EASA
European Union Aviation Safety Agency

EU-CORSIA
Africa & Caribbean

This project is funded by the European Union
and implemented by EASA.

EU CORSIA Africa and Caribbean

CORSIA Key elements, Offsetting and CORSIA eligible emissions units

Capacity building session for stakeholders from Namibia

Working for quieter and cleaner aviation.

22.07.2024-26.07.2024

Your safety is our mission.

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European Union Aviation Safety Agency

EU-CORSIA
Africa & Caribbean

Introduction and Presentation of the agenda

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An Agency of the European Union

Context

- → Aviation sector and emissions
- → CO2 emissions trends in the aviation sector
- → ICAO aspirational goals of CNG from 2020 and NZ by 2050
- → Role of CORSIA to reach CNG from 2020 and NZ by 2050
- → CORSIA mechanism and key features
- → MRV (EMP, ER,VR)
- → Offsetting
- → CORSIA Eligible Emissions Units

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CO2 emissions trends in the aviation sector

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Aviation Sector and Emissions

→ Aviation is **considered to be a *hard to abate* sector** due to its **barriers to reduce emissions due to:**

- Higher abatement costs compared to the rest of the economy
- High reliance on fossil fuels
- Technical barriers/costs/investments to replacing jet fuel/ and related affected value chain,
- Limited historic regulatory pressure to decarbonize

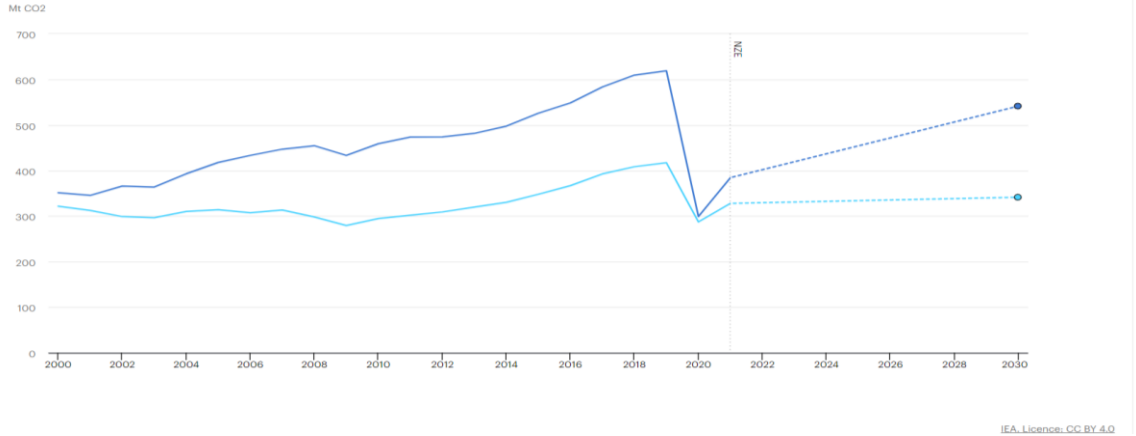
→ Aviation made great strides in fuel efficiency and operational advancements. However to reach global emission-reduction targets, it will need to move to the next level of decarbonization, and SAF is one of the option to look at

Aviation Sector and Emissions

From 1990 to 2019: emissions increasing at an average of 2.3% per year.

Covid-19 pandemic: CO2 emissions plummet from over 1 000 Mt CO_2 in 2019 to 600 Mt in 2020.

In 2021 totalled around 720 Mt CO_2, regaining nearly one-third of the fall seen in the previous year. **They are expected to continue to grow rapidly, surpassing their 2019 level in the coming few years**.



CO2 emissions trends in the aviation sector

→ Post Pandemic the International Civil Aviation Organisation (ICAO) revised their projected annual growth to 2050 from 4.2% to 3.6%.

Appendix A: Traffic Forecasts

ICAO Revenue Passenger-Kilometres (RPK) Forecasts Scenarios[1]

	10 Year (2018-2028)	20 Year (2018-2038)	30 Year (2018-2048)	32 Year (2018-2050)
Post-COVID : Low	1.2%	2.4%	2.8%	2.9%
Post-COVID : Mid	2.6%	3.3%	3.5%	3.6%
Post-COVID : High	3.6%	4.1%	4.2%	4.2%
Pre-COVID : Mid	4.2%	4.2%	4.2%	4.2%

ICAO Revenue Passenger-Kilometres (RPK) Scenarios by route group (2018-2050)[1]

Route Group	Pre-COVID	Post-COVID		
	Mid	High	Mid	Low
Africa	5.3%	5.0%	4.5%	4.0%
Africa - Asia/Pacific	5.1%	4.9%	4.3%	3.5%
Africa - Middle East	5.6%	5.2%	4.6%	3.8%
Africa - North America	2.7%	3.1%	2.5%	1.7%
Africa & Middle East - Central America/Caribbean	5.5%	4.8%	4.3%	3.6%
Africa & Middle East - South America	5.0%	4.7%	4.1%	3.3%
Central America/Caribbean	4.1%	3.9%	3.2%	2.8%
Central America/Caribbean – Europe	3.7%	3.8%	3.2%	2.6%
Central America/Caribbean - North America	3.3%	3.7%	3.0%	2.1%
Central America/Caribbean - South America	4.2%	3.9%	3.3%	2.6%
China – Europe	4.2%	4.0%	3.4%	2.7%
China - Middle East	4.7%	4.5%	3.8%	3.0%
China - North America	4.3%	4.2%	3.5%	2.7%
China & South West Asia - North Asia	6.7%	6.3%	5.5%	4.4%
China & South West Asia - Pacific South East Asia	6.1%	5.9%	5.2%	4.4%
China/Mongolia	4.7%	5.0%	4.3%	3.4%

CO2 emissions trends in the aviation sector

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Africa - North America	2.7%	3.1%	2.5%	1.7%
Africa & Middle East - Central America/Caribbean	5.5%	4.8%	4.3%	3.6%
Africa & Middle East - South America	5.0%	4.7%	4.1%	3.3%
Central America/Caribbean	4.1%	3.9%	3.2%	2.8%
Central America/Caribbean – Europe	3.7%	3.8%	3.2%	2.6%
Central America/Caribbean - North America	3.3%	3.7%	3.0%	2.1%
Central America/Caribbean - South America	4.2%	3.9%	3.3%	2.6%
China – Europe	4.2%	4.0%	3.4%	2.7%
China - Middle East	4.7%	4.5%	3.8%	3.0%
China - North America	4.3%	4.2%	3.5%	2.7%
China & South West Asia - North Asia	6.7%	6.3%	5.5%	4.4%
China & South West Asia - Pacific South East Asia	6.1%	5.9%	5.2%	4.4%
China/Mongolia	4.7%	5.0%	4.3%	3.4%

Passenger air traffic surpasses pre-pandemic levels

Montréal, 27 February 2024 – In the first quarter of 2024, ICAO projects that passenger air traffic levels will be around 2% higher than in 2019, with airlines expected to sustain their operating profitability seen in 2023.

"The commitment of ICAO's Member States to aligning their pandemic responses with the guidance developed by the ICAO Council has been crucial to the recovery of their air services," remarked ICAO Council President Salvatore Sciacchitano. "The implementation of ICAO's post-pandemic guidance is now equally crucial to ensuring the resilience and sustainability of this recovery."

Demand this year is forecast to be around 3% above 2019 levels, and could reach 4% if the pace of recovery strengthens in the routes that have not yet reached pre-pandemic levels. This translates to a Compound Annual Growth Rate (CAGR) of around 0.5% over the 2019-2024 period.

CO2 emissions trends in the aviation sector

Technical measures related to low-carbon fuels, improvements in aircraft and engines, operational optimisation are needed to curb growth in emissions and ultimately reduce them this decade.

