

## EU-South Asia Aviation Partnership Project (EU-SA APP)

*Strengthening the partnership in aviation between the EU and South Asia*

*This project is funded by the European Union and implemented by the European Union Aviation Safety Agency*

# EU-SOUTH ASIA AVIATION PARTNERSHIP PROJECT

## Environment *Matters* in Aviation – part 2

### CORSIA. Deeper understanding

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CORSIA Experts, Vertis Environmental Finance  
Indian Aviation Academy (Delhi), 10-12 December 2019



**EU-SOUTH ASIA APP**

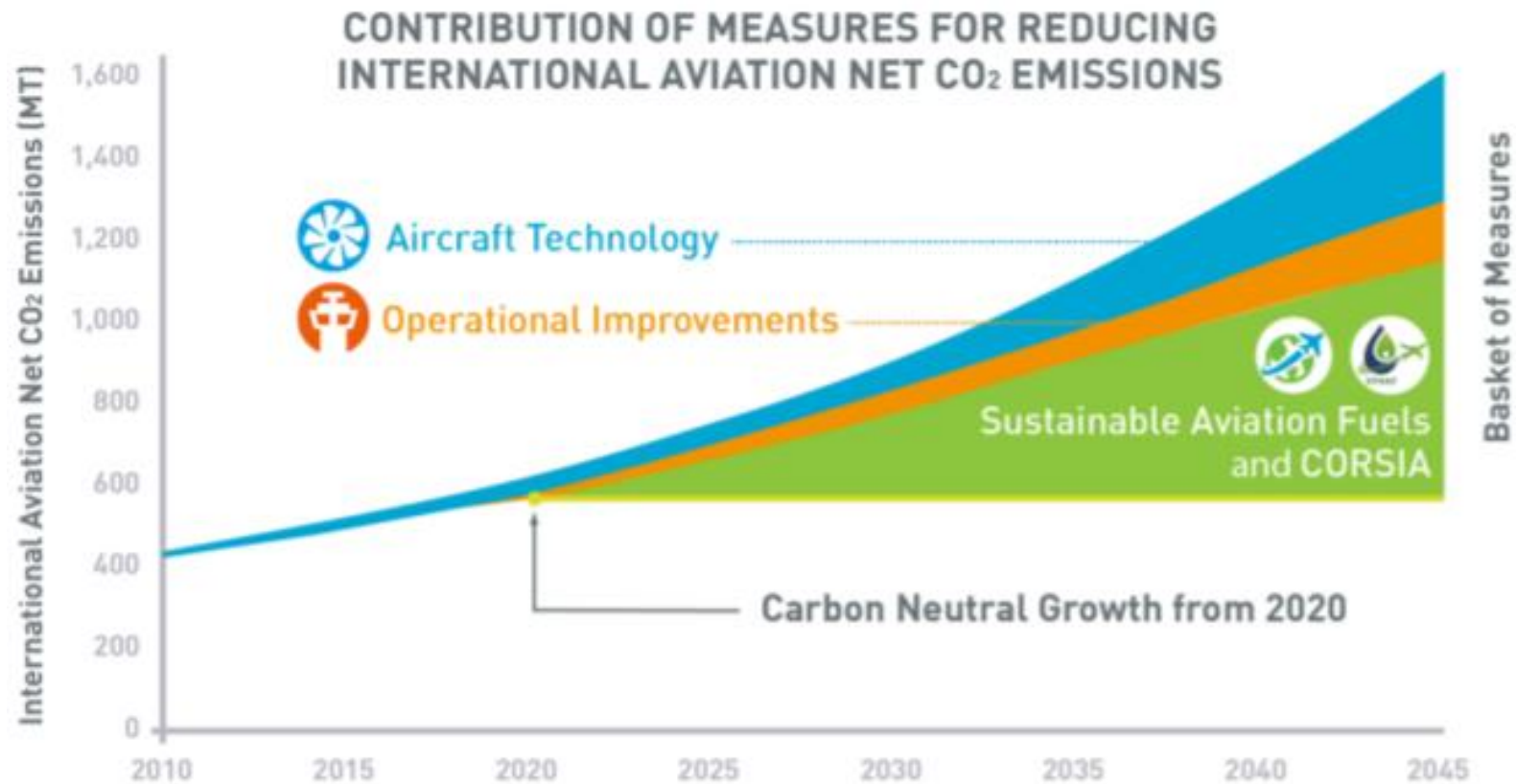
**Your safety is our mission.**

# DEEPER UNDERSTANDING

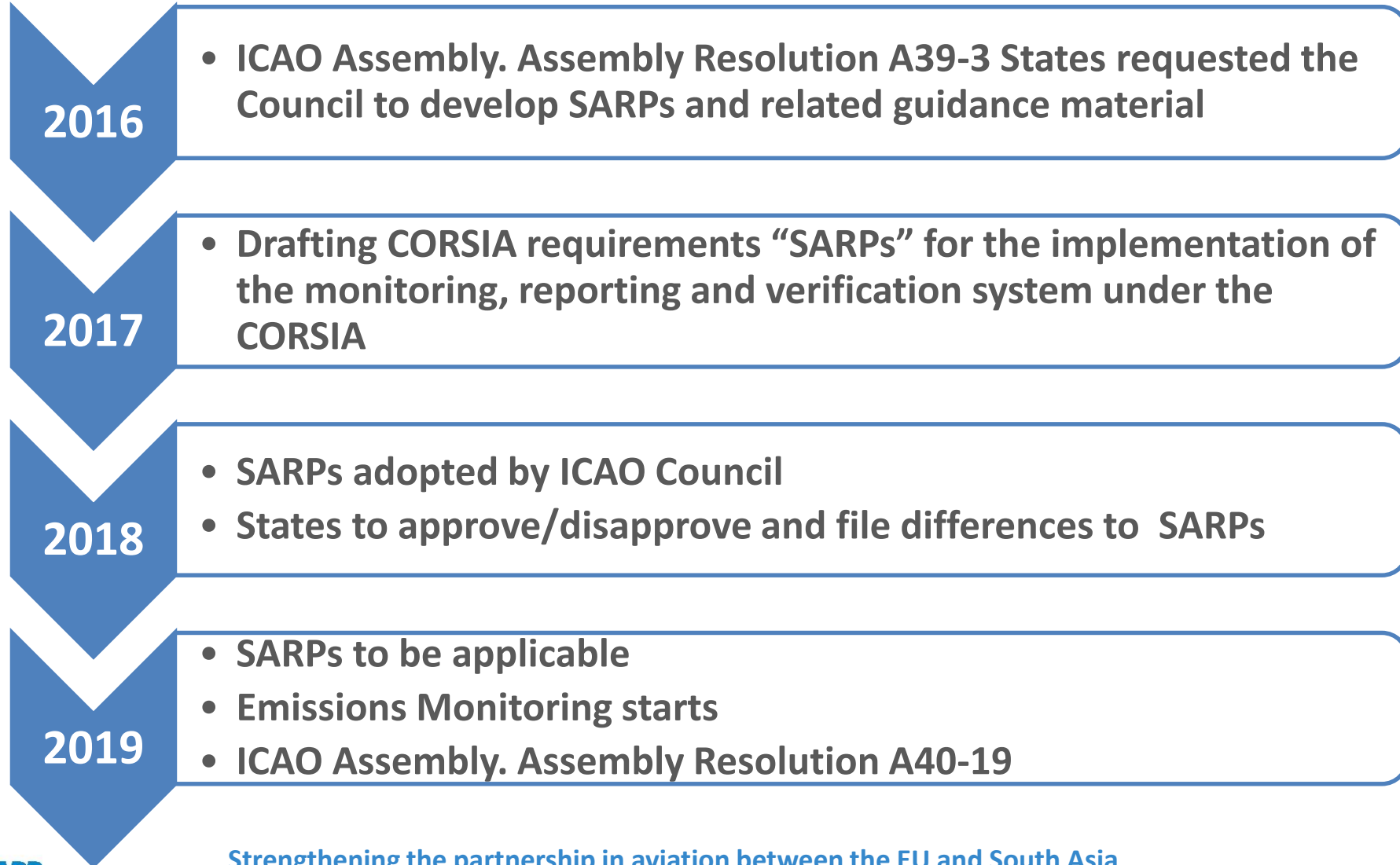
- Understand **WHY** CORSIA
- Understand all CORSIA's **nature**
- Understand how it works and all **requirements** that apply to all parties involved
- Understand the **interconnections** between them
- Understand the **importance of good implementation** and consequences if not appropriate applicability of CORSIA provisions

