EASA
European Union Aviation Safety Agency

EU-CORSIA
Africa & Caribbean

CORSIA – a market- based measure
From September 2021 to June 2022

Your safety is our mission.

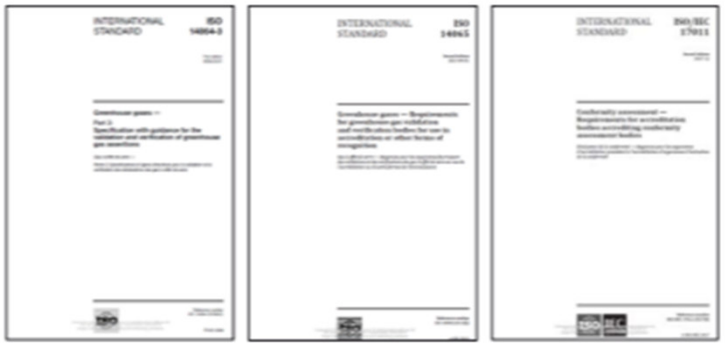
An Agency of the European Union

WRAP- UP OF WHAT PRESENTED IN SEPTEMBER

- → EMP (what it is, its importance and the issue of material changes)
- → ER (every year, to be verified by the VB and send to the SA for the OMC)
- → SA to report to ICAO 2019, 2020 through CCR: total annual CO2 emissions per State Pair aggregated for all AOs attributed to the State (in tonnes)
- → Role of the NAB in accrediting VB
- → Role of the VB

Key Documents

ISO Standards



- ***ISO 14064-3:2006:*** *"Greenhouse gases – Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions."*
- ***ISO 14065:2013*** *"Greenhouse gases – Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition."*
- ***ISO/IEC 17011:2004*** *"Conformity assessment – General requirements for accreditation bodies accrediting conformity assessment bodies".*

Implementation Elements:

- → CORSIA States for Chapter 3 State Pairs
- → ICAO Estimation and Reporting Tool (CERT)-VERSION 2021
- → CORSIA Eligible Fuels –CEF template
- → CORSIA Eligible Emission Units
- → CORSIA Central Registry (CCR 2021 first year with offsetting)

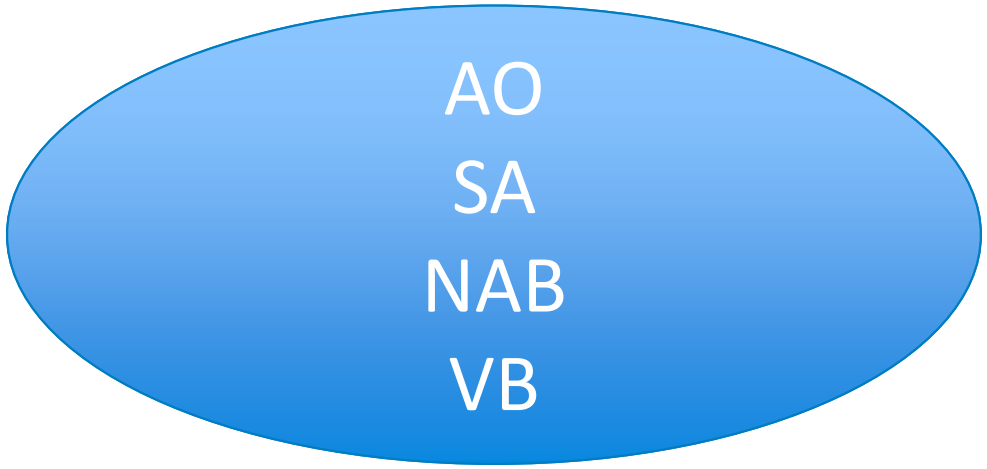
CORSIA Main Obligations: still the same

→ CORSIA sets up two kinds of obligations, with different timetables but strongly related and interdependent ….