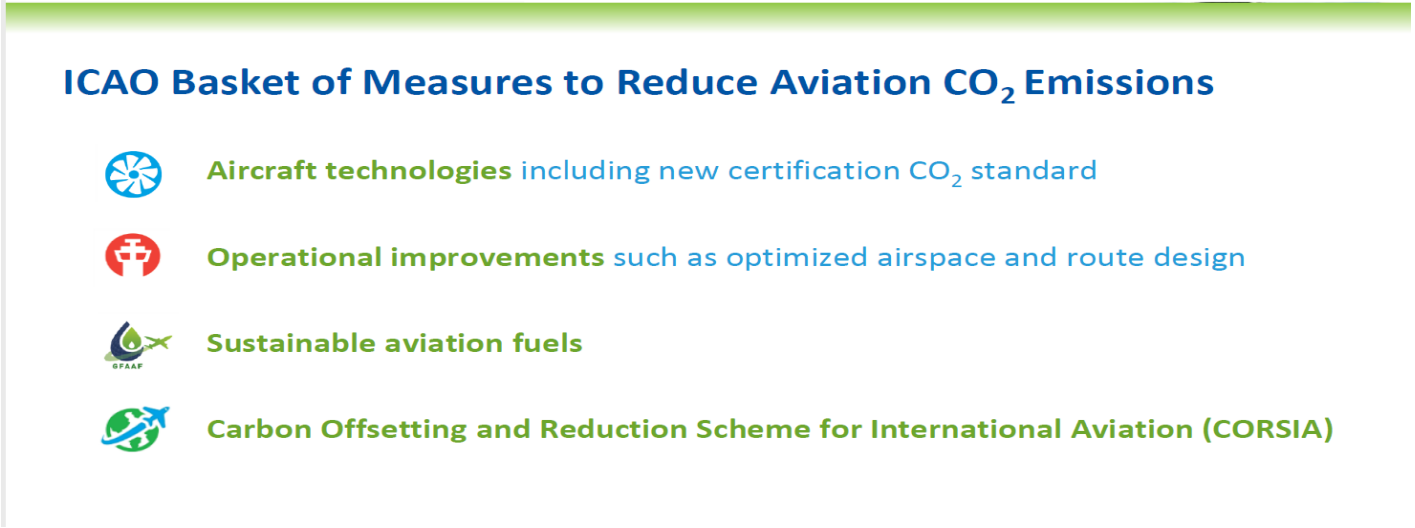
ICAO's engagement can be summarised as following:

ICAO aspirational goals

- → Annual 2% of fuel efficiency improvement through 2050,
- → Carbon Neutral Growth from 2020
- → Net Zero by 2050

How to achieve ICAO aspirational goals?

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



ICAO A40 context-pre COVID- CORSIA

CORSIA was designed and developed to fill in the gaps between aircraft technology, operational improvement and SAF to stabilise CO2 emissions at 2020 level

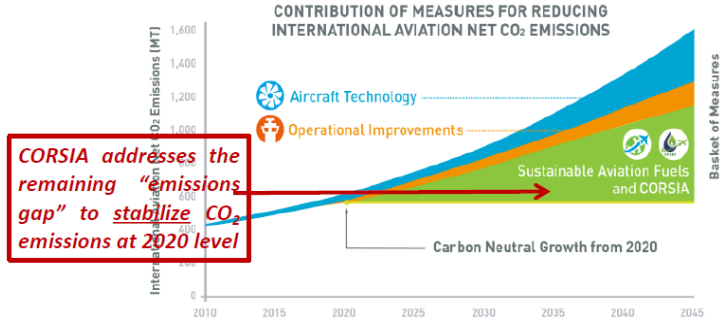
CORSIA

Adopted by ICAO at its 39th Assembly in 2016

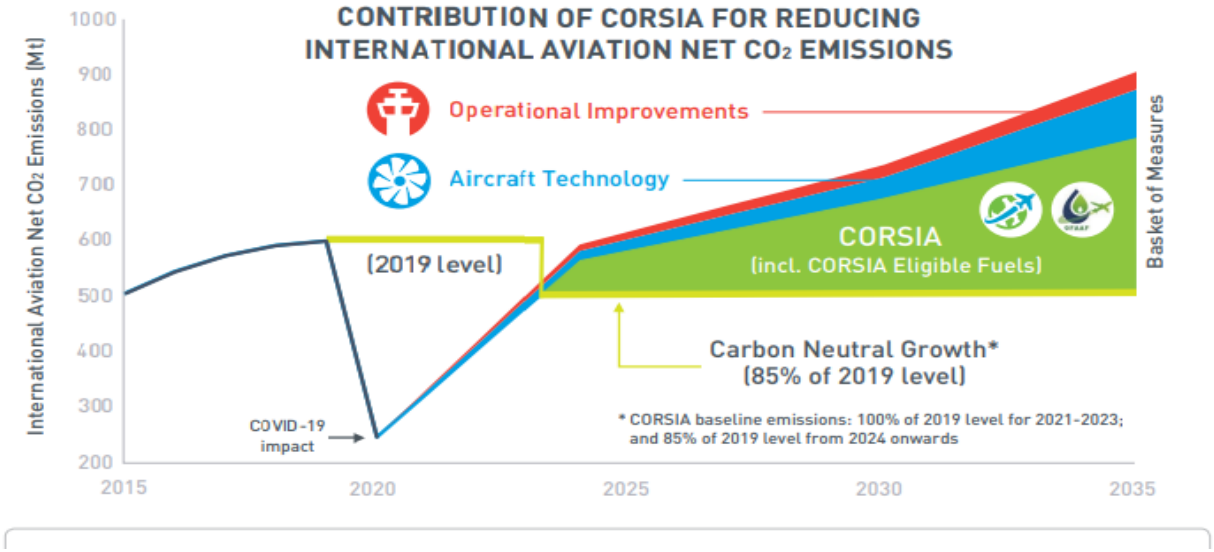
The **first global MBM scheme** for any industry sector

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**:

- **aircraft technology**
- **operational improvements**
- **sustainable aviation fuels**



ICAO A41 context-post COVID



ICAO Net Zero Target- role of each measure

Scenario 1:

