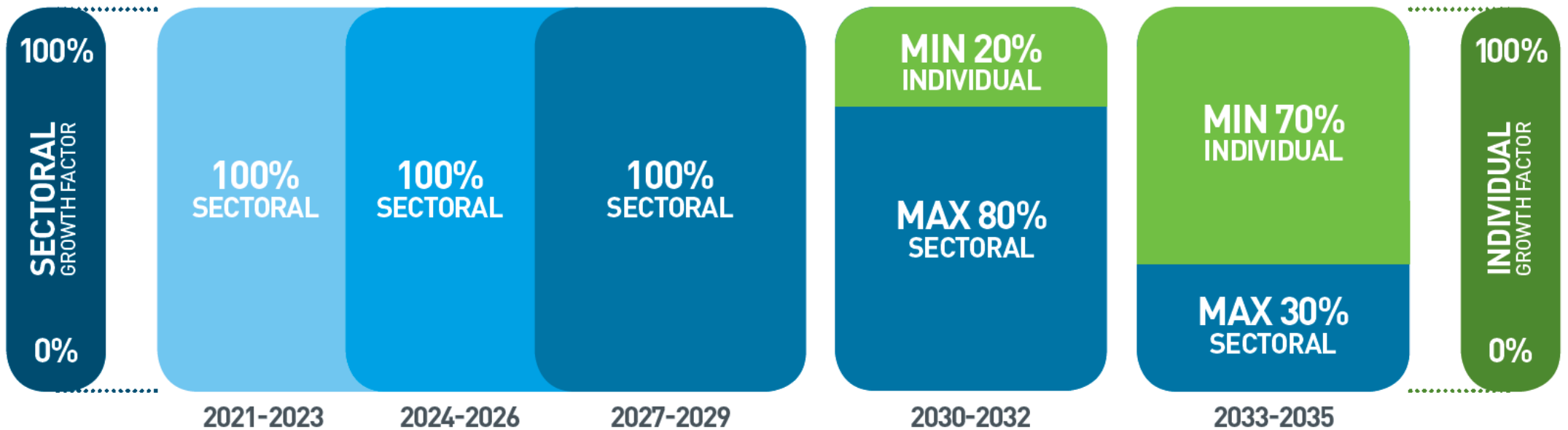
The **Growth Factor** changes every year taking into account both the sector's and the individual operator's emissions growth.





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.



Reference: Assembly Resolution A39-3, Paragraph 11



What are CORSIA's baseline emissions?

- The sectoral baseline is defined as the average of total CO₂ emissions for the years 2019 and 2020 on the routes covered by CORSIA offsetting in a given year from 2021 onwards.
 - Paragraph 11(g) of the Assembly Resolution A39-3 notes that the sectoral baseline will be re-calculated when the routes included in the CORSIA change.
 - For example, when new States volunteer to participate or States decide to withdraw their participation.
 - Calculation of the baseline will be done by ICAO