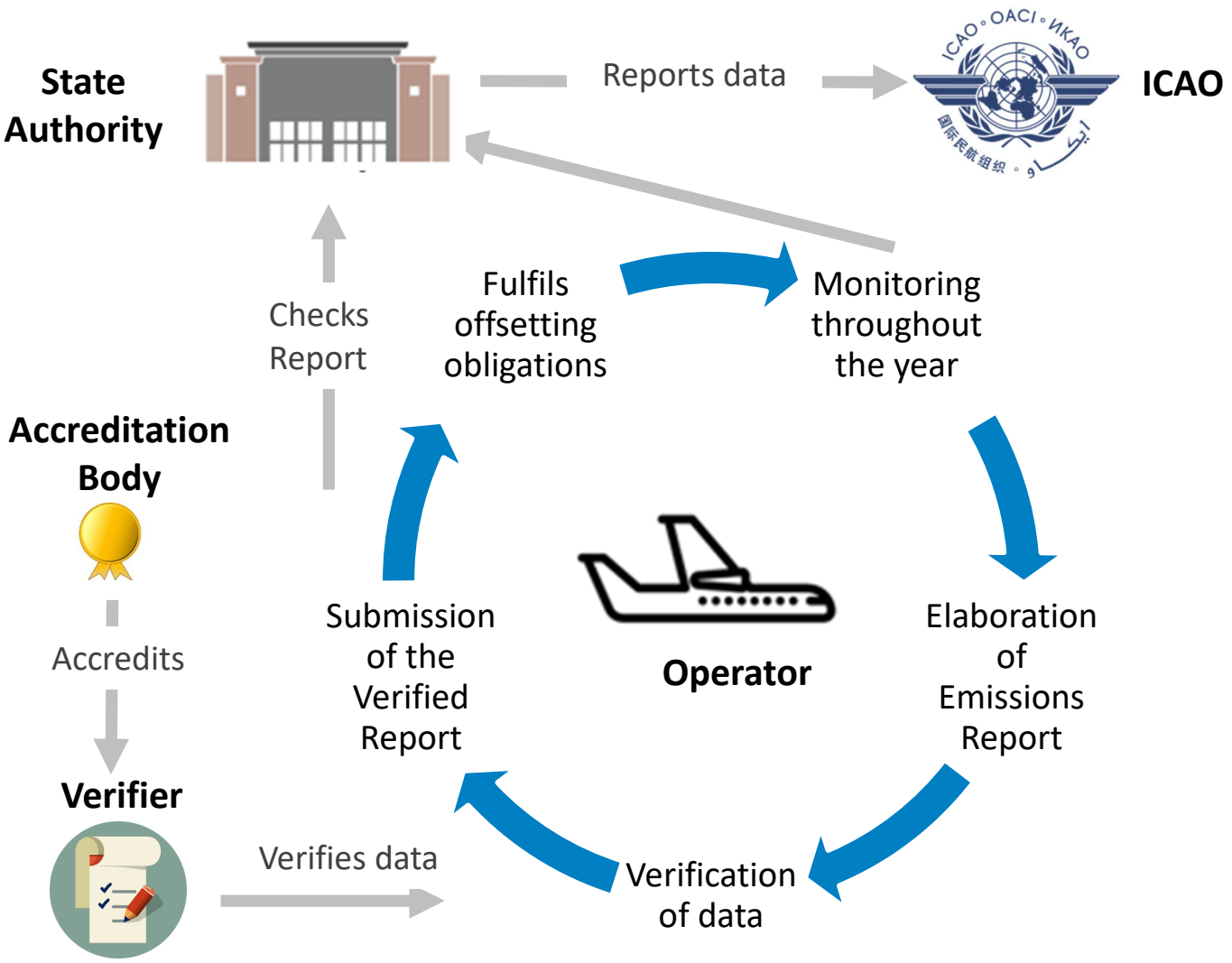
MRV From 2019	Offsetting from 2021

MRV is every year from 2019 Offsetting is from 2021

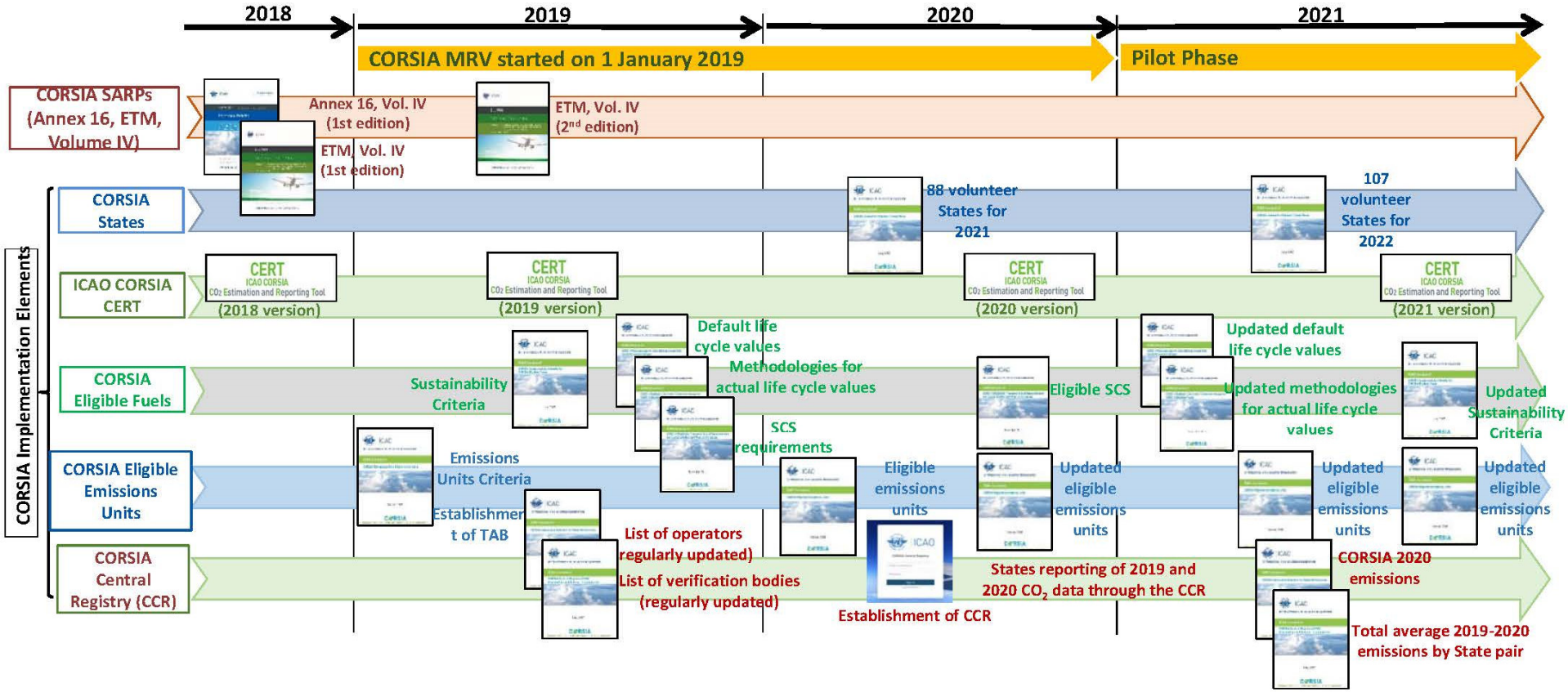
CORSIA Actors: each one has a role with deadlines