Category	ICAO
Aircraft Technology	20%
Operation Improvement	4%
SAF	15%
MBM	61%

Scenario 2

Category	ICAO
Aircraft Technology	21%
Operation Improvement	6%
SAF	41%
MBM	32%

Scenario 3

Category	ICAO
Aircraft Technology	21%
Operation Improvement	11%
SAF	55%
MBM	13%

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CORSIA Mechanism

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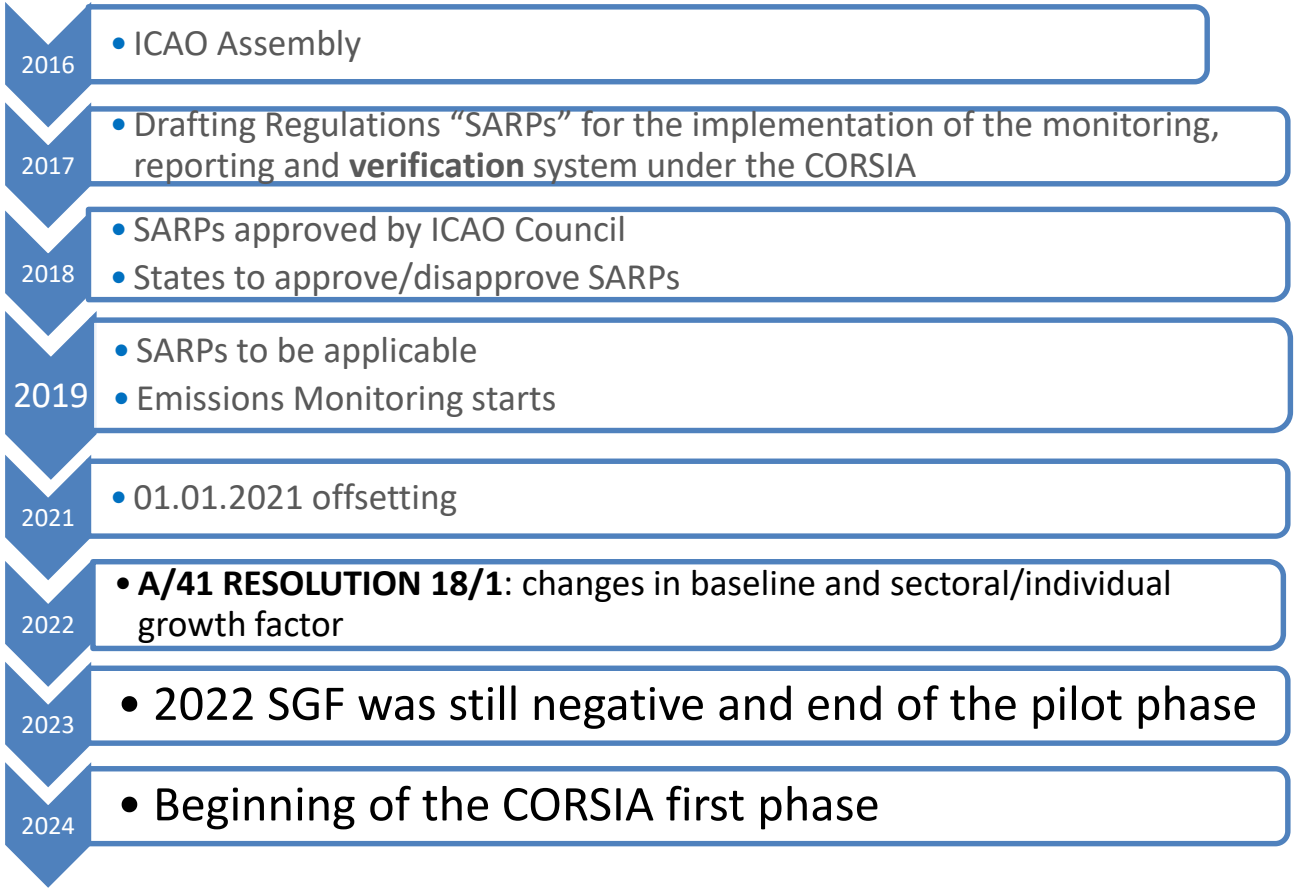
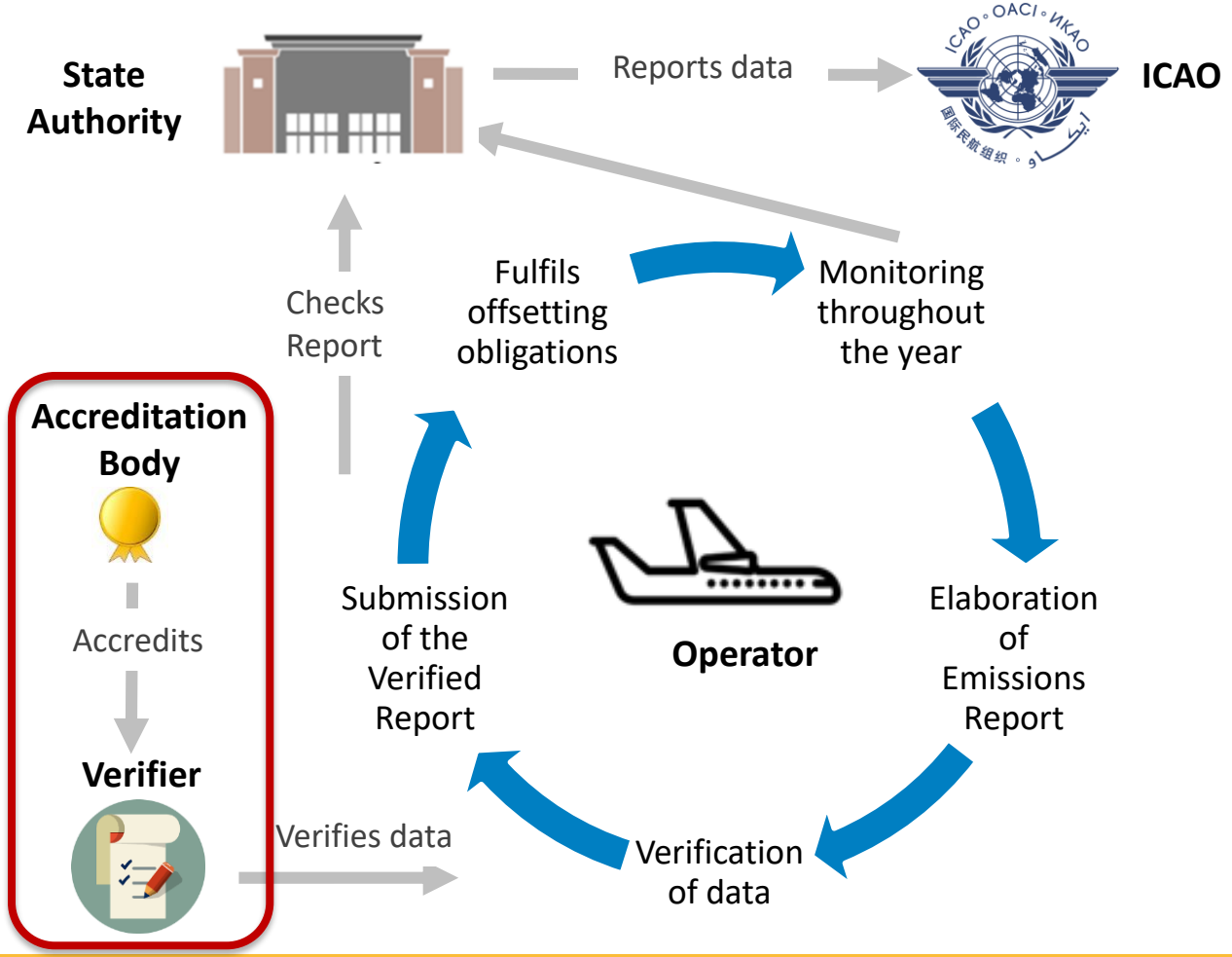
CORSIA Process




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

Understanding CORSIA's Nature

Understanding CORSIA's Nature

CO_2

- → Carbon Dioxide Emissions
- → Fuel burnt * Emission Factor 3.16

Understanding CORSIA's Nature

Offsetting

- → CORSIA is an offsetting scheme. Different to emissions trading systems like EU ETS
- → Carbon pricing: treats CO2 as an economic cost, creating a "price"
  - → "Polluter pays" principle
- → Compensates emissions from one sector through emissions reductions elsewhere. 1 offset = 1 tonne of CO2 (tCO2)

Understanding CORSIA's Nature

Reduction Scheme

→ CORSIA designed as a global MBM to help reducing emissions as gap filler to achieve ICAO's goal of carbon neutral growth from (CNG 2020). Complementary to aircraft technology, operational improvements sustainable aviation fuels.

Understanding CORSIA's Nature

International Aviation

- It addresses emissions from international flights
- International flight? Aircraft departing from a State and landing in another one

CORSIA Main Obligations

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

MRV
From 2019

Offsetting
from 2021

Phased Implementation

2021-2023: (Pilot Phase) States can voluntarily opt-in.

2024-2026: First Phase, States can also voluntarily opt-in.

“Voluntary Phase”

2027-2035: Second Phase, All states unless exempted (although they can volunteer to participate)

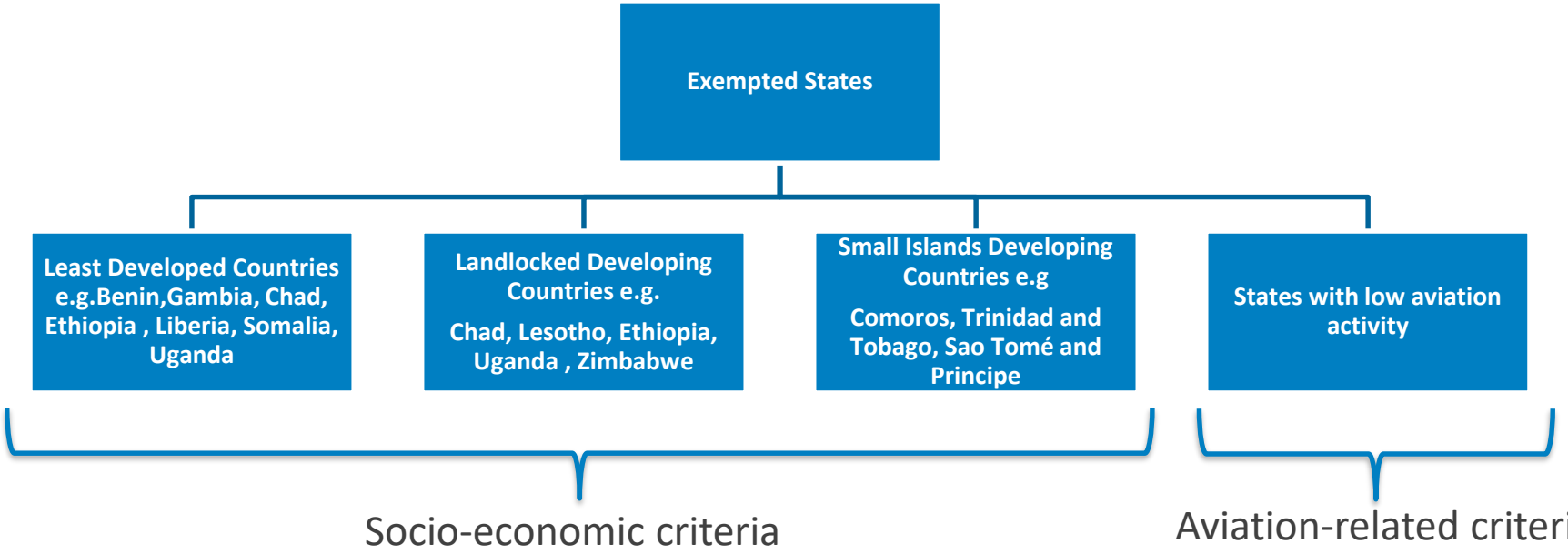
“Mandatory Phase”

→ Decision to be taken before 30 June every year, starting in 2020

Phased Implementation

- **Participation** of States determines the coverage of emissions to be offset by CORSIA.
- **All States** need to implement CORSIA. All international flights to be monitored, verified and reported (unless the operator excluded)
- A flight covered by CORSIA for offsetting requirements if both States connecting the flight are participating
- A flight will not be covered by CORSIA for offsetting requirements if one or both of States connecting the flight are not participating
- **Equal treatment** on the same routes, regardless the nationality of the aeroplane operator

Exempted States



States with low activity: (2018 RTK) below 0.5% individually, or beyond 90% in cumulative terms

LDC, LLC, SIDS

Map of Landlocked Developing Countries

[32 countries]
Africa 16, Asia 12, Latin America 2, Central and Eastern Europr 2

UN list of least developed countries

There are currently 45 economies designated by the United Nations as the least developed countries (LDCs), entitl
preferential market access, aid, special technical assistance, and capacity-building on technology among other con

Least Developed Countries (LDCs)

(45 countries)