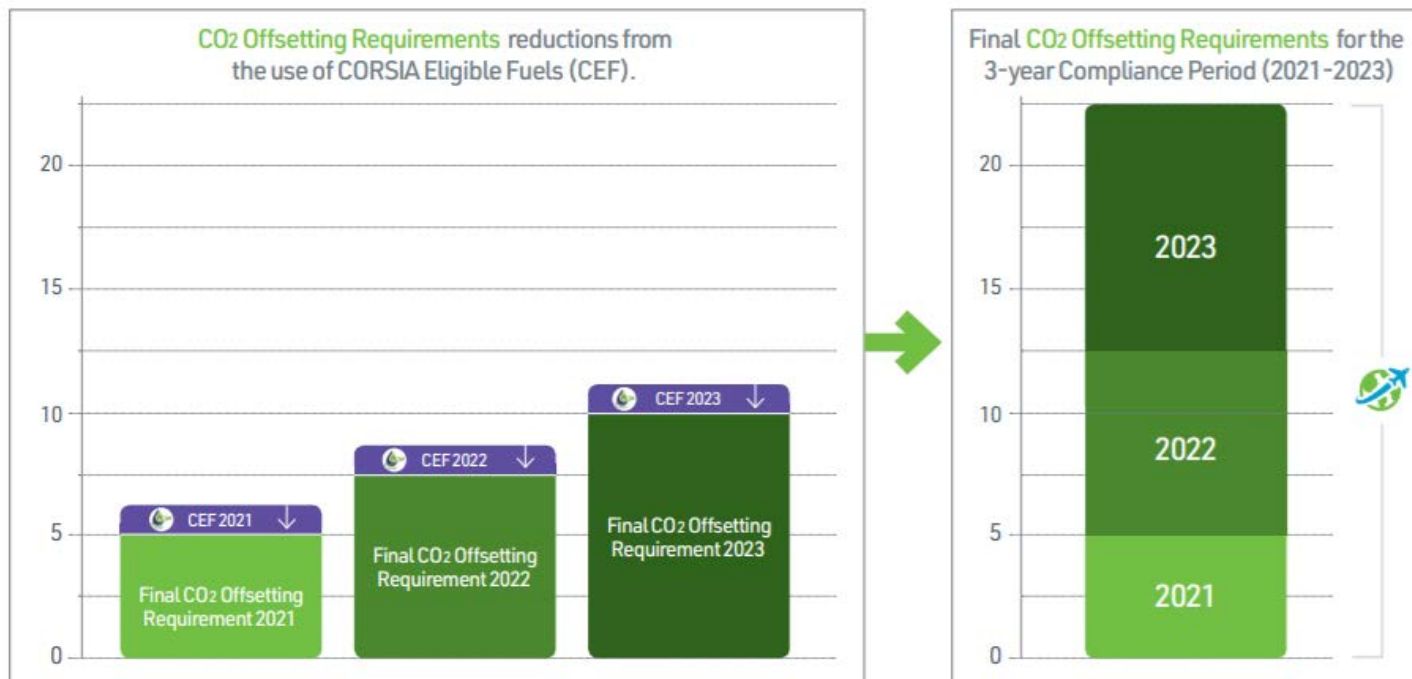
Can an aeroplane operator's CO₂ offsetting requirements be negative?

If an aeroplane operator's total final offsetting requirements during a compliance period are negative (i.e., the verified emissions reductions claimed by an operator from the use of CORSIA eligible fuels are more than its offsetting requirements), the operator has no offsetting requirements for the compliance period.

- Negative offsetting requirements will not be carried forward to a subsequent 3-year compliance period
- If an operator's offsetting requirements in a given year inside of a compliance period are negative, the operator will reduce its total final offsetting requirement for that three-year compliance period.



- 2** The operator reports the use of CORSIA Eligible Fuels (CEF) for a 3-year compliance period.
- 3** The State accounts for the benefits from the use of CEF and informs the operator of its final CO₂ offsetting requirements for a 3-year compliance period.





- New entrant (aeroplane operator) is exempted from CORSIA offsetting requirements for the first 3 years or until its annual emissions exceed 0.1% of total 2020 CO₂ emissions from international flights, whichever comes first.
- Example: Operators A and B start operations in year 2022 as shown in the table below. According to the paragraph above, Operator A will have offsetting requirements in 2025, and Operator B in 2024.

Operator	Emissions (% of total emissions in 2020)			
	2022	2023	2024	2025
A	0.02	0.04	0.06	0.08
B	0.06	0.11	0.16	0.21

Reference: Assembly Resolution A39-3, Paragraph 12



- **Outside CORSIA scope:**
 - Emissions from aeroplane operators emitting less than 10 000 metric tonnes of CO₂ emissions from international aviation per year
 - Emissions from aircraft with less than 5 700 kg of Maximum Take Off Mass (MTOM)
 - Emissions from humanitarian, medical and firefighting operations



- Periodic review will allow the Council to make informed recommendations to the Assembly on whether it is necessary to make adjustments to the next phases of the scheme
 - Periodic review of the CORSIA every three years starting in 2022
 - Special review by the end of 2032 on termination of the scheme, its extension or any other improvements of the scheme beyond 2035

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Phases	Pilot Phase (voluntary, 3 years)			First Phase (voluntary, 3 years)			Second Phase (all non-exempted States, 9 years)								
Compliance cycles	Cycle 1 (3 years)			Cycle 2 (3 years)			Cycle 3 (3 years)			Cycle 4 (3 years)			Cycle 5 (3 years)		
Periodic reviews		Review 1			Review 2			Review 3			Review 4	Special			Review 5
Assemblies		A41			A42			A43			A44				A45

Reference: Assembly Resolution A39-3, Paragraphs 9(g), 16 and 18



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THANK YOU