# WHY CORSIA?

→ CNG 2020 goal agreed in 2010

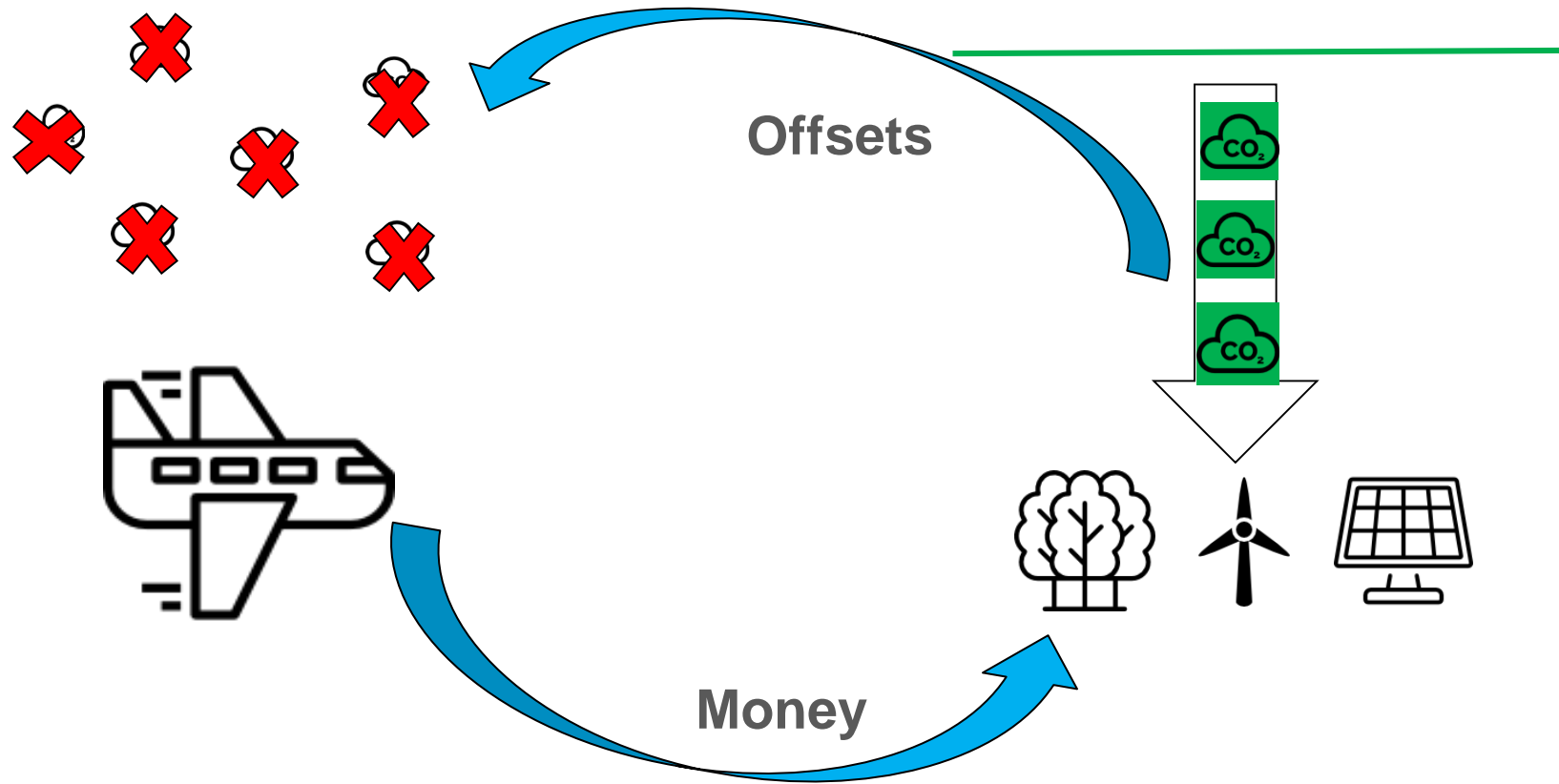


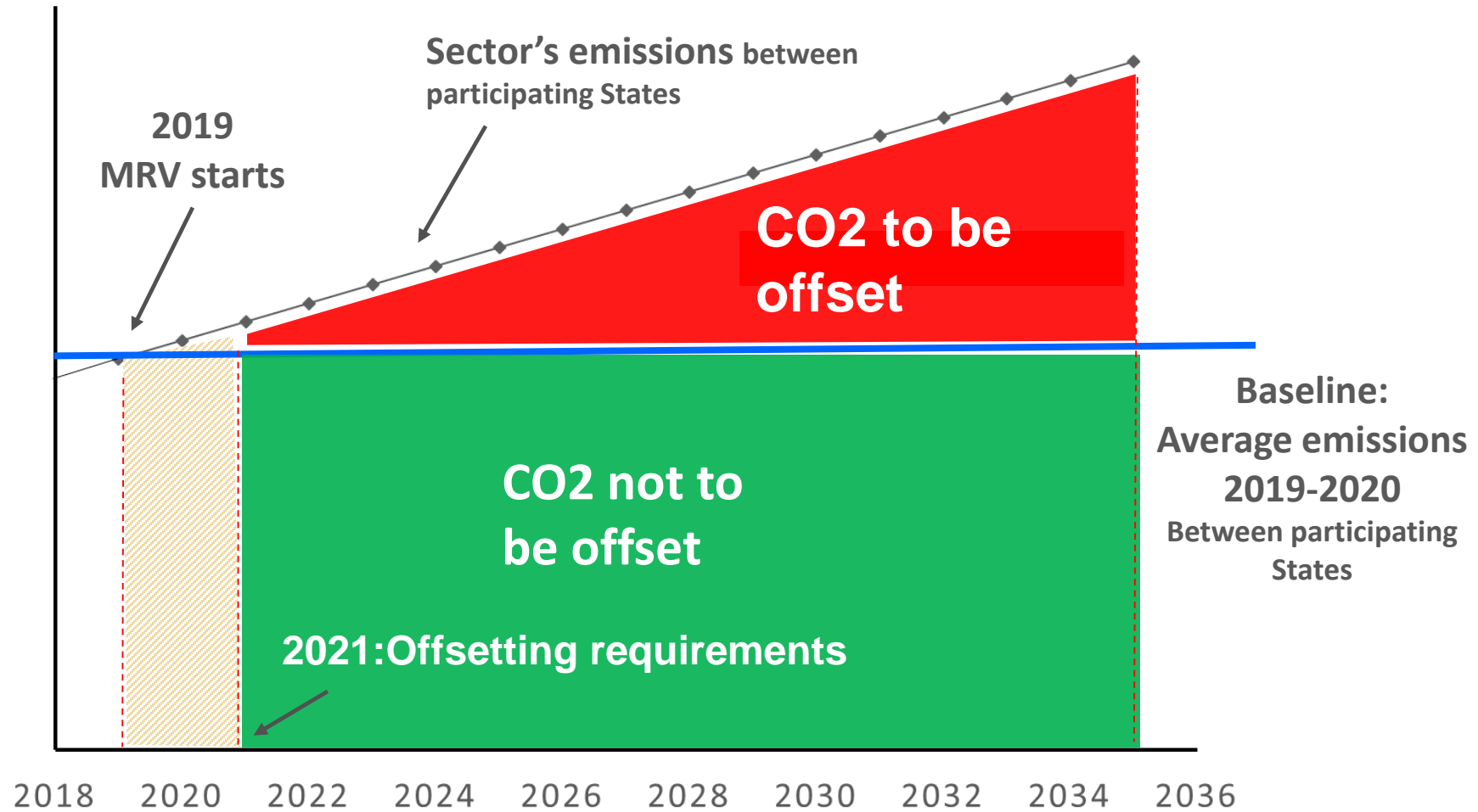
# CORSIA PROCESS

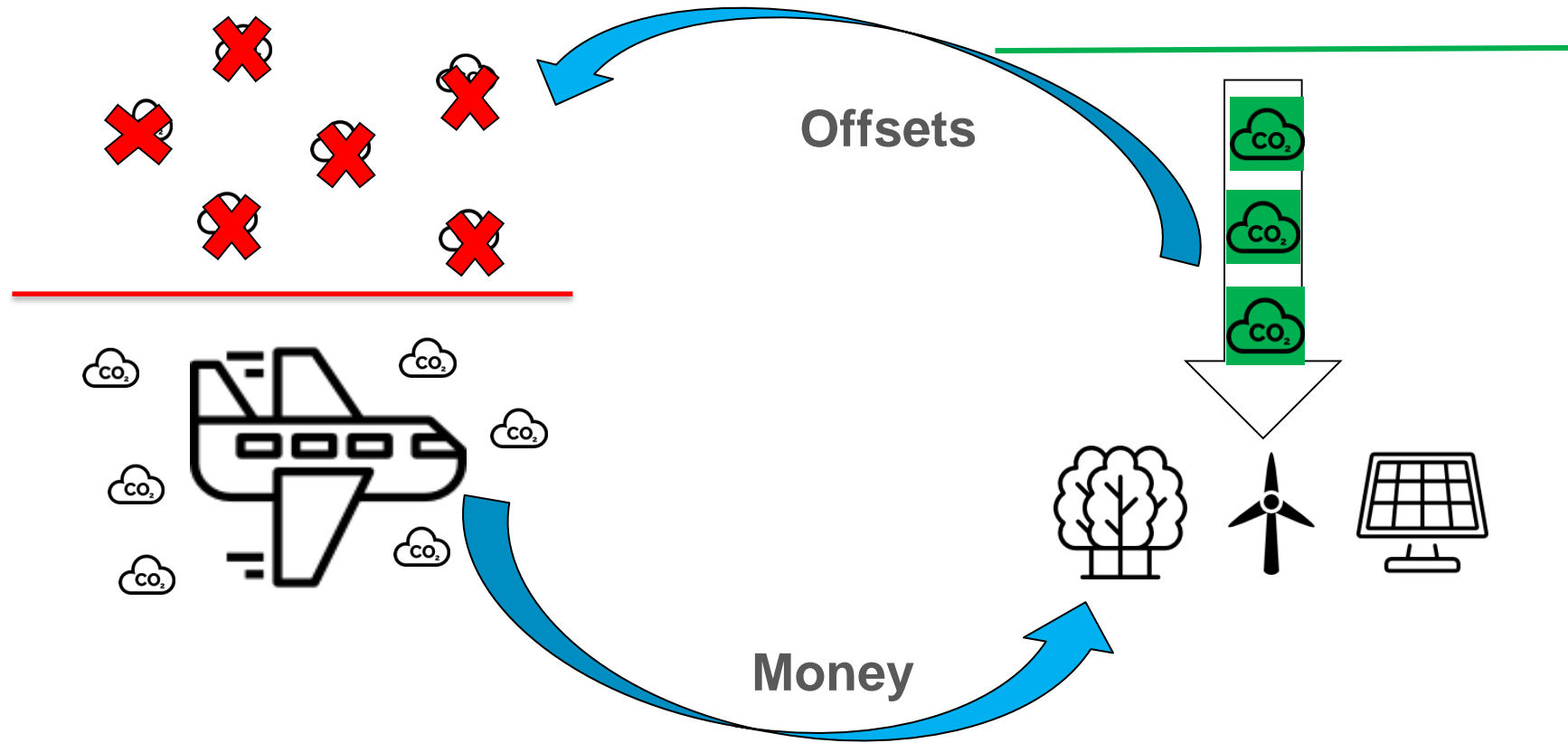


# CORSIA's nature

CORSIA

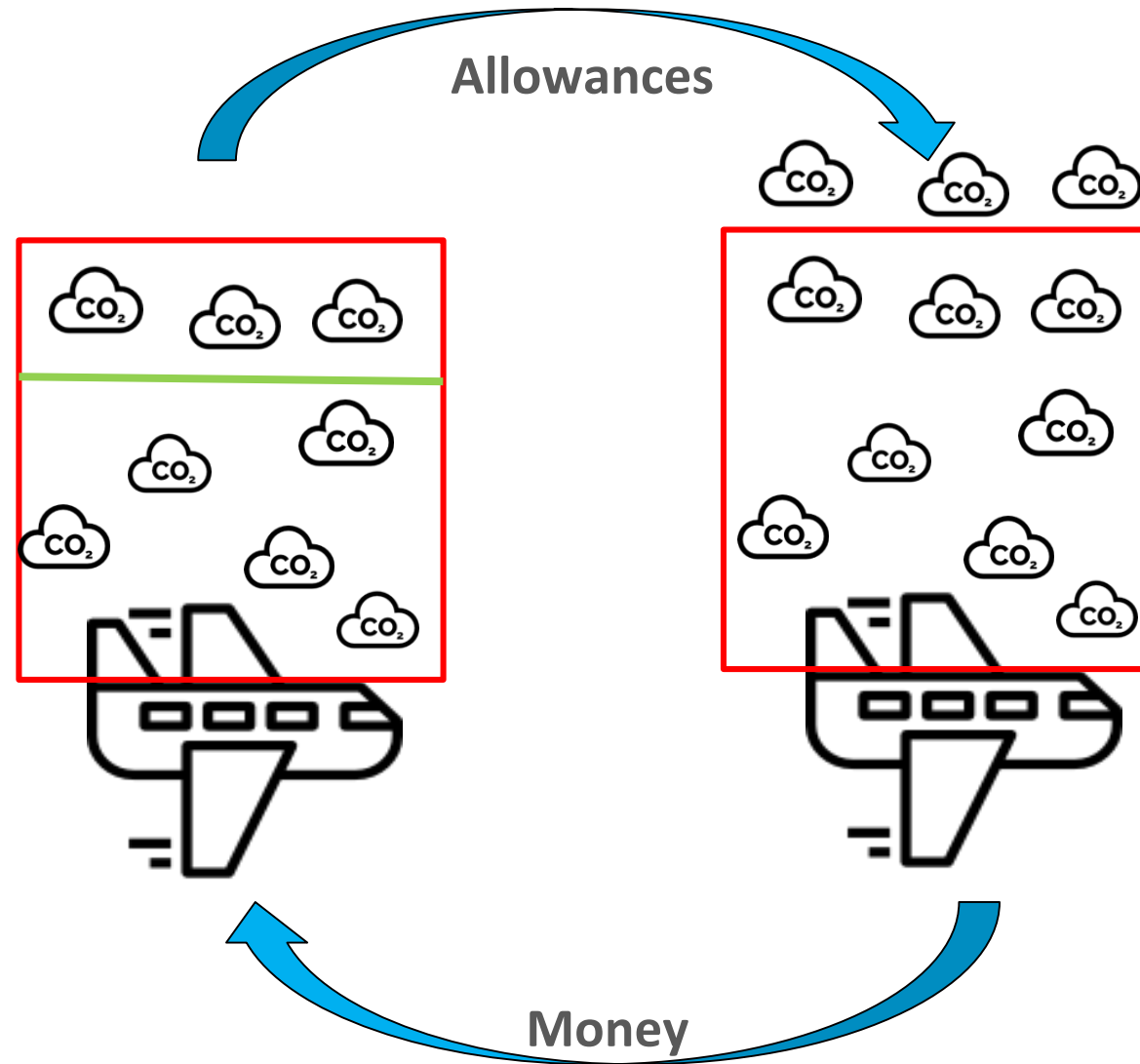








# Offsetting vs CAP



# HOW it Works and requirements

- CORSIA sets up two key obligations, with different timetables but extremely related and dependent between each other.

MRV  
From 2019

Offsetting  
from 2021