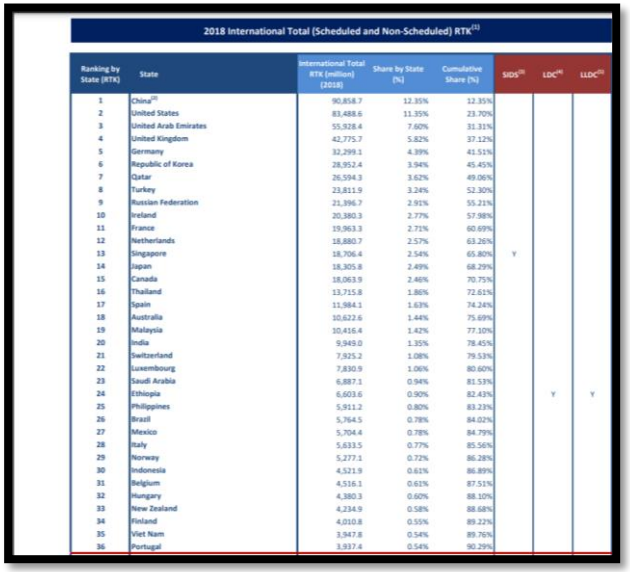
Africa 33, Asia 8, Caribbean 1, Pacific 3

Small Island Developing States

1. Antigua and Barbuda
2. Bahamas
3. Barbados
4. Belize
5. Cabo Verde
6. Comoros*
7. Cook Islands
8. Cuba
9. Dominica
10. Dominican Republic
11. Fiji
12. Grenada
13. Guinea-Bissau*
14. Guyana
15. Haiti*
16. Jamaica
17. Kiribati*
18. Maldives
19. Marshall Islands
20. Micronesia (Federated States of)
21. Mauritius
22. Nauru
23. Niue
24. Palau
25. Papua New Guinea
26. Samoa
27. São Tomé and Príncipe*
28. Singapore
29. St. Kitts and Nevis
30. St. Lucia
31. St. Vincent and the Grenadines
32. Seychelles
33. Solomon Islands*
34. Suriname
35. Timor-Leste*
36. Tonga
37. Trinidad and Tobago
38. Tuvalu*
39. Vanuatu

* Also Least Developed Country

Namibia n. 91 : 0,02%Individual and 99,59% global



2018 International Total (Scheduled and Non-Scheduled) RTK[1]

Ranking by State (RTK)	State	International Total RTK (million) (2018)	Share by State (%)	Cumulative Share (%)	SIDS[3]	LDC[4]	LLDC[5]
1	China[2]	90,858.7	12.35%	12.35%			
2	United States	83,488.6	11.35%	23.70%			
3	United Arab Emirates	55,928.4	7.60%	31.31%			
4	United Kingdom	42,775.7	5.82%	37.12%			
5	Germany	32,299.1	4.39%	41.51%			
6	Republic of Korea	28,952.4	3.94%	45.45%			
7	Qatar	26,594.3	3.62%	49.06%			
8	Turkey	23,811.9	3.24%	52.30%			
9	Russian Federation	21,396.7	2.91%	55.21%			
10	Ireland	20,380.3	2.77%	57.98%			
11	France	19,963.3	2.71%	60.69%			
12	Netherlands	18,880.7	2.57%	63.26%			
13	Singapore	18,706.4	2.54%	65.80%	Y		
14	Japan	18,305.8	2.49%	68.29%			
15	Canada	18,063.9	2.46%	70.75%			
16	Thailand	13,715.8	1.86%	72.61%			
17	Spain	11,984.1	1.63%	74.24%			
18	Australia	10,622.6	1.44%	75.69%			
19	Malaysia	10,416.4	1.42%	77.10%			
20	India	9,949.0	1.35%	78.45%			
21	Switzerland	7,925.2	1.08%	79.53%			
22	Luxembourg	7,830.9	1.06%	80.60%			
23	Saudi Arabia	6,887.1	0.94%	81.53%			
24	Ethiopia	6,603.6	0.90%	82.43%		Y	Y
25	Philippines	5,911.2	0.80%	83.23%			
26	Brazil	5,764.5	0.78%	84.02%			
27	Mexico	5,704.4	0.78%	84.79%			
28	Italy	5,633.5	0.77%	85.56%			
29	Norway	5,277.1	0.72%	86.28%			
30	Indonesia	4,521.9	0.61%	86.89%			
31	Belgium	4,516.1	0.61%	87.51%			
32	Hungary	4,380.3	0.60%	88.10%			
33	New Zealand	4,234.9	0.58%	88.68%			
34	Finland	4,010.8	0.55%	89.22%			
35	Viet Nam	3,947.8	0.54%	89.76%			
36	Portugal	3,937.4	0.54%	90.29%			

83	Turkmenistan	245.3	0.03%	99.39%			Y
84	Cambodia	223.4	0.03%	99.42%		Y	
85	Iraq	203.9	0.03%	99.45%			
86	Republic of Moldova	192.1	0.03%	99.48%			Y
87	Nepal	184.9	0.03%	99.50%		Y	Y
88	Bolivia (Plurinational State of)	183.1	0.02%	99.53%			Y
89	Rwanda	176.2	0.02%	99.55%		Y	Y
90	Slovakia	156.2	0.02%	99.57%			
91	Namibia	153.2	0.02%	99.59%			
92	Croatia	151.4	0.02%	99.61%			
93	Suriname	139.7	0.02%	99.63%	Y		

AO attributed to Namibia and CORSIA

ICAO document — CORSIA States for Chapter 3 State Pairs

CORSIA States for Chapter 3 State Pairs

The following 107 States will participate in CORSIA from 1 January 2022:

Afghanistan
Albania
Armenia
Australia
Austria
Azerbaijan
Bahamas
Barbados
Belgium
Belize
Benin
Bosnia and Herzegovina
Botswana
Bulgaria
Burkina Faso
Cameroon
Canada
Cook Islands
Costa Rica
Côte d'Ivoire
Croatia
Cyprus
Czechia
Democratic Republic of the Congo
Denmark
Dominican Republic
El Salvador
Equatorial Guinea
Estonia
Finland
France
Gabon
Gambia
Georgia
Germany
Ghana
Guyana
Honduras
Hungary
Iceland
Indonesia
Ireland
Israel
Italy
Jamaica
Japan
Kazakhstan
Kenya
Kiribati
Latvia
Lithuania
Luxembourg
Madagascar
Malaysia
Mali
Malta
Marshall Islands
Mexico
Monaco
Montenegro
Namibia
Nauru
Netherlands
New Zealand
Nigeria
North Macedonia
Norway
Oman
Palau
Papua New Guinea
Philippines
Poland

ICAO

INTERNATIONAL CIVIL AVIATION ORGANIZATION

ICAO document

CORSIA Aeroplane Operator to State Attributions

December 2023

CORSIA

Carbon Offsetting and Reduction Scheme for International Aviation

ICAO document — CORSIA Aeroplane Operator to State Attributions *Dec 2023*

State	Aeroplane Operator Name	Attribution Method	Identifier
Myanmar	Myanmar Airways International Company Limited	ICAO Designator	MMA
Myanmar	Myanmar National Airlines	ICAO Designator	UBA
Nepal	Himalaya Airlines Pvt. Ltd.	ICAO Designator	HIM
Nepal	Nepal Airlines Corporation	ICAO Designator	RNA
Netherlands*	Corendon Dutch Airlines B.V	ICAO Designator	CND
Netherlands*	KLM Cityhopper B.V.	ICAO Designator	KLM/KLC
Netherlands*	Koningklijke Luchtvaart Maatschappij N.V.	ICAO Designator	KLM
Netherlands*	Martinair Holland N.V	ICAO Designator	MPH
Netherlands*	Transavia Airlines C.V.	ICAO Designator	TRA
Netherlands*	TUI Airlines Nederland B.V. (TUIfly)	ICAO Designator	TFL
New Zealand	Air New Zealand Ltd	Air Operator Certificate	AOC12861
Nigeria	Air Peace	ICAO Designator	APK
Norway	Flyr AS	ICAO Designator	FOX
Norway	Norse Atlantic Airways AS	ICAO Designator	NBT
Norway	Norwegian Air Shuttle AOC AS	ICAO Designator	NOZ
Norway	Wideroe AS	ICAO Designator	WIF
Oman	Oman Air	Air Operator Certificate	OMA
Oman	Salam Air	Air Operator Certificate	OMS
Pakistan	Air Sial Limited	ICAO Designator	SIF
Pakistan	Airblue Limited	ICAO Designator	ABQ
Pakistan	Pakistan International Airlines Corporation	ICAO Designator	PIA

EASA

New Entrant

- New entrant (AO) will have to monitor its emissions from 01 January from the year after it falls under MRV applicability (10,000 tons) and submit an EMP at the latest by 31 March of the year when it begins monitoring
- A new entrant AO should review its emissions against 0.1% threshold of total CO2 emissions from international flights in 2019 on an annual basis during the provisional 3 year new entrant offsetting exception period and assess whether it has offsetting requirements in the subsequent year