- AO does not only report to SA, there shall be a continuos communication between SA and AO
- NAB and VB: annual surveillance witness
- VB and AO: during the verification (VERIFICATION IS A MUST)


State Authority
Reports data
ICAO
Checks Report
Fulfils offsetting obligations
Monitoring throughout the year
Accreditation Body
Accredits
Submission of the Verified Report
Operator
Elaboration of Emissions Report
Verifier
Verifies data
Verification of data

ICAO completes all essential components for CORSIA implementation package



NEXT STEPS AFTER THE WORKSHOP

→ ICAO CERT VERSION 2021 is available

CORSIA | CO_2 Estimation & Reporting Tool (CERT)

Version 2021

→ AOs attributed to the SA were supposed to report to their SA after the verification of their ER by a VB listed in the ICAO CCR (2 from Senegal, 2 from South Africa): DEADLINE TO REPORT TO THE SA

30 APRIL 2022: The AO and the VB shall both independently submit, upon authorisation by the AO, the verified ER and the associated VR for 2021 to the SA

NEXT STEPS AFTER THE WORKSHOP

→ The SA shall start working on the OMC of the **verified ER** for 2021 to report to ICAO **by 31 JULY 2022**

(Remind: if your AO is using CERT, the ER generated using CERT shall always be verified by the VB)

The SA shall notify ICAO of any changes in its decision to voluntary participate or to discontinue the voluntary participation by 30 JUNE 2022

REPORTING FROM SA TO ICAO AFTER 2021 (APPENDIX 5, REPORTING- TABLE A5-5)

Field	Data Field	Details
Field 1	Total annual C02 emissions on each State Pair aggregated for all AOs attributed to the State	1.a Total annual C02 emissions on each State Pair SUBJECT TO OFFSETTING REQUIREMENTS, aggregated for all AOS attributed to the state (in tonnes) 1.b Total annual CO2 emissions on each State pair NOT SUBJECT TO OFFSETTING REQUIREMENTS, aggregated for all AOS attributed to the state (in tonnes)
Field 2	Total annual CO2 emissions for **each AO** attributed to the State	2.a Total CO2 emissions for **each AO** attributed to the State (in tonnes) 2.b Indicate whether the **ICAO CORSIA CERT is used**
Field 3	Total **aggregated annual CO2 emissions** for all State Pairs SUBJECT TO OFFSETTING REQUIREMENTs for each AO attributed to the State (in tonnes)	
Field 4	Total **aggregated annual CO2 emissions** for all State Pairs **NOT subject to offsetting requirements** for each AO attributed to the State (in tonnes)	

State Reporting from 2021

→ Total annual CO2 emissions **on each State pair** aggregated for all AOs attributed to the State

a) Total annual CO2 emissions on each **State pair subject to offsetting requirements**.

b) Total annual CO2 emissions on each State pair not subject to offsetting requirements

→ **For each AO:**

a) Total annual CO2 emissions. Indication whether CERT is used

b) Total aggregated annual CO2 emissions for all **State pairs subject to offsetting requirements**

c) Total aggregated annual CO2 emissions for all **<u>State pairs not subject to offsetting requirements</u>**

WHAT'S NEXT

→ Ms Africa Abajas will detail the novelties linked to offsetting and the CORSIA emissions unit eligibility criteria (including programme approved by ICAO)

→ Mr John Shideler will present the specificities of i) CORSIA Eligible Fuels, ii) ICAO specific requirements fuel shall have to be considered as CEF, iii) CORSIA eligible fuels supplementary information to the Emissions Report from a State to ICAO and IV) SAF value chain actors

CORSIA Next

- **2021** Offsetting starts
- **2022** 27 September-14 October ICAO 41th Assembly: SARPs Edition n. 2 (tbc)
- **2024** BASELINE?
- **2027** MANDATORY PHASE

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Novelties CORSIA.