# MRV from 2019

- A key component of CORSIA implementation
- Essential for a robust and effective implementation of CORSIA and has a key role to ensure environmental integrity, transparency and a level playing field among all aeroplane operators (AO) as well as trust and confidence in the scheme
- MRV is needed to determine the CORSIA baseline
- MRV is needed to collect information on CO<sub>2</sub> emissions from international aviation on an annual basis to compare against the baseline.

# Offsetting from 2021

- **Participation** of States from 2021 determines the **coverage** of emissions to be offset by CORSIA:
  - 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
  
- However, AOs are required to monitor, verify and report **all international flights from 2019** (unless the AO is excluded).

# Aeroplane Operators

WHO	WHAT	WHEN
<b>AO &gt; 10,000 tonnes CO2 international aviation</b> <ul style="list-style-type: none"><li>• excluding:<ul style="list-style-type: none"><li>- Aircraft <math>\leq</math> 5,700 Kg MTOW</li><li>- humanitarian, medical and firefighting</li></ul></li></ul>	<b>MRV CO2 All International flights</b>	<b>Annually from 2019</b>
	<b>Offsetting CO2 flights between participating States</b>	<b>Every three years from 2021</b>

Regardless State of Registration, regardless if the State has volunteered or not

# CORSIA PHASED IMPLEMENTATION

## “Voluntary Phase”

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

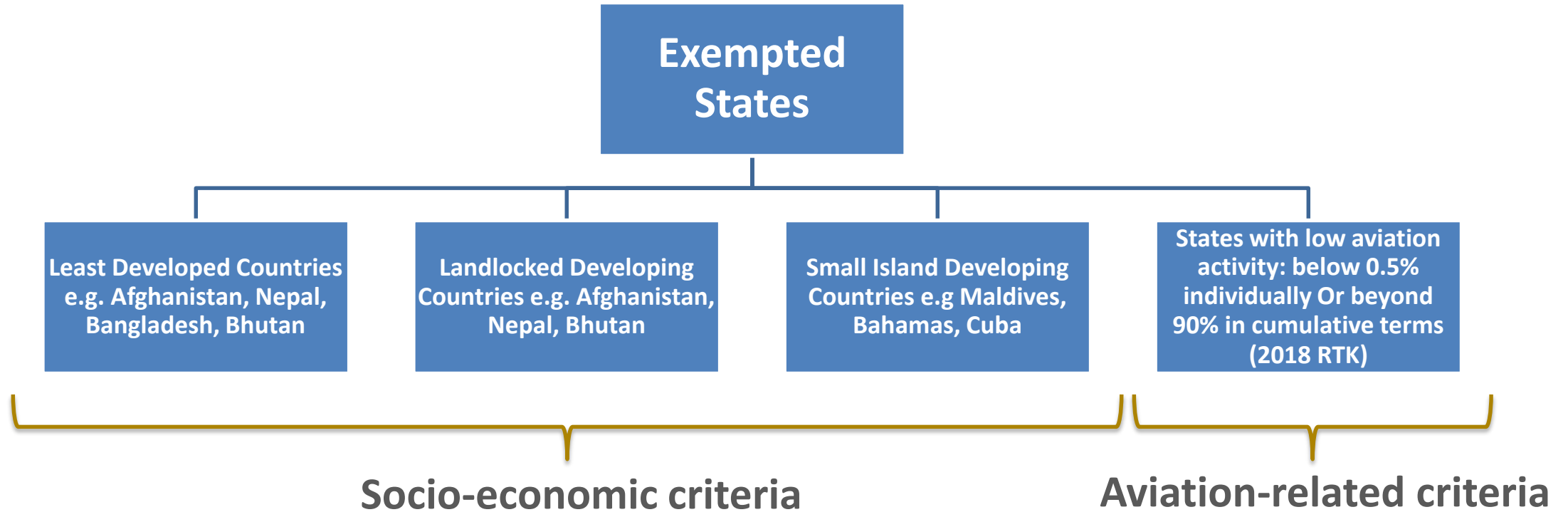
**2024-2026: First Phase**, States can also voluntarily opt-in.