New Entrant

- New entrant (A0) is exempted from CORSIA OFFSETTING requirements for the first 3 years, or until its annual emissions exceed 0.1% of total 2019 CO2 emissions from international flights whichever comes first
- Operators A and B fall within the scope of CORSIA in 2022

Operator	**Emissions (% of total emissions in 2019)**			
	2022	**2023**	**2024**	**2025**
A	0.02	0.04	0.06	0.08
B	0.06	0.11	0.16	0.21

Key Documents

ICAO Standards and Recommended Practices (SARPs)

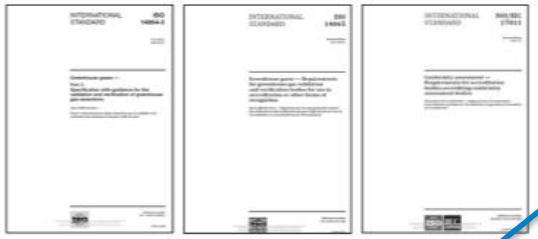
Annex 16 - Environmental Protection, Volume IV: CORSIA

ICAO Guidance

Environmental Technical Manual (ETM), Volume IV (Doc 9501): CORSIA

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".*

CORSIA/ISO
ICAO SARPS
Annex 16, Vol IV
1st edition

CORSIA/ISO
ICAO SARPS
Annex 16, Vol IV
2st edition

Implementation Elements:

- → CORSIA States for Chapter 3 State Pairs
- → ICAO Estimation and Reporting Tool (CERT)
- → CORSIA Eligible Fuels
- → CORSIA Eligible Emission Units
- → CORSIA Central Registry

Title	External Organization	Publication date
IAF MD 6:2014	IAF	2014
ISO 14066:2011	ISO	2011
ISO/IEC 17011:2017	ISO	2017
ISO/IEC 17029:2019	ISO	2019
ISO 14064-3:2019	ISO	2019
ISO 14065:2020	ISO	2020

EASA

CORSIA Eligible Emission Units

- CORSIA Implementation element referenced in CORSIA SARPs
- **ICAO Document CORSIA Eligible Emission Units: 9 Emissions Unit Programme approved by the ICAO Council to supply CORSIA Eligible Emissions Units**
- **During the 228th Session of the ICAO Council (March 2023):**

- approving a **2021 vintage start date** general eligibility parameter for all CORSIA Eligible Emissions Units that are approved for use in the CORSIA first phase (2024-2026 compliance period)
- the addition of the **American Carbon Registry** and **Architecture for REDD+ Transactions** to supply CORSIA eligible emissions units for the CORSIA first phase
- **2023 assessment cycle**, ICAO opened the call for application for emissions unit programmes that wish to be considered for eligibility under CORSIA for the first phase and to apply for assessment by the TAB against the **CORSIA Emissions Unit Criteria (EUC)**. (Application available for comments from April 2023 on ICAO website)

As reflected in Doc. “CORSIA States for Chapter 3 State Pairs”, LATEST VERSION OCTOBER 2023- 126 States

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INTERNATIONAL CIVIL AVIATION ORGANIZATION

ICAO document

CORSIA States for Chapter 3 State Pairs

October 2023

CORSIA

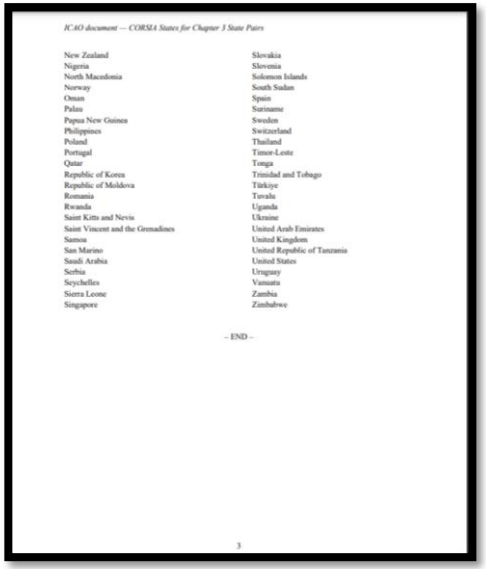
Carbon Offsetting and Reduction Scheme for International Aviation

CORSIA States for Chapter 3 State Pairs

The following 126 States will participate in CORSIA from 1 January 2024:

Afghanistan
Albania
Antigua and Barbuda
Armenia
Australia
Austria
Azerbaijan
Bahamas
Bahrain
Barbados
Belgium
Belize
Benin
Bosnia and Herzegovina
Botswana
Bulgaria
Burkina Faso
Cambodia
Cameroon
Canada
Cook Islands
Costa Rica
Côte d'Ivoire
Croatia
Cuba
Cyprus
Czechia
Democratic Republic of the Congo
Denmark
Dominican Republic
Ecuador
El Salvador
Equatorial Guinea
Estonia
Finland
France
Gabon
Gambia
Georgia
Germany
Ghana
Greece
Grenada
Guatemala
Guyana
Haiti
Honduras
Hungary
Iceland
Indonesia
Iraq
Ireland
Israel
Italy
Jamaica
Japan
Kazakhstan
Kenya
Kiribati
Kuwait
Latvia
Lithuania
Luxembourg
Madagascar
Malawi
Malaysia
Maldives
Mali
Malta
Marshall Islands
Mauritius
Mexico
Micronesia (Federated States of)
Monaco
Montenegro
Namibia
Nauru
Netherlands

2



ICAO document — CORSIA States for Chapter 3 State Pairs

New Zealand
Nigeria
North Macedonia
Norway
Oman
Palau
Papua New Guinea
Philippines
Poland
Portugal
Qatar
Republic of Korea
Republic of Moldova
Romania
Rwanda
Saint Kitts and Nevis
Saint Vincent and the Grenadines
Samoa
San Marino
Saudi Arabia
Serbia
Seychelles
Sierra Leone
Singapore
Slovakia
Slovenia
Solomon Islands
South Sudan
Spain
Suriname
Sweden
Switzerland
Thailand
Timor-Leste
Tonga
Trinidad and Tobago
Türkiye
Tuvalu
Uganda
Ukraine
United Arab Emirates
United Kingdom
United Republic of Tanzania
United States
Uruguay
Vanuatu
Zambia
Zimbabwe

– END –

3

CORSIA DOCUMENTS

SARPs Annex 16 Volume IV	ETM Volume IV (Doc 9501)	CORSIA Implementation Elements (5)	CORSIA National Regulation
			Namibia regulation (directive to transpose Annex 16, Vo. IV, first edition, now under revision and expected by October 2024)

ICAO proposed good practices for CORSIA regulations

- ICAO developed model regulations that aim to facilitate the establishment of a regulatory system for the CORSIA monitoring, reporting and verification (MRV) system by ICAO's Member States, in compliance with the Annex 16, Volume IV.
- The model regulations are provided for illustrative purposes and do not supersede or replace Annex 16, Volume IV.

Edition n. 1- Version 2018-

https://www.icao.int/Meetings/RS2019/Documents/Presentations/Training%20Material%20on%20Model%20Regulations%20to%20Assist%20States%20in%20the%20Implementation%20of%20CORSIA.en.pdf

Edition n.2- Version 2023-

https://www.icao.int/environmental-protection/CORSIA/Documents/Training%20material%20on%20model%20regulations%20to%20assist%20States%20in%20the%20implementation%20of%20CORSIA_v2_2023_forweb.pdf

ICAO STATE LETTER-28.04.2023-

International Civil Aviation Organization | Organisation de l'aviation civile internationale | Organización de Aviación Civil Internacional | Международная организация гражданской авиации | منظمة الطيران المدني الدولي | 国际民用航空组织

Tel.: +1 514 954-8219 ext. 6726

Ref.: AN 1/17.14 — 23/38

28 April 2023

Subject: Adoption of Amendment 1 to Annex 16, Volume IV

Action Required: a) Notify any disapproval before 31 July 2023; b) Notify any differences and compliance before 1 December 2023; c) Consider the use of the Electronic Filing of Differences (EFOD) System for notification of differences and compliance

Sir/Madam,

1. I have the honour to inform you that Amendment 1 to the *International Standards and Recommended Practices, Environmental Protection — Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)* (Annex 16, Volume IV to the Convention on International Civil Aviation) was adopted by the Council at the fifth meeting of its 228th Session on 20 March 2023. Copies of the Amendment and the Resolution of Adoption are available as attachments to the electronic version of this State letter on the ICAO-NET (http://portal.icao.int) where you can access all other relevant documentation.

2. When adopting the amendment, the Council prescribed 31 July 2023 as the date on which it will become effective, except for any part concerning which a majority of Contracting States have registered their disapproval before that date. In addition, the Council resolved that Amendment 1, to the extent it becomes effective, will become applicable on 1 January 2024 for the elements concerning the development and application of Standards and Recommended Practices (SARPs) for CORSIA.