Baseline and Offsetting Requirements

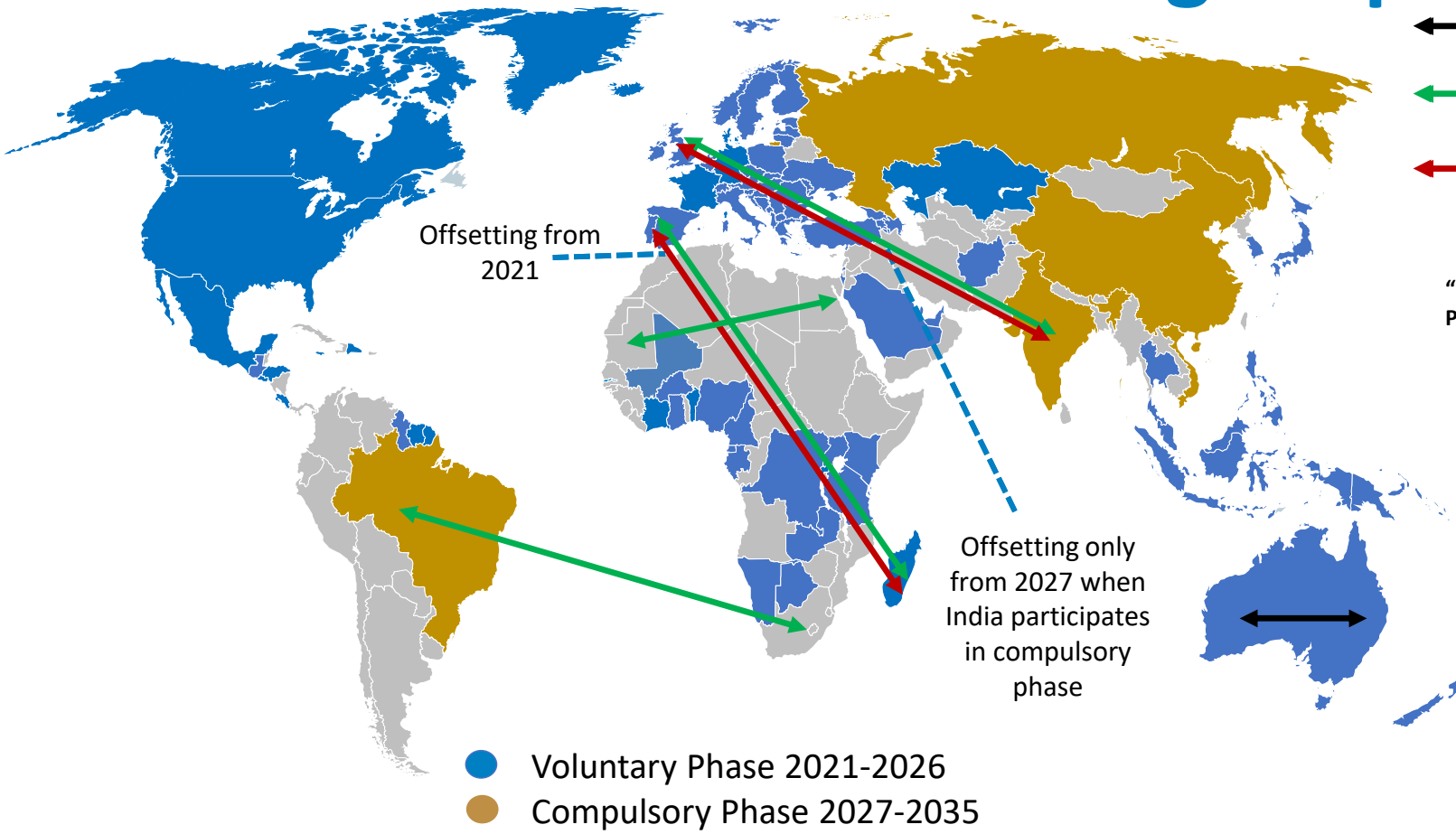
CORSIA. Emission data

→ 117 States submitted their 2019 CO2 emissions and 110 States submitted their 2020 CO2 emissions through the CORSIA Central Registry (CCR).

2019	2020
606 Million tonnes of CO2	265 Million tonnes of CO2

ICAO has published 2019 and 2020 data on State pair, for Baseline determination

Pilot Phase. Start of Offsetting requiremets



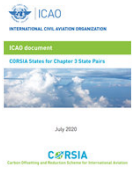
No requirements

MRV (from 2019)

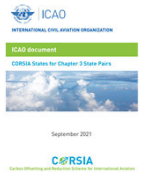
MRV & Offsetting

"CORSIA States for Chapter 3 State Pairs"

88 States participating in 2021



107 States participating in 2022



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Pilot Phase. Starting Offsetting requirements

5.1 REPORTING - STATE PAIRS

Explanation: *Please complete the list underneath. All State pairs operated during the reporting year have to be reported.*

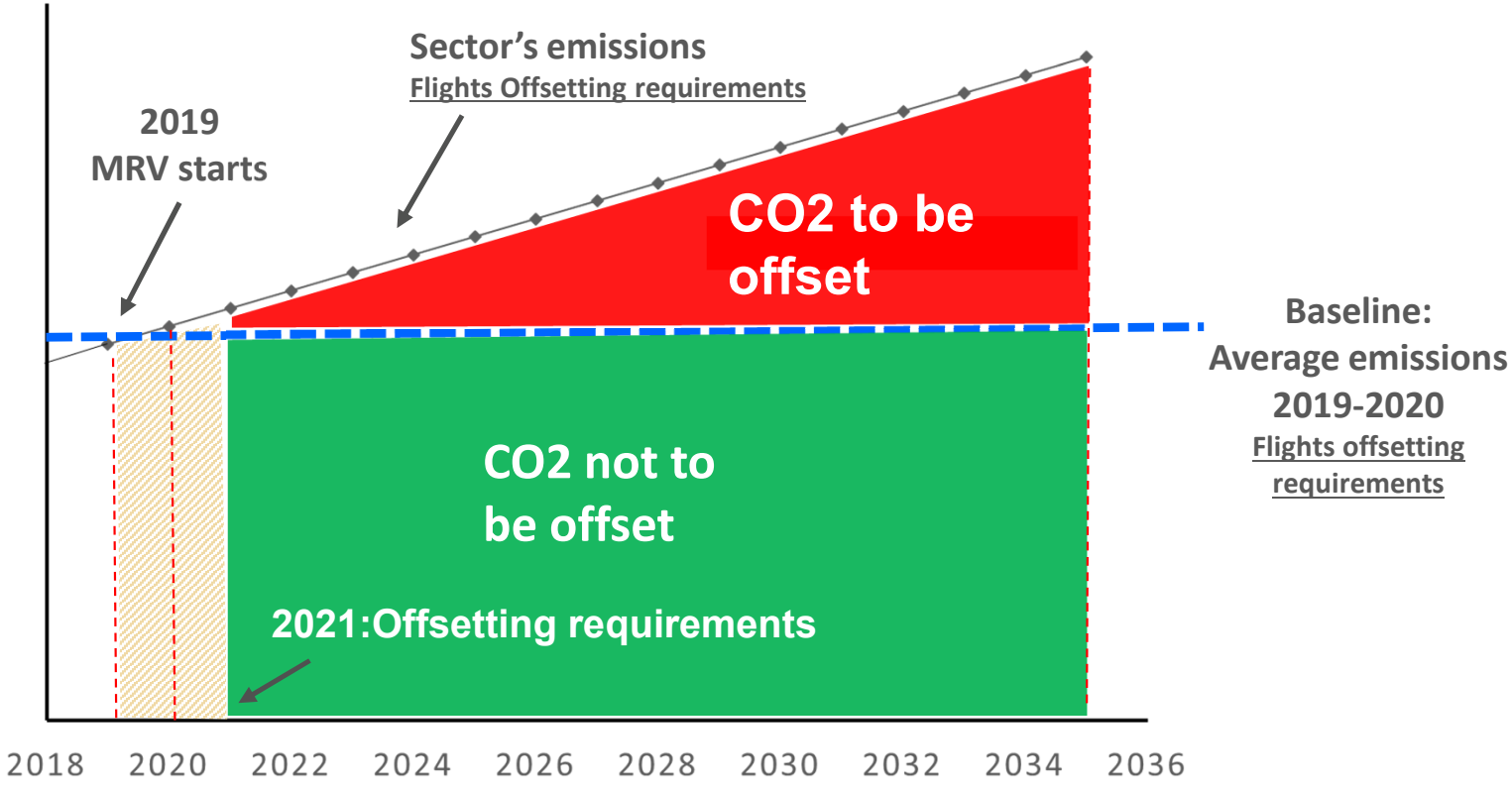
Note I: *Please report both directions between State pairs if applicable (A-B and B-A).*
Note II: *If you used different type of fuels on the same State pair with different fuel converstion factors, you need to create an identical State pair and report this portion of fuel separately. Please note, emissions from CORSIA eligible fuels are calculated with the fuel conversion factor(s) from corresponding aviation fuels.*
Note III: *Please also complete the CORSIA eligible fuels supplementary information to the Emissions Report, if CORSIA eligible fuels were used during the reporting period.*