## “Compulsory Phase”

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

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

# CORSIA PHASED IMPLEMENTATION



Ranking by State (RTK)	State	International Total RTK (million) (2018)	Share by State (%)	Cumulative Share (%)	SIDS <sup>(2)</sup>	LDC <sup>(3)</sup>	LLDC <sup>(4)</sup>
1	China <sup>(5)</sup>	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%			
37	Colombia	3,635.7	0.49%	90.79%			
38	Israel	3,565.4	0.48%	91.27%			
39	Chile	3,395.5	0.46%	91.73%			
40	Panama	3,294.8	0.45%	92.18%			
41	Egypt	3,230.1	0.44%	92.62%			
42	Oman	2,778.5	0.38%	93.00%			
43	Poland	2,673.8	0.36%	93.36%			
44	Ireland	2,524.3	0.33%	93.71%			

[https://www.icao.int/sustainability/Documents/RTK%20ranking/International%20RTK%20rankings 2018 SIDS LDC LLDC.pdf](https://www.icao.int/sustainability/Documents/RTK%20ranking/International%20RTK%20rankings%202018%20SIDS%20LDC%20LLDC.pdf)

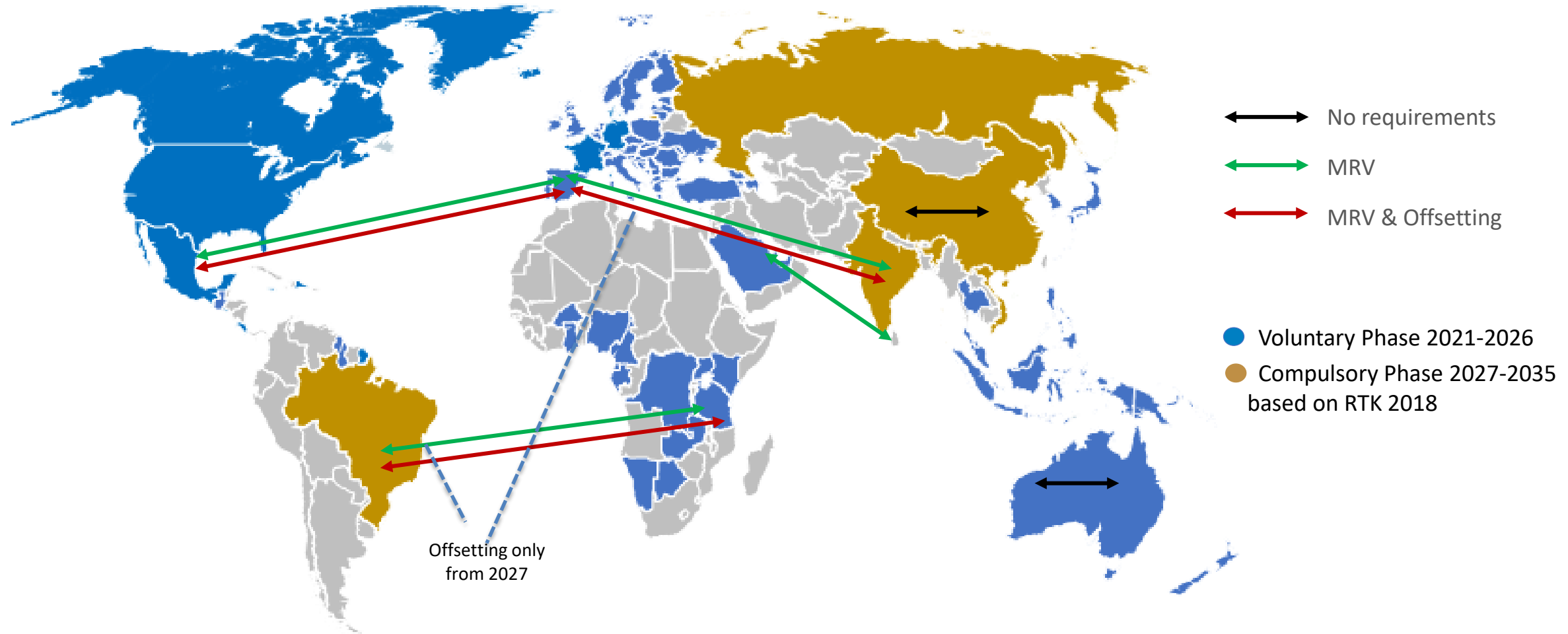


# VOLUNTARY STATES (as of November 2019)

**81 States** have volunteered to participate in CORSIA from 2021

Americas	Canada Costa Rica Dominican Republic	El Salvador Guatemala Guyana	Jamaica Mexico	United States
Europe and North Atlantic	Albania Armenia Austria Azerbaijan Belgium Bosnia and Herzeg. Bulgaria Croatia Cyprus Czech Republic Denmark Estonia	Finland France Georgia Germany Greece Hungary Iceland Ireland Italy Latvia Lithuania	Luxembourg Malta Moldova Monaco Montenegro Netherlands North Macedonia Norway Poland Portugal Romania San Marino	Serbia Slovakia Slovenia Spain Sweden Switzerland Turkey Ukraine United Kingdom
Asia Pacific	Australia Indonesia Japan	Malaysia Marshall Islands New Zealand	Papua New Guinea Philippines Republic of Korea	Singapore Thailand
África	Botswana Burkina Faso Cameroon	Democratic Republic Congo Equatorial Guinea Gabon	Ghana Kenya Namibia	Nigeria Tanzania Uganda Zambia
Middle East	Israel	Qatar	Saudi Arabia	United Arab Emirates

# MRV & Offsetting Obligations with Phased Implementation



# CORSIA 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

## Implementation elements



# SARPs – Annex 16 Volume IV

- Adopted by the Council on 27 June 2018.
- First Edition of Annex 16, Volume IV was shared with Contracting States through State letter AN 1/17.14 – 18/78 dated 20 July 2018
- Provides the necessary actions (the “what” and “when”)
- To be implemented through national regulation

# SARPs – Annex 16 Volume IV

## Part I. DEFINITIONS, ABBREVIATIONS AND UNITS

## Part II. CARBON OFFSETTING AND REDUCTION SCHEME FOR INTERNATIONAL AVIATION

CHAPTER 1. Administration