Annex 16, Volume IV, 2nd Edition

- ICAO Council adopted the amendments on 20 March
- State letter released on 28 April
- Effective on 31 July (if a majority of States won't disapprove)
- States to notify any differences between the national regulations and the amendment by 1 December
- Applicable 1 January 2024

International Civil Aviation Organization | Organisation de l'aviation civile internationale | Organización de Aviación Civil Internacional | Международная организация гражданской авиации | منظمة الطيران المدني الدولي | 国际民用航空组织

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3. Amendment 1 arises from: the recommendations of the twelfth meeting of the Committee on Aviation Environmental Protection (CAEP/12); Amendment 7 to Annex 7 — *Aircraft Nationality and Registration Marks*; and the adoption by the 41st Session of the ICAO Assembly of Resolution A41-22, *Consolidated statement of continuing ICAO policies and practices related to environmental protection – Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)* and concerns:

a) clarification on technical matters related to monitoring, reporting and verification provisions;

b) definition of an offsetting threshold for aeroplane operators with low levels of international aviation activity;

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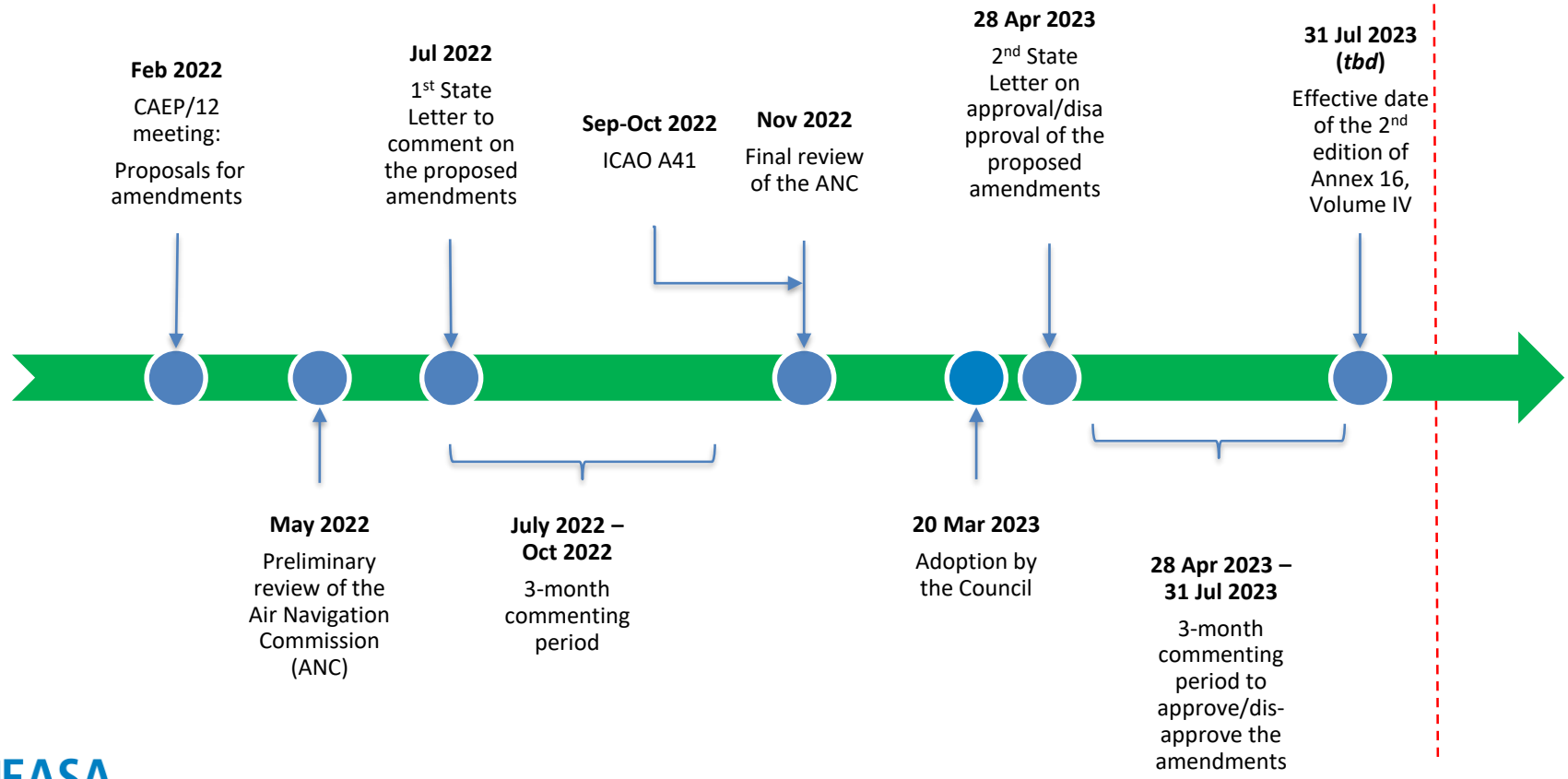
Annex 16, Volume IV, 2nd Edition - Timeline



Key changes in ICAO, SARPs ANNEX 16, Vol IV, Edition n. 2

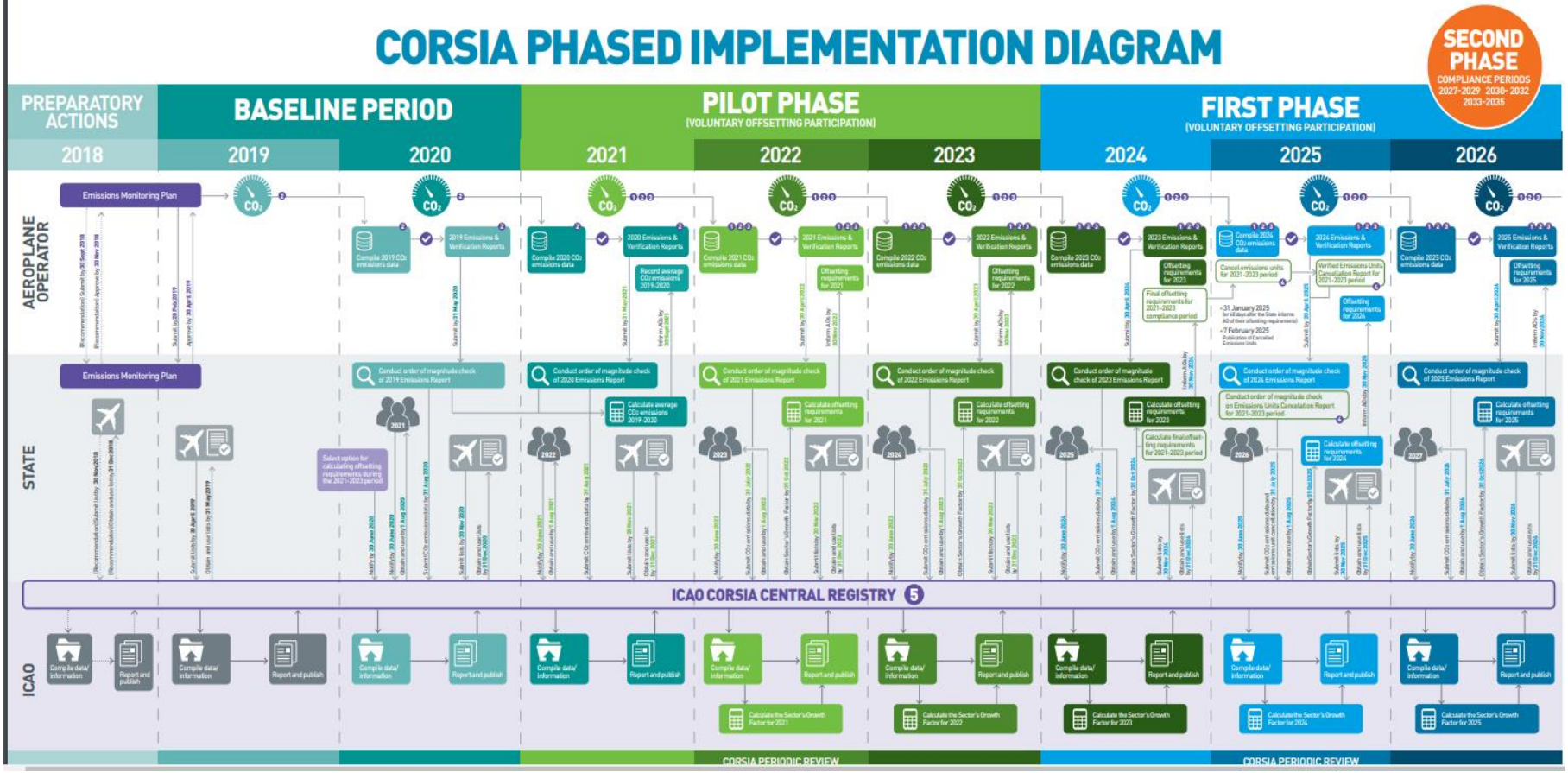
Technical matters related to monitoring, reporting and verification provisions;