New from 2021
Emissions

a) Summary of reported international flights and emissions

Total CO_2 emissions from international flights (in tonnes):	
Total CO_2 emissions from flights subject to offsetting requirements (in tonnes):	
Total number of international flights during reporting period:	
Total number of international flights subject to offsetting requirements:	
Total emissions reductions claimed from the use of CORSIA eligible fuels (in tonnes):	

Carbon Offsetting Requirements. Understanding the overall context



Offsetting Formula

→ The total amount of emissions to be offset is distributed among individual AOs according to a formula and a dynamic calculation and based on the sectoral growth factor and the individual CO2 emissions of the AO.

$$OR_y = \%S_y * (OE_y * SGF_y) + \%O_y * (OE_y * OGF_y)$$

where:

OR_y = Aeroplane operator's offsetting requirements in the given year y;
OE_y = Aeroplane operator's CO_2 emissions covered by 3.1 in the given year y;
$\%S_y$ = Per cent Sectoral in the given year y;
$\%O_y$ = Per cent Individual in the given year y where $\%O_y = (100\% - \%S_y)$;
SGF_y = Sector's Growth Factor; and
OGF_y = Aeroplane operator's Growth Factor.

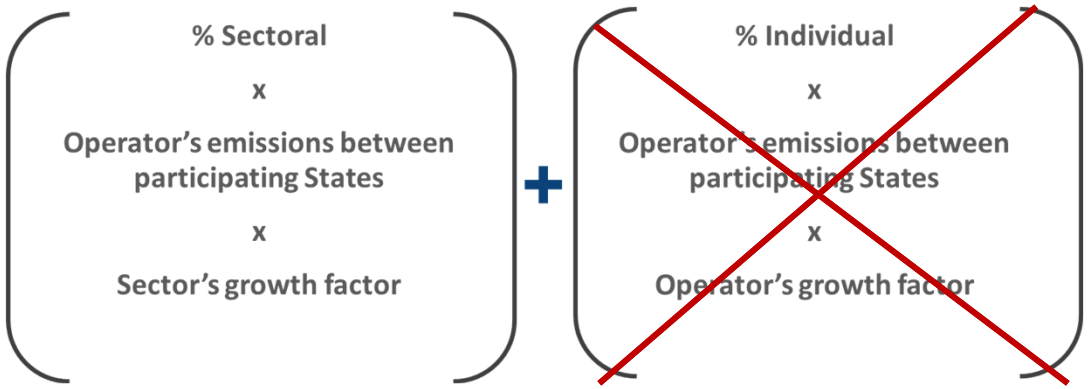
Offsetting obligation for the operator in a given year

(% Sectoral x Operator's emissions flights offsetting requirements x Sector's growth factor) + (% Individual x Operator's emissions flights offsetting requirements x Operator's growth factor)

Understanding the offsetting "formula"

- 2021-2029: 100% sectoral 0% individual
- 2030-2032: 80% sectoral 20% individual (at least)
- 2033-2035: 30% sectoral 70% individual (at least)

This means that from 2021 to 2029 there is only one part of the formula to use:



Understanding the offsetting "formula"

Sector's Growth Factor / Operator's Growth Factor

Sector's growth factor

$$\frac{\text{Sector's emissions flights offsetting requirements} - \text{CORSIA Baseline}}{\text{Sector's emissions flights offsetting requirements}}$$

AO's growth factor

$$\frac{\text{Operator's emissions flights offsetting requirements} - \text{Operator's Baseline}}{\text{Operator's emissions flights offsetting requirements}}$$