CHAPTER 2. Monitoring, Reporting and Verification

CHAPTER 3. CO<sub>2</sub> Offsetting Requirements and Emissions Reductions from Eligible Fuels

CHAPTER 4. Emission Units

## APPENDICES

APPENDIX 1. Administrative Processes

APPENDIX 2. Fuel Use Monitoring Methods

APPENDIX 3. CERT

APPENDIX 4. Emissions Monitoring Plans

APPENDIX 5. Reporting

APPENDIX 6. Verification

## ATTACHMENTS

Attachment A. Attribution Processes

Attachment B. Applicability of MRV Requirements to International Operations

Attachment C. Processes for Fuel Use Monitoring

# ENVIRONMENTAL TECHNICAL MANUAL

- Doc 9501 provides general guidelines on the interpretation of SARPs Annex 16, Volume IV
- To be periodically revised under the supervision of the ICAO CAEP Steering Group
- Harmonization purposes. Provides the “How”
- Standardized Templates
- Most recent information available to administering authorities, aeroplane operators, verification bodies and other interested parties

→ Additional ICAO Documents are referenced in SARPs to implement CORSIA. They become available at different points in time

→ Documents:

- **CORSIA States for Chapter 3 State Pairs**
- **ICAO Estimation and Reporting Tool (CERT)**
- **CORSIA Eligible Fuels**
  - CORSIA Eligibility Framework and Requirements for Sustainability Certification Schemes
  - CORSIA Approved Sustainability Certification Schemes
  - CORSIA Sustainability Criteria for CORSIA Eligible Fuels
  - CORSIA Default Life Cycle Emissions Values for CORSIA Eligible Fuels
  - CORSIA Methodology for Calculating Actual Life Cycle Emissions Values
- **CORSIA Eligible Emission Units**
  - CORSIA Emissions Unit Eligibility Criteria
  - CORSIA Eligible Emissions Units
- **CORSIA Central Registry**
  - CORSIA Central Registry: Information and Data for the Implementation of CORSIA
  - CORSIA Central Registry (CCR): Information and Data for Transparency

# IMPORTANCE OF CORSIA. REVIEWS

- Global approach to address impact of aviation in climate change
- The more States join CORSIA, the more emissions are covered by the scheme
- Fully dependent on implementation of CORSIA from States to:

Gather data

Mitigate emissions

**Ensuring Compliance. Enforcement**

- ICAO Council will conduct a periodic review of the implementation of the CORSIA every three years, starting in 2022 and a special review in 2032



# Thank you for your attention!

<https://www.eu-southasia-app.org/>



[easa.europa.eu/connect](https://easa.europa.eu/connect)



**Your safety is our mission.**

An Agency of the European Union