Definition of an **offsetting threshold for aeroplane operators with low levels of international aviation activity;**

Calculation of **offsetting requirements for new aeroplane operators that do not qualify as new entrants;**

Alignment of verification-related contents with the latest applicable editions of Standards of the International Organization for Standardization (ISO) referenced in Annex 16, Volume IV;

CORSIA PHASED IMPLEMENTATION DIAGRAM



EASA
European Union Aviation Safety Agency

EU-CORSIA
Africa & Caribbean

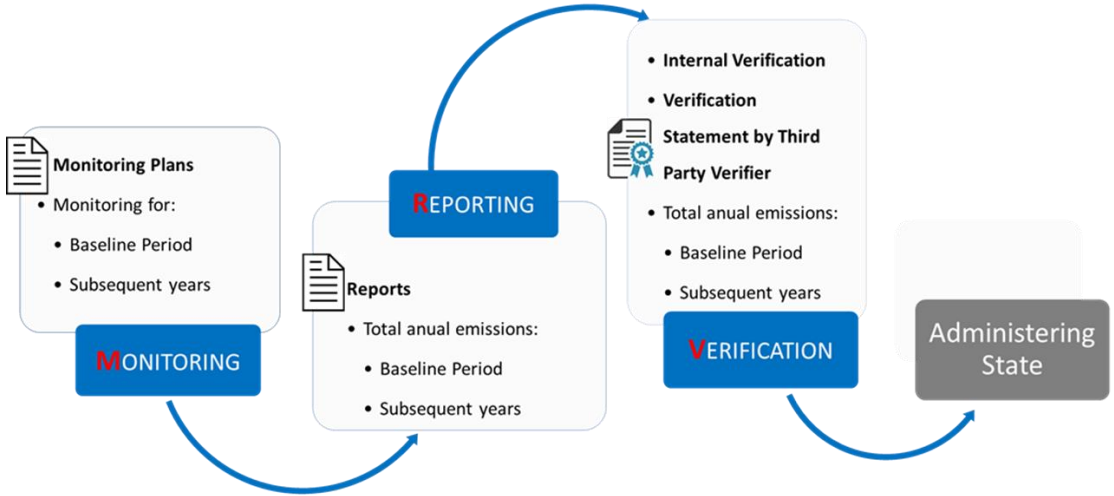
Scope of MRV under CORSIA

Your safety is our mission.

An Agency of the European Union

MRV SCOPE

- A key component of CORSIA implementation
  - Needed to determine the CORSIA baseline
  - Needed to collect information on international aviation CO2 emissions on an annual basis and compare emissions from 2021 against the baseline emissions. Not all flights subject to offsetting requirements



Applicability of MRV Requirements

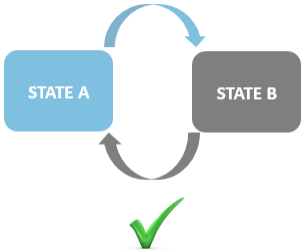
→ MRV requirements apply to aeroplane operators that:

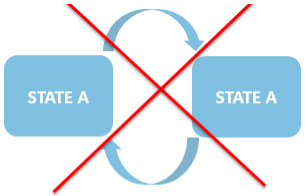
→ Use of airplane with Max. Certified take-off mass of 5,700 Kg.

Flights performed with smaller aircraft not accounted for.

All helicopters + aeroplanes with MTOM ≤ 5,700kg excluded

→ Performs international flights on or after 1/1/2019





Applicability of MRV Requirements

→ Excluding humanitarian, medical & firefighting

(Also the preceding or following flight if performed with same aeroplane and was required the humanitarian, medical or firefighting flight or to reposition the aeroplane for its next activity)

Civil operations: Scheduled flights, Non-scheduled flights, Cargo, Business aviation, General aviation are covered

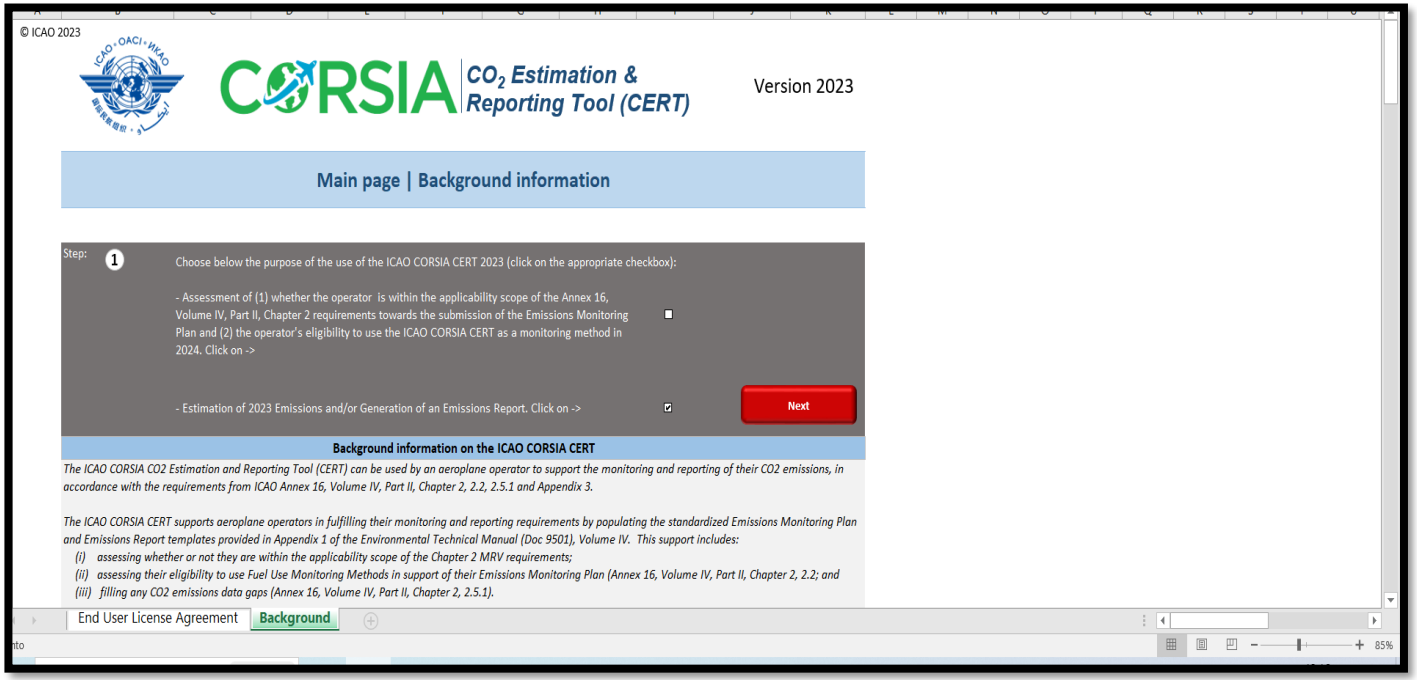
Heads of State flights, Military, Customs and police not covered

→ **Considering all the above, it produces > 10,000 tonnes of CO2**

Equivalent to aprox. 4 million litres of fuel

How to understand if AO falls under MRV?

→ ICAO CERT, latest updated version (currently 2023 Version).