The baseline will be re-calculated when the routes included in CORSIA change. This can happen, for example, when new States volunteer to participate or States decide to withdraw their voluntary participation. The recalculation of the baseline will be done by ICAO at the start of each year

Example calculation in 2022 (for 2021 emissions without COVID 19 impact)

- ✓ **CORSIA Baseline** (2019-2020): 700 MT CO2
- ✓ **Sector's CO2 emissions in 2021:** 780 MT CO2
- ✓ **2021-2029:** 100% sectoral 0% individual
- ✓ **Aeroplane Operator "Y"** emissions in 2021: 100,000 tn CO2
- ✓ **Sector's growth factor**$= \frac{780-700}{780}$= 0.1025

Calculation for Aeroplane Operator "Y" = 100,000 x 0.1025 = **10,250 offsets for 2021**

Example calculation in 2031 (for 2030 emissions without COVID 19 impact)

- ✓ **CORSIA Baseline** (2019-2020): 800 MT CO2
- ✓ **Sector's CO2 emissions in 2030:** 1,100 MT CO2
- ✓ **2030-2032:** 80% sectoral 20% individual
- ✓ **Aeroplane operator "Y"** emissions in 2030: 140,000 tn CO2
- ✓ **Aeroplane operator "Y"** baseline: 90,000 tn CO2
- ✓ **Sector's growth factor**: $\frac{1100-800}{1100}$= 0.2727
- ✓ **Aeroplane operator "Y" growth factor:** $\frac{140{,}000-90{,}000}{140{,}000}$= 0.3571

Calculation for Operator "Y" = (0.8 x 140,000 x 0.2727) + (0.2 x 140,000 x 0.3571) = 30542 + 9999= **40,541 offsets for 2031**

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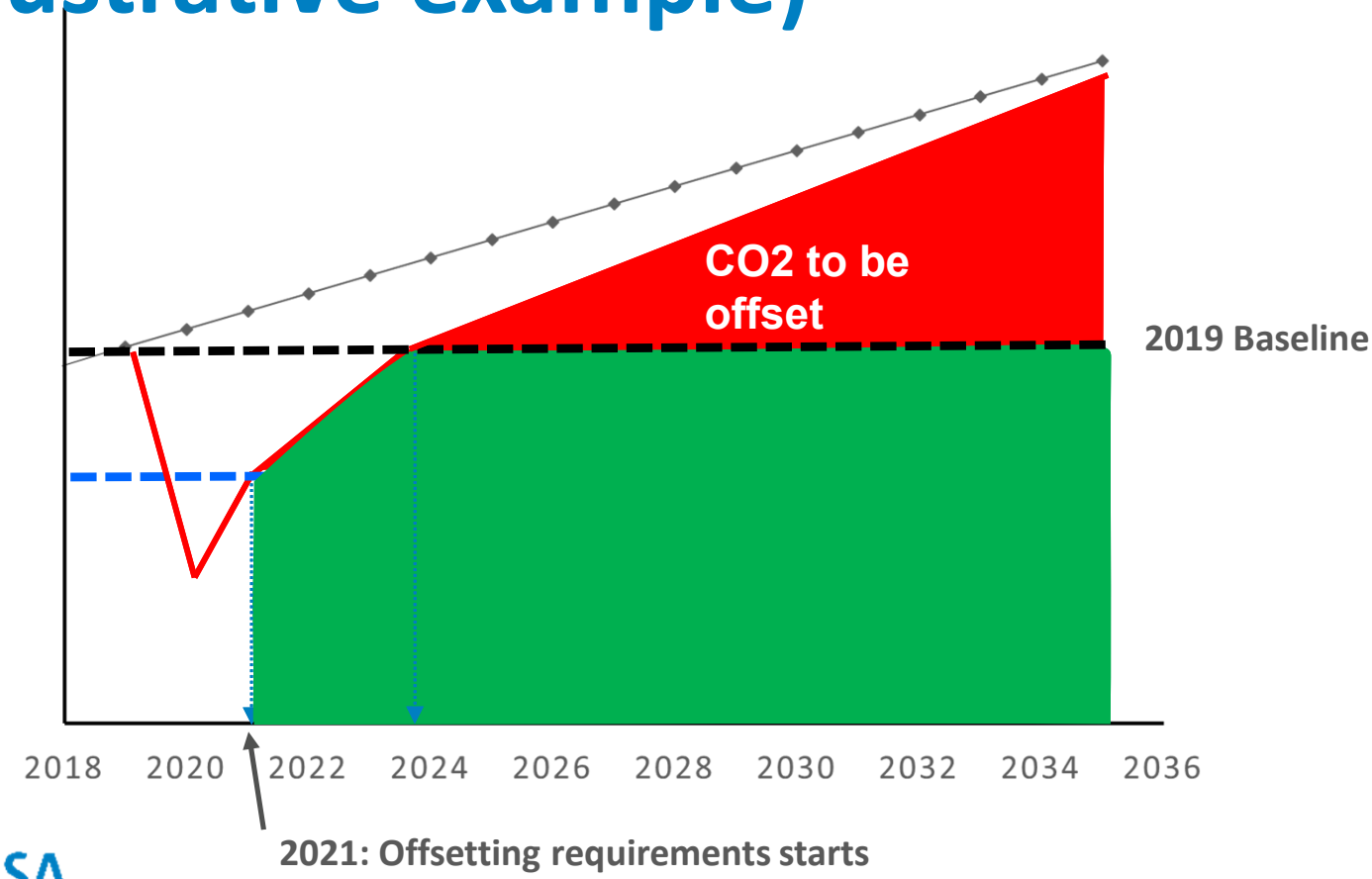
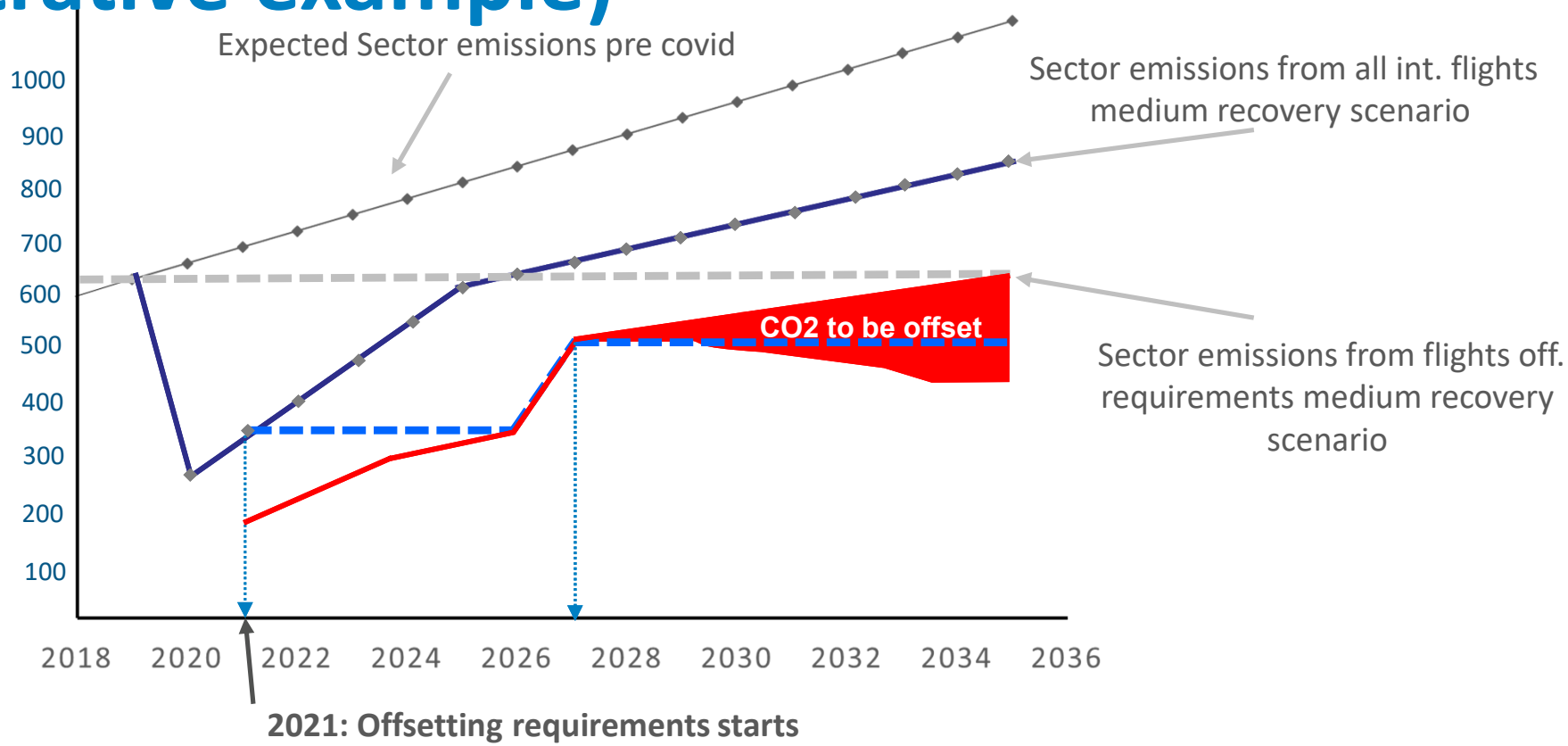
CORSIA COVID impact, change of baseline (Illustrative example)

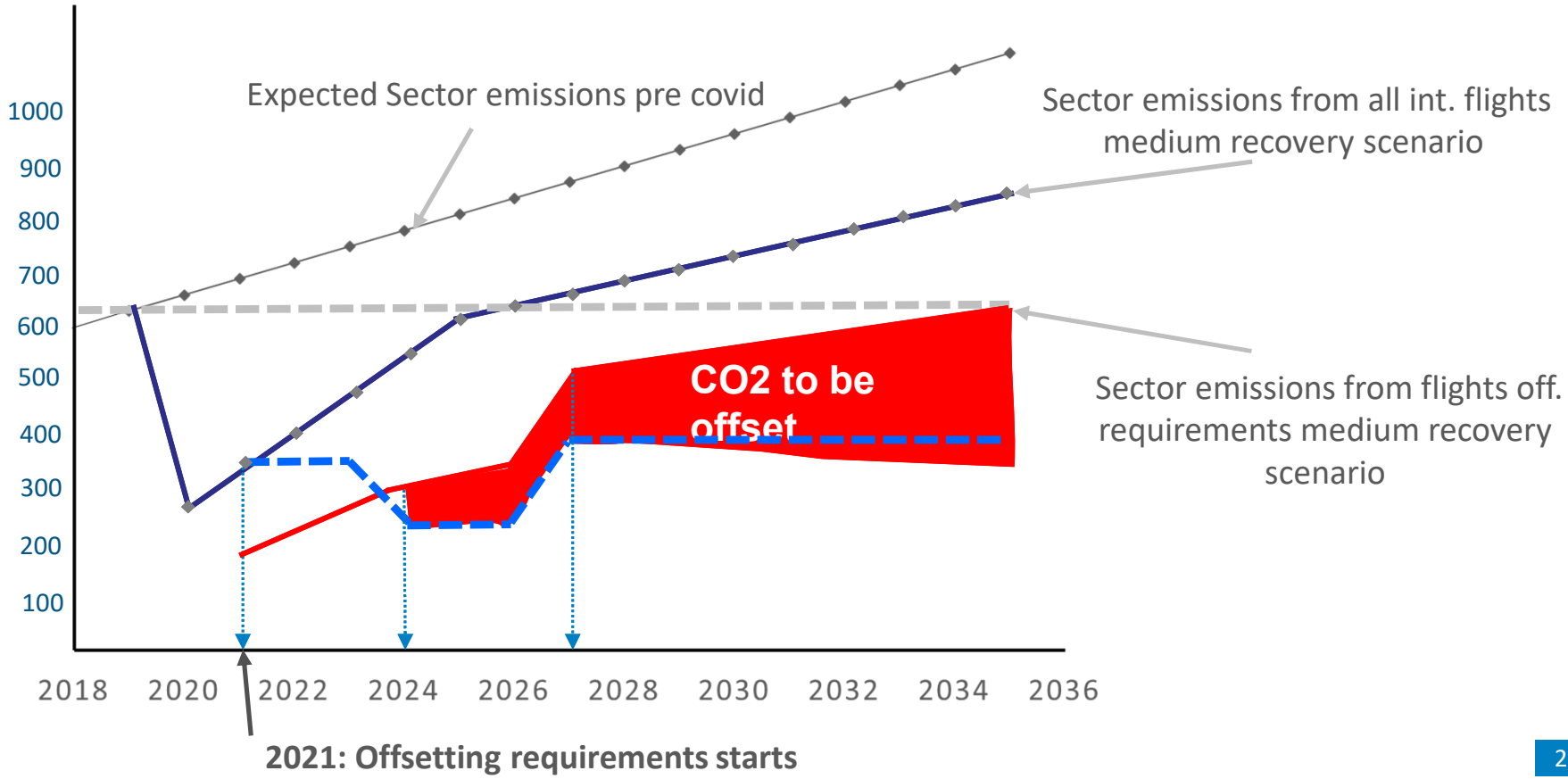


Note: 2019 Baseline for Pilot Phases only.
For future phases of CORSIA implementation beyond the pilot phase, the Council to examine the impact of COVID-19 on the CORSIA baseline when undertaking the 2022 CORSIA periodic review.

CORSIA with Baseline 2019 always (Illustrative example)



CORSIA Baseline av. 2019-2020 from 2024 (Illustrative example)



Example calculation in 2022 (for 2021 emissions with COVID 19 impact)

- ✓ **CORSIA Baseline** (2019): 330 CO2
- ✓ **Sector's CO2 emissions in 2021:** 200 MT CO2
- ✓ **2021-2029:** 100% sectoral 0% individual
- ✓ **Aeroplane Operator "Y"** emissions in 2021: 70,000 tn CO2
- ✓ **Sector's growth factor**$= \frac{200-330}{200}$= - 0.65

Calculation for Aeroplane Operator "Y" = 70,000 x (-0.65) = 0 offsets

Carbon Offsetting Requirements. Understanding the overall context

→ The change in the baseline from an average of 2019/2020 to 2019 only, in response to the COVID pandemic, for the pilot phase (2021-2023) means that most probably there will be no offsetting during the pilot phase

→ Estimated CO2 emissions not emitted until 2035 compared to 2019 level could range from 780 to 1800 MtCO2, depending on the rate of recovery. In 2016 when CORSIA was agreed, offsetting requirements from 2021-2035 were estimated at approximately 2.500 MtCO2

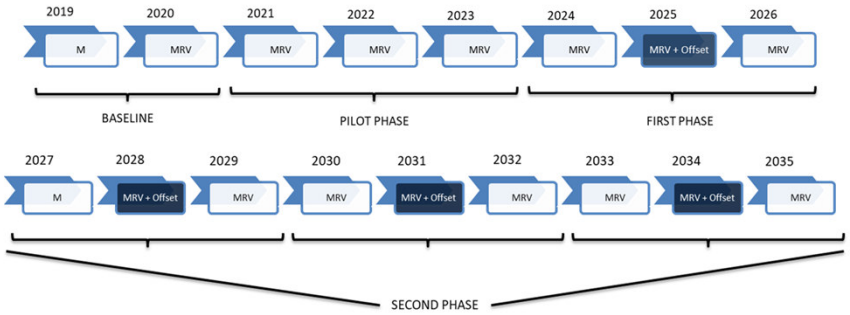
→ Total offsetting requirements are influenced by covid impact in 2020 and the rate of recovery of the sector along with the CORSIA baseline (if keeping it at 2019 or returning to average 2019-2020). If the baseline of 2019 only is kept, it is estimated that there will be limited offsetting and that offsetting requirements might be delayed to the compulsory phase

→ Total offsetting requirements and differences across aeroplane operators evolve over time and are driven by:

- the phased implementation of CORSIA (i.e., changes in States participation)
- CORSIA Baseline and the Sector Growth Factor (e.g., emissions growth in routes between participating States)
- the transition to the individual approach from 2030

Offsetting Requirements & Cancellation:

- Aeroplane operators will meet their offsetting requirements by **purchasing and cancelling CORSIA eligible emissions units.**
- Aeroplane operators will provide evidence to the State of the offsets it has purchased and cancelled every three years starting in 2025 by submitting to the State a **Verified Emission Units Cancellation Report** (EUCR)



- States to perform Order of Magnitude Check of Emission Units Cancellation Reports

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