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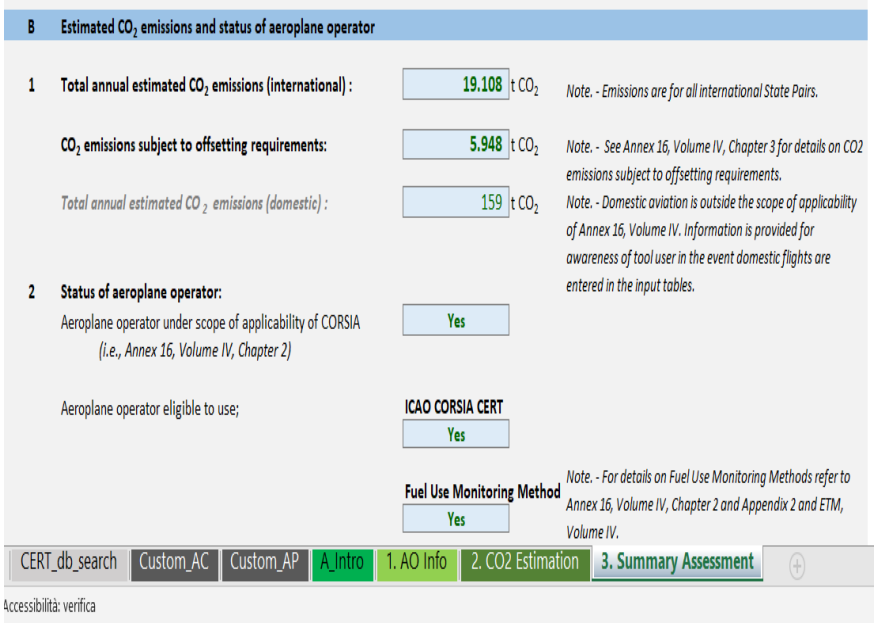
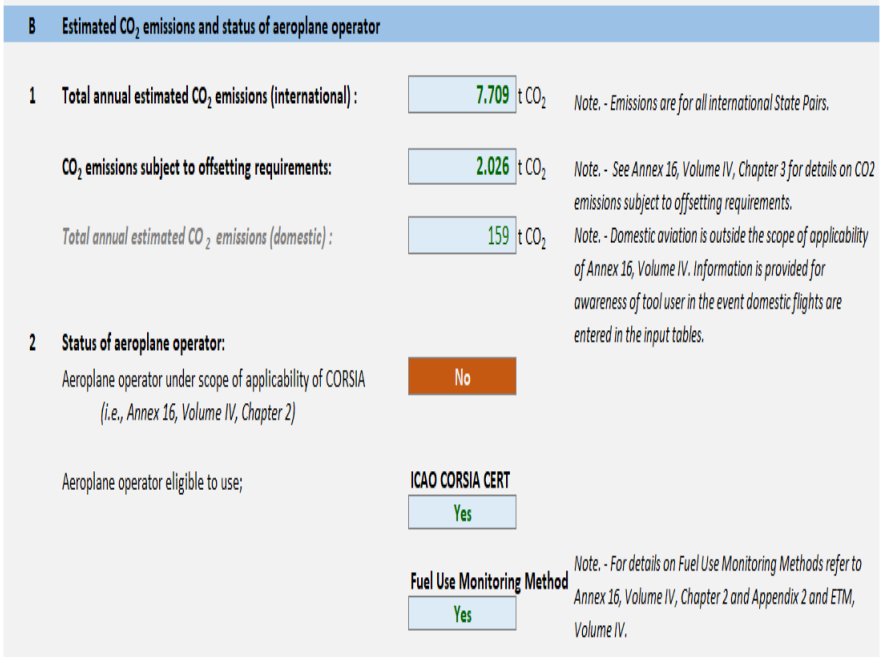


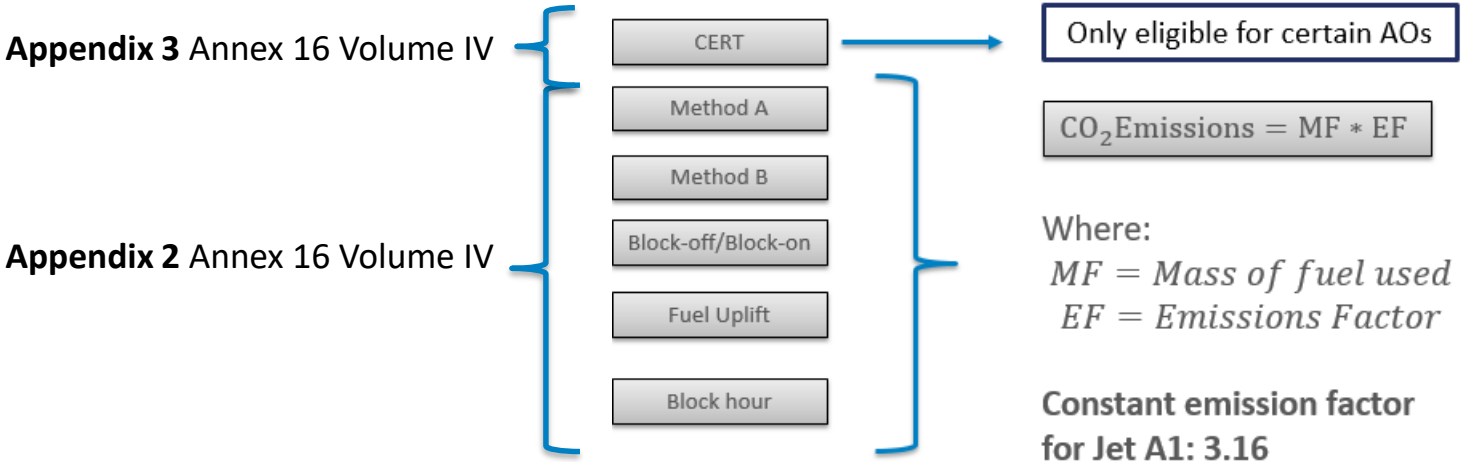


Monitoring of CO2 Emissions

- **Who monitors?:** The aeroplane operator
- **When?:** Every year. Starting in 2019
- **How?:** According to a CORSIA Fuel Monitoring Method or CORSIA Estimation Tool
- **Tool:** Emissions Monitoring Plan

Monitoring of CO2 Emissions

- Two possible ways of monitoring, depending on volume of emissions of the operator:
  - Using one of the five CORSIA Fuel Use Monitoring Methods and then calculating CO2 emissions from the fuel use.
  - ICAO CORSIA CO2 Estimation and Reporting Tool (CERT)

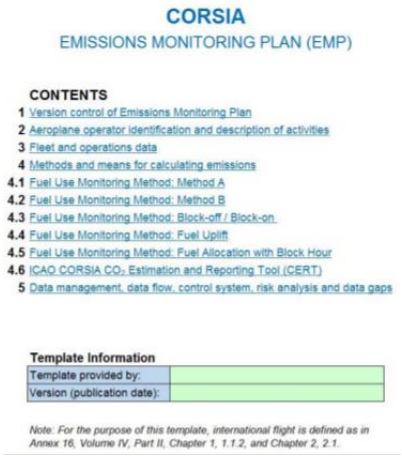


Emissions Monitoring Plan (EMP)

What is a Monitoring Plan?

Tool by which the operator identifies the most appropriate means and methods for CO2 emissions monitoring and record of fuel use

- → The aeroplane operator has to submit an Emissions Monitoring Plan to the State to which it is attributed. First submission deadline was 28 February 2019. In case of a new entrant, within three months of falling within the MRV requirements.
- → The State had to approve it by 30 April 2019



CORSIA

EMISSIONS MONITORING PLAN (EMP)

CONTENTS

Template Information

Template provided by:	
Version (publication date):	

Note: For the purpose of this template, international flight is defined as in Annex 16, Volume IV, Part II, Chapter 1, 1.1.2, and Chapter 2, 2.1.

Monitoring of CORSIA Eligible Fuels

- Apart from Jet-A, Jet-A1 and AvGas or Jet-B Fuel, the operator can use alternative **Eligible Fuels** and claim the emission reductions as long as they comply with the CORSIA sustainability criteria. These fuels must be from producers that are certified by an ICAO approved Sustainability Certification Scheme
- As these fuels might not be physically used in the aeroplane of the operator, monitoring will be based on purchasing and blending records

Reporting of CO2 Emissions

- **Who reports?:** The aeroplane operator and the State
- **When?:** Every year. Starting in 2020 (for 2019 data)
- **Tools:**
  - Aeroplane Operator Emissions Report
  - State Emission Report

Reporting of CO2 Emissions

- → Starting in 2020 the operator had to submit to the State a copy of a Verified Emissions Report and a copy of an associated Verification Report by 31 May (From 2022 it shall be by 30 April)
- → Based on the State's decision, the operator will report on State pair basis or aerodrome pair basis
- → The aeroplane operator may request to its State of not to publish data

Verification of CO2 Emissions

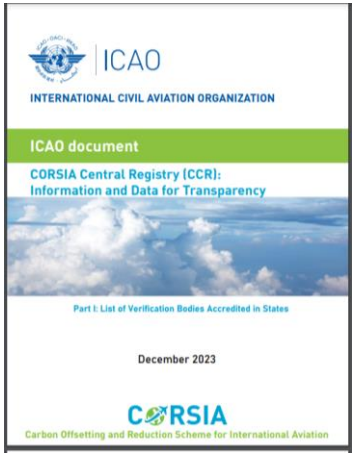
- **Who verifies?:** The aeroplane operator (recommended) , a Verification Body and the State
- **When?:** Every year. Starting in 2020 (for 2019 data), now 2024 for 2023 data
- **Tools:**
  - Emissions Report and Verification Report (contains the verification statement and required supporting information)
  - Emission Cancellation Report and Vertification Report

Verification Bodies in CORSIA

- VB quoted in the CCR as of 14 December 2023

- KENAS and ODAC

VB from Kenya and Domenican Republic
assisted by the the EU CORSIA AFRICA AND CARIBBEAN Project to have their first national VB



MRV actions:who, what, when, how

ACTION	WHO	WHAT	WHEN	HOW
MONITORING	OPERATOR	CO2 emissions	Continuosly	Emissions Monitoring Plan
REPORTING	OPERATOR to SA	CO2 emissions	Annually	Emissions Report to SA
	STATE to ICAO	CO2 emissions	Annually	Through CCR to ICAO
VERIFICATION	OPERATOR	CO2 emissions	Annually	Pre-verification (recommended)
	VERIFIER	CO2 emissions	Annually	Verification Report
	STATE	CO2 emissions	Annually	Magnitude Check

CORSIA Offsetting- ICAO A41

EASA
European Union Aviation Safety Agency

EU-CORSIA
Africa & Caribbean